

Dialogues on Development

Rethinking Development for a
Just and Sustainable Future

Editors

Arash Fazli
Amitabh Kundu



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CHAPTER 1

Introduction

Arash Fazli and Amitabh Kundu

The volume *Dialogues on Development: Rethinking Development for a Just and Sustainable Future* emerges from a lecture series organized by the Bahá'í Chair for Studies in Development at Devi Ahilya University, Indore. The series was premised on the recognition that dominant models of development—rooted in narrow economic metrics, extractive growth paradigms, and an instrumentalist view of nature and human beings—are inadequate to address the interlocking crises of our age. Climate change, widening inequality, the erosion of cultural diversity, and the hollowing of democratic life all testify to the exhaustion of a developmental imagination confined to material accumulation, competition, and short-term profit. Against this backdrop, the speakers in this series—academics, activists, development practitioners, and thought leaders—were invited to explore alternatives: a vision of development that is morally grounded, socially unifying, ecologically restorative, and deeply participatory.

This collection brings together papers developed from those lectures. From diverse disciplinary and experiential vantage points, the authors critically interrogate the dominant development paradigm while grounding their analyses in enduring normative principles. The contributions reflect a wide range of methods and perspectives: some draw on fieldwork, others on theoretical insights; some take a global orientation, while others focus on specific local contexts. What unites them is a concern with reasserting the centrality of values—particularly the principles of the oneness of humanity, justice, and environmental stewardship—in development thought and practice.

In a world beset by multiple crises—climate change, pandemics, rising inequality, political polarization, and social fragmentation—the

need to rethink the foundations of development has never been more urgent. These crises underscore both the ecological limits of the planet and the profound interdependence of all peoples. Despite humanity's vast diversity, advances in transportation, communication, and economic integration have, over the past century, bound the world into a single global community. Enduring peace and prosperity, therefore, cannot be secured unless relations between groups and nations are imbued with values that foster harmony—justice, compassion, inclusivity, solidarity, and truthfulness. The future hinges on a shared ethical orientation that affirms our common humanity and recognizes the inseparability of social and ecological well-being.

This ethical foundation requires centering justice as the organizing principle of collective life. Every individual and group must be empowered to participate meaningfully in shaping society, to live with dignity, and to contribute uniquely to the progress of the whole. Such an approach entails the recognition and protection of social, economic, political, and cultural rights, while also attending to historical injustices and structural disadvantages. A parallel moral responsibility exists toward the natural world. Human society is embedded within complex ecological systems on which it depends. Ignoring this interdependence has brought the world to the brink of environmental catastrophe. Recognizing both this interdependence and the agency humans exercise over nature, our moral obligation is best expressed in the principle of stewardship of the earth.

For development policy to be guided by such normative principles, its relationship with ethics must be taken seriously. Integrating principles into policy, planning, and implementation requires sustained processes of learning. This involves resisting the temptation to treat values as rhetorical devices or as mere instruments for ends such as economic growth, efficiency, or political gain. While practical decision-making will inevitably involve uncertainty and adaptation, such flexibility should not be confused with compromising on core ethical commitments. Development, in this light, becomes a long-term endeavor to align institutions and actions with foundational truths about human dignity, solidarity, and ecological responsibility.

Recognizing that these principles are not arbitrary human inventions but rather inescapable features of social existence, challenges

the legitimacy of development models that ignore or undermine them. Building systems that violate these truths is ultimately unsustainable—just as building physical structures without regard for natural laws leads to collapse. Critics may label this vision utopian. Yet at a time when “business as usual” appears increasingly untenable, principled approaches offer not idealism but realism in the truest sense. Many thought leaders and policymakers today recognize that the question is not whether we will move toward a value-centered paradigm, but whether we will do so with foresight and deliberation—or under duress, in response to deepening crisis.

The COVID-19 pandemic offered a moment of global reflection. It exposed the fragility of existing systems and catalyzed calls for structural transformation. Leaders from across sectors recognized the need for renewal: UN Secretary-General António Guterres advocated for a new social contract and global deal (Guterres, 2020, para. 110); World Economic Forum founder Klaus Schwab proposed a “great reset” to overhaul social and economic structures (Schwab & Malleret, 2020). These voices joined countless grassroots movements and local initiatives already working to build alternatives founded on justice, cooperation, and sustainability.

This volume contributes to that ongoing dialogue by bringing together papers that blend empirical analysis with ethical reflection, offering insights into how development might be reimagined in ways that serve the whole of humanity and the planet. The fourteen papers in this collection address some of the most pressing themes facing the contemporary development paradigm: the need to transform development policy and practice; the necessity of just and unifying institutional arrangements; the rejuvenation of traditional livelihoods; and the imperative of broadening the epistemic foundations of development thought and practice.

Transforming Development Policy and Practice

Development processes concern people—and any process involving individuals or groups is inherently complex and unpredictable. The presence of intricate networks of interrelationships and feedback loops makes it nearly impossible to conceive of development as a linear trajectory marked by a mechanical progression from one stage

to another. People-centred development is, by nature, an organic and evolving process that demands learning and capacity-building among those whom development programmes are intended to benefit. While this is often acknowledged in theory, in practice development plans and programs are conceived and implemented in a project mode by a professional class equipped with toolkits and log-frames, with specified goals and time-bound deliverables. One of the greatest difficulties with such a mode of practice is that it can lead to a fragmentation of vision and to a disjuncture between the foundational principles that development claims to uphold (still invoked, but largely at the level of rhetoric) and the realities of its day-to-day implementation.

This is a complex challenge that many have sought to address over the decades. A less-recognized dimension of the thinking that drives such fragmentation is development's fractured relationship with time—manifest in the pervasive presentism and short-termism that bedevil policy and practice. This is the subject of historian Holly Hanson's paper in this volume, "Cultivating Durational Ethics in Development Practice". Hanson builds on the work of economic anthropologist Jane Guyer who coined the term *durational ethics*. Guyer observed that although it is common sense to view present conditions as an outcome of past actions and the future as a product of present actions, this mode of thinking in time seemed to be absent in the fields of economics and in contemporary life more broadly. Instead, there seemed to be a "conscious acceptance of a lack of connection" between actions taken and their intended ultimate consequences. Extending Guyer's insights, Hanson argues that this intentional severing of action from consequence haunts development practice as well. She convincingly demonstrates how the history of development after World War II has been riddled with this wilful ahistoricism—whether in the failure to account for the far reaching impact of colonialism in drafting plans for newly-independent nations in the Global South, the assumption that agrarian communities could be rapidly transitioned into industrial societies, or the large-scale investments in rural development made without sufficient attention to sustaining programs once external support or funding ceased.

Hanson explores how durational thinking can be cultivated in development practice through Guyer's concept of "durational ethics"

which she identifies as a moral capability with five elements. First, it requires a multigenerational framework for effective change: only by viewing transformation as the outcome of sustained effort over generations can the temptation of quick fixes be abandoned and attention given to the deep structural changes that take time to achieve. Second, development must build reciprocal, mutually beneficial relationships rather than paternalistic or one-sided ones, so that even short-term initiatives generate positive long-term consequences. Third, learning—engaging as many people as possible—is integral to structural transformation, since what one generation learns becomes the basis for the next. Fourth, humility is essential to see oneself within the sweep of history as a small part of a much longer process. Finally, perseverance is indispensable, for development demands sustained effort across time.

Such a transformation, Hanson argues, can take root only in a policy environment where justice, unity, and sustainability are consistently pursued. Economic policy, the central pillar of development paradigms, must be realigned with these principles. In his paper, “The Problem of Poverty and Inequality”, international economist Augusto Lopez-Claros proposes reforms grounded in these values. Reviewing historical data and contemporary trends, he shows that while recent decades have seen progress in poverty alleviation, these gains remain fragile, resting on foundations that collapse easily without systemic justice and social cohesion—a vulnerability starkly revealed by the reversals of the COVID-19 pandemic.

Lopez-Claros calls for bold interventions in four areas: reframing economic objectives by shifting the focus to the quality of growth and adopting metrics of broader human welfare; progressive taxation to redistribute wealth more fairly; profit-sharing arrangements to align the interests of capital and labour; and the introduction of a universal basic income.

Where Lopez-Claros highlights macroeconomic reforms, labour economist Ritu Dewan examines how India’s labour policies institutionalize inequality and erode workers’ rights. Her paper, “Addressing Institutionalized Inequalities in India: Labour Rights and Labour Codes”, examines how successive policy regimes have only served to more firmly institutionalize inequalities by eroding labour rights, diluting worker protections and collective rights, increasing

precarity and informality while favouring capital over labour. These developments came to a head in 2020 with the government's decision to codify India's 44 labour laws into four Labour Codes, enacted under the pretext of simplification of business processes.

Through a close analysis of each code, the paper reveals how legal language, eligibility criteria, and implementation mechanisms serve to institutionalize inequalities. The codes facilitate longer working hours, restrict trade union activities, reduce social security coverage, and normalize gender-based exclusions. Dewan connects these developments to a wider fiscal regime marked by declining social sector expenditure, regressive taxation, and revenue loss through corporate tax exemptions. Drawing on both empirical data and theoretical critiques, she examines the informal sector—the primary source of livelihoods for millions in the Global South—focusing on its precarious and insecure labour arrangements. While informal work is often portrayed as flexible and adaptive, she highlights its chronic vulnerabilities: absence of protections, exposure to exploitation, and systemic marginalisation. The COVID-19 pandemic, which devastated informal livelihoods almost overnight, only rendered this precarity more visible. The paper underscores that such insecurity is not a mere by-product of economic systems but the deliberate outcome of policies privileging capital over labour. In her conclusion Dewan urges a reconceptualization of social protection as a constitutional right and calls for a more equitable fiscal architecture that can support universal basic income and meaningful employment, emphasizing that current trends represent not just policy failure but a fundamental shift away from democratic and inclusive development.

Dewan's analysis of labour precarity finds a poignant ground-level resonance in Sudeshna Sengupta's ethnographic study of informal women workers whose lives are shaped by intersecting forms of oppression—patriarchal norms, caste hierarchies, and class dynamics. Sengupta's paper, "‘Conjugated Oppression’: Social and Political Economy of Women's Work in the Informal Sector", presents her qualitative study of the complex and intertwined structures shaping the lives and labour of women workers in India's informal sector. Drawing on interviews with 60 women from the domestic work, construction, home-based, and self-employed sectors, it highlights how women

navigate both productive and reproductive roles while contending with layered forms of social marginalisation—such as caste, religion, illiteracy, early marriage, and migration. Their work is often informal, underpaid, and unregulated, shaped not only by market forces but also by patriarchal norms within families and communities. Her study shows that economic exploitation and social subordination are not separate but mutually reinforcing.

Sengupta uses the concept of “conjugated oppression” to describe how capitalism, patriarchy, and state neglect collectively produce and deepen gendered exploitation. Employers externalize reproductive costs to families and villages, while informal work structures mask the extraction of unpaid labour. Yet, amidst these constraints, women exercise limited agency—some gain autonomy, leave abusive marriages, or improve family livelihoods through migration. However, these gains rarely translate into structural transformation. The paper concludes by advocating for legal recognition of informal workers, redistribution of care responsibilities, wage-linked entitlements, and feminist policymaking rooted in political will to dismantle enduring inequalities.

Just and Unifying Institutional Arrangements

While the papers by Lopez-Claros, Dewan, and Sengupta analyze systemic challenges from both theoretical and empirical standpoints and propose concrete policy interventions, the next set of contributions turns to institutional arrangements that can anchor a just and unifying socio-economic order. These papers highlight how strengthening collective agency, fostering solidarity, and cultivating consultation as a mode of decision-making can reshape development practice. In this context, H.S. Shylendra’s paper, “Towards Human Endurance: Cooperatives as Institutions of the Future and a New Paradigm of Development”, argues that despite their mixed historical record, cooperatives possess significant potential to confront the crises of modern capitalism—inequality, ecological degradation, and social alienation. Drawing on their evolution across capitalist, socialist, and mixed economies, including India, Shylendra examines both the challenges they face and the foundational values that allow cooperatives to advance social and economic justice.

Shylendra contends that cooperatives represent a higher form of organization by aligning with values such as democratic participation, equitable resource distribution, solidarity and human dignity. He emphasizes the need to build a cooperative-based economy through grassroots mobilization, preferential policy support, and systemic integration across sectors. The paper is critical of top-down, state-driven cooperative efforts and calls instead for a moral and cultural shift towards cooperation as a societal ethos. It envisions a future where cooperatives are not marginal add-ons but central to a transformed socio-economic order capable of enduring and addressing the global challenges of the 21st century.

While Shylendra views cooperatives as institutions grounded in solidarity and justice, K.J. Joy extends this logic to water governance, contending that participatory community management of commons must likewise embody equity and sustainability. His paper, “Community Management of the Commons in the Context of Water Governance”, critically explores both the challenges and potential of treating water as a commons. Joy situates the current debates on water governance within the broader crises of climate change, water scarcity, and the evident failures of state- and market-led approaches. Rejecting the simplistic narrative that colonialism alone caused the decline of traditional community-managed water systems in India, he underscores the persistent caste-based inequalities that have long structured these systems. He further critiques contemporary trends including privatization, commodification, and the diversion of water from agriculture to urban and industrial uses that frequently dispossess marginalized groups and deepen inequities.

Joy argues that to be effective and just, the community management of water must address four normative concerns: sustainability, equity, efficiency, and participation. He underscores the distinctive biophysical and socio-cultural characteristics of water—its embeddedness in ecosystems, asymmetrical flows, and contested property status—which demand governance models attuned to these complexities. The paper calls for a nested framework linking local and supra-local governance structures. It concludes by stressing the critical role of civil society in resisting corporate capture and advancing a genuinely democratic, equitable, and sustainable commons-based model of water governance.

The subsequent paper turns from natural resource governance to the immense social potential of India's demographic dividend. With nearly 300 million young people, India holds a reservoir of talent that could contribute not only to economic productivity but also to wider social transformation. Yet much of the prevailing discourse limits itself to economic gains, overlooking the capacity of youth to shape a more just, united, and diverse society. Realizing this potential will require a fundamental shift in prevailing social and cultural norms that currently undermine the contributions of youth and constrain their agency for social action.

In this context, Ashraf Patel and Arjun Shekhar's paper, "Are Leaders Born or Made? Creating Spaces that Foster Youth Leadership and Social Change", poses a critical question: how can youth be mobilized to assume leadership roles in promoting positive social change? Drawing from decades of experience in youth-centered social movements, collectives, and development organizations, the authors contend that such transformation demands a rethinking of deeply-entrenched concepts such as the notion of leadership itself. They advocate for a departure from hierarchical understandings of leadership, proposing instead a model that centers on individual agency—the capacity to initiate personal and societal change, and to support others in doing the same. For such leadership to emerge, it is essential to create enabling structures and spaces that foster agency. This is where the authors introduce their innovative concept of the "Fifth Space"—a framework developed and refined through their work. In contrast to the four conventional spaces that dominate young people's lives—family, workplace, educational institutions, and recreational spaces—where freedom, initiative, and ownership are often restricted by authority, media, or market forces, the Fifth Space is envisioned as a co-created environment for youth. It allows young people to explore their inner selves and harness their capacities for social transformation, grounded in the constitutional values of justice, equality, liberty, and fraternity.

The inspiration for the Fifth Space stems from the period of India's freedom struggle in the early twentieth century, when countless young Indians gathered in shared spaces to inspire one another, uphold the values of service to the common good, and act collectively to achieve

justice and unity in diversity. These gatherings combined practical efforts for social and political change with a strong moral and spiritual foundation. The Fifth Space thus aspires to cultivate youth leadership that is both ethically-grounded and outwardly impactful.

Rejuvenating Traditional Livelihoods

Despite development thinking being enriched by a diverse and sophisticated body of theoretical insights, policymaking in developing countries continues to be plagued by enduring prejudices inherited from modernization theory—namely, the belief that a neat separation can be made between the traditional and modern sectors of the economy and society; that tradition is the root cause of backwardness; and that progress necessarily entails a transition from the traditional to the modern. The continued hold of such biases can be seen in the systemic neglect of agriculture and of rural livelihoods in general. It has contributed to several policy blind spots where livelihoods that are categorized as traditional get neglected despite their economic potential.

In this volume, we focus on two such livelihoods—pastoralism and the crafts sector, which continue to employ large segments of the rural population in India. Two papers in this volume bring to light the resilience of these livelihoods despite official apathy and inhospitable working conditions. Aniruddh Sheth and Vasant Saberwal from Delhi's Centre for Pastoralism provide a nuanced analysis of the transformation of pastoralism in Himachal Pradesh over the past few decades in their paper "Glory Days, Last Gasp or Somewhere in Between: Pastoralism in the North-Western Himalaya". Drawing on extensive field research and historical accounts, the authors challenge the narrative of pastoralism's decline, arguing instead that it is undergoing significant adaptation. They trace how traditional migratory routes and grazing access have been constrained by conservation policies, afforestation, and land-use changes. Despite these challenges, many communities continue to engage in herding, albeit through smaller herds, shorter migration patterns, and a mix of traditional and alternative livelihood strategies.

The paper emphasizes that pastoralism persists largely due to its continued economic viability, especially through meat production. Though wool has declined in value, livestock sales still yield significant profits. This economic rationale has prompted both pastoralist and

non-pastoralist households to maintain a stake in herding. The paper argues that pastoralism remains resilient and adaptable, with practices evolving in response to socio-economic and ecological pressures. Rather than being a relic of the past, pastoralism continues to play a crucial role in the Himalayan agrarian economy, not in its former “glory days” nor on its “last gasp,” but occupying a dynamic space “somewhere in between.”

In his paper titled “Crafts, Clusters and Institutional Innovation: Thoughts for Policy” the economist Keshab Das critiques the longstanding neglect of India's craft sector, particularly in light of its potential to generate rural employment and strengthen local economies. Despite it being possibly the largest cluster-based craft economy globally and sustaining millions of artisans, the craft sector in India remains largely unsupported by formal policy. The paper argues that poor data collection, infrastructural neglect, outdated definitions, and an urban-industrial policy bias have marginalized artisans and handicraft-based enterprises. Using official statistics and field observations, Das highlights five types of systemic exclusions—spatial, sectoral, systemic, seasonal, and statistical—that contribute to the sector's stagnation. He emphasizes that crafts should not be viewed as remnants of tradition alone but as serious livelihood opportunities requiring investment, innovation, and dignity for artisans.

The paper draws insights from four Indian craft clusters, revealing how misaligned policies often fail to enhance artisans' capabilities or incomes. In contrast, successful interventions—like ASCENT's work with *Kolhapuri* chappal makers—show the impact of empowering artisans through tailored training, soft skills, market exposure, and support for diversification. Das proposes a reimagining of craft policy, inspired by models like Japan's OVOP and Thailand's OTOP, which align market access, innovation, and community engagement. He concludes that meaningful craft sector development in India requires deep institutional innovation, updated census data, infrastructural support, and a reframing of crafts as sustainable and dignified livelihood enterprises.

Broadening Epistemic Foundations

One of the central themes explored in this volume is the relationship between knowledge, agency and development. From the inception

of the development enterprise after World War II—when newly independent nations were urged to model themselves on industrialized societies—science and technology were positioned as the primary drivers of development. Over time, however, it became clear that in the name of science a new technocracy had taken hold where experts and bureaucrats were given enormous powers to dispense technological packages and to decide on the developmental path of populations with little regard for socio-cultural contexts or local realities. Not surprisingly, the sweeping transformation that was promised rarely materialized. While significant progress was achieved in areas such as education, public health, food production and poverty alleviation, development efforts also contributed to social fragmentation, widening economic disparities, large scale migration from rural to urban areas, increased social and economic precarity and alarming environmental degradation.

Over the decades it became clear that for development to be ethically guided, responsive to social, ecological, cultural and spiritual values and, most importantly, owned and directed by the population for which it is meant, it had to draw upon knowledge from much broader epistemic foundations including, along with science, local knowledge, traditional or indigenous knowledge systems and religion as a source of spiritual insight. Within such a framework, science would continue to provide methodological rigour and tools of discovery, but this need not entail the dismissal of non-materialist worldviews. Rather, development thought and practice must be enriched by a dialogue between diverse systems of knowing.

Rahul Banerjee's paper, "Communitarian Ecosystem Restoration: A Timeless Gift from Nature-Worshipping Bhil Adivasis", explores how the Bhil Adivasis of western India, through their traditional communitarian practices and deep ecological ethics, have preserved and restored their forest ecosystems despite centuries of exploitation and marginalization. Banerjee shows how Bhil communities have revived their nature-worshipping culture, using labour pooling, forest regeneration, soil and water conservation, and organic agriculture to reclaim degraded land. Their low-consumption lifestyle, seed sovereignty, and knowledge-based irrigation methods like the *paat* system serve as practical models for addressing climate change, water stress, and energy

scarcity. The Bhils' revival of these time-tested practices offers powerful lessons for equitable and ecologically sustainable development.

Banerjee argues for political and electoral reform in India, particularly proportional representation, for amplifying the voices of grassroots movements that represent marginalized voices like those of the Bhil Adivasis. Ultimately, the paper calls for integrating Adivasi wisdom with modern democratic frameworks to promote a decentralized, just, and sustainable future that is aligned with both ecological imperatives and the constitutional promise of equality.

Paul Hanley's paper, "Can We Feed 10+ Billion People Sustainably?" turns to the global challenge of food and nutrition security, exploring how indigenous knowledge systems and spiritual convictions from religion can help populations arrive at ecologically sound and unifying approaches. Framed around the projected task of feeding more than 10 billion people, Hanley begins with the example of Molokai, a Hawaiian island once food self-sufficient through indigenous methods, to illustrate how pre-contact societies sustained themselves with resilient agrifood systems. He argues that contemporary food insecurity and ecological degradation stem less from technological limitations than from broken systems shaped by inequity, disunity, and environmental mismanagement. Indigenous Traditional Ecological Knowledge (TEK), such as the Hawaiian ahupua'a system, he shows, provides valuable models for ecological balance, efficient resource use, and community-based governance—principles that remain vital for ensuring global food security.

Hanley advocates for a transformative approach, grounded in agroecology, which integrates ecological principles with social justice and local knowledge. He emphasizes the moral and systemic roots of the agrifood crisis, arguing that technological fixes are insufficient without addressing the underlying social disunity, colonial legacies, and flawed governance. Drawing on examples like the Bahá'í-inspired farming village of 'Adasíyyih and global initiatives like Farmer-Managed Natural Regeneration (FMNR), he highlights community-led development and spiritual values as essential to sustainable transformation. Ultimately, Hanley calls for a shift from fragmented, exploitative systems toward a unified, values-based approach that supports both planetary health and human well-being.

Debal Deb's paper, "Anthropogenic Expansion of Biodiversity and its Erosion by Agricultural Development", examines how traditional and indigenous knowledge systems—evolving in close harmony with local ecologies—once fostered the protection and even expansion of biodiversity. Through practices such as artificial selection, domestication, and intentional breeding, these systems created new species and sub-species while safeguarding ecological balance. By contrast, the rise of industrialization and modern agriculture introduced chemical-intensive farming, accelerating biodiversity loss, degrading soils, and undermining ecosystems.

Deb illustrates how indigenous conservation ethics—expressed in sacred groves, community norms on resource use, and traditional farming innovations—nurture biodiversity. Yet this legacy faces constant assault from what he terms "developmentality", the ideology of unrestrained industrial growth. Against this backdrop, he points to hopeful alternatives emerging worldwide: "transition towns," community-based conservation initiatives, and other grassroots efforts that embody ecological imagination. He concludes with a call for a civilizational shift away from techno-industrial growth models toward biophilic cultures rooted in respect, restraint, and reverence for life—an essential transformation if mass extinction is to be averted and long-term planetary survival secured.

One of the most perplexing issues facing policy-makers is how to motivate people and groups to follow ethical practices even when they require sacrifice of one's self-interest. Conventionally, the social sciences have assumed that it is primarily self-interest that motivates behaviour and that economic systems should be designed such that they facilitate the realization of this self-interest through a mix of incentives and penalties. However, as textile technologist Mangesh Teli points out in his paper, "Technology and Ethics for Sustainable Development: Reflections of a Textile Technologist", such systems create a society where the desire for accumulation and consumption for pleasure become accepted as the norm. This, in turn, has contributed to the present ecological, social and spiritual crisis. The solution, according to him, lies in tapping into the higher motivations of human nature, those that constitute the qualities and attributes of a spiritual nature such as selfless striving for the common good, love, justice and generosity. Teli

argues that through combining spiritual values with scientific methods it becomes possible to move away from a self-interest-driven model of work towards one that is driven by the values of sustainability and justice.

He illustrates how ethically guided technological innovation can contribute to sustainability through examples from the textile industry. His research highlights initiatives like recycling and upcycling of garments, use of eco-friendly alternatives in fabric treatment, and developing products with added environmental or health benefits—such as mosquito-repellent or odor-resistant fabrics. These examples demonstrate that environmentally responsible practices can also be economically viable.

Finally, the paper by eminent writer and activist G.N. Devy, “Beyond the Dynamic Knowledge, Diminishing Languages and Destructive Development”, explores the profound shifts in the epistemic foundations of human knowledge across history and highlights the uniqueness of the current transformation. Drawing from Lyotard’s idea of “knowledges” in the postmodern condition (Lyotard, 1984), Devy argues that unlike earlier eras where one framework of knowledge was replaced by another, today knowledge production and consumption are increasingly mediated by non-human entities like artificial memory and machine vision. This shift displaces the role of memory and imagination in constructing human reality, with visual and mechanical modes of cognition supplanting sound-based, linguistic traditions and embodied knowledge systems.

Devy then links this epistemic shift to the alarming decline in linguistic diversity. As human perception becomes dominated by visual-symbolic systems and digital interaction, traditional languages, particularly those of marginalized and indigenous communities, are fast disappearing. He argues that this is not simply a cultural loss but a cognitive and epistemological crisis. Language, for Devy, is not just a communication tool but the container of memory, imagination, and worldview. With the diminishing role of language, humans risk losing not just expressive capacity but entire ways of being and knowing. The consequences are particularly dire for communities left out of digital and economic development, whose languages, identities, and knowledge systems are being invisibilized.

Calling for a philosophical and civilizational shift from the existing anthropocentric development paradigm, Devy proposes moving beyond democracy toward a “cosmocrazy,” where humans understand themselves as stewards, not owners, of the earth. This vision urges the integration of ecological ethics, linguistic diversity, and new modes of knowledge that are inclusive, grounded, and protective of both cultural and natural ecosystems.

A New Framework

Despite promising experiments and bold visions, today’s development efforts often remain fragmented, reactive, or driven by crisis. Appeals to justice, unity, or sustainability surface only when their absence becomes untenable. What is missing is a coherent, principled framework—one that can harmonize diverse initiatives and guide collective action with moral clarity and long-term purpose.

This volume calls for such a reimagining. It affirms that development must be more than a technical enterprise—it is a deeply moral project that requires us to re-examine our assumptions about time, human nature, and social change. At its heart lies a different anthropology: one that sees human beings not merely as self-interested actors, but as moral agents capable of love, empathy, and selfless service.

To move beyond systems driven by short-term gain, we must draw on the full range of human knowledge—scientific, spiritual, indigenous, and experiential. Only through a dialogue among these traditions can we generate the insights, values, and collective will necessary to rebuild societies that are equitable, sustainable, and united.

The challenge before us is immense—but so too is the capacity of people and communities to transform themselves and their world. By weaving together critiques of inequality, models of participatory governance, revivals of traditional livelihoods, ethical approaches to technology, and epistemic pluralism, this volume invites readers to imagine development in the 21st century as a shared journey toward justice, dignity, and planetary well-being.

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CHAPTER 2

Cultivating Durational Ethics in Development Practice

Holly Elisabeth Hanson

This essay explores the utility for development practice of durational ethics, the moral capability to place one's actions in time and take reasoned actions that create an envisioned future. Building on the work of the economic anthropologist Jane Guyer, it identifies five elements of a durational ethics: a multi-generational framework, a focus on the quality of relationships, learning, humility, and perseverance. It argues that a lack of durational thinking has hindered development practice over the decades, and suggests that deliberately cultivating durational ethics could assist practitioners to achieve the results they seek.

Introduction

Durational thinking is a kind of reasoning which places human actions in time. The actions human beings took in the past created the conditions of the present, and the actions human beings take in the present create the conditions of the future. Although this might seem entirely logical and in fact inescapable, the economic anthropologist Jane Guyer proposed in a famous paper that prevalent ways of thinking in economics and contemporary life do not orient to time in this way. There is instead a conscious acceptance of a lack of connection between the actions that are taken and the conditions that are intended to be the ultimate consequence of those actions. In some later work Guyer explored how people and communities persevere in efforts which lead towards their aspirations, a set of capacities she called "durational ethics." This paper explores how Guyer's observations of both durational thinking and durational ethics can be applied to the

endeavor of development practice. A disconnect between the actions taken in a development endeavor and the results achieved have characterized the field, and the cultivation of durational ethics might enable development practitioners to make the very hard work they are doing more effective.

In *Prophecy and the Near Future: Thoughts on Macroeconomic, Evangelical, and Punctuated Time*, Jane Guyer argues that the near future and the near past are evacuated in many arenas of contemporary thought (Guyer, 2008). She contrasts the post-war England of her childhood, when people placed themselves in time, looked at how World War II and the period before it had shaped their lives, and envisioned that their own actions would have an effect on the world, with contemporary habits of thought which seem to intentionally sever the logical connections between human actions and their consequences. For example, the conviction that economic growth happens when market forces are not constrained leads to policies which can have immediate negative consequences. To free the market, small farmers must lose subsidies for inputs, or poor sick people must be forced to pay for treatment, even though the immediate effect of those policies will obviously be negative. Guyer quotes an economics textbook which rationalizes this posture:

Nine-tenths of the economic fallacies that are working such dreadful harm in the world today...stem from two central fallacies, or both: that of looking only at the immediate consequences of an act or proposal, and that of looking at the consequences only for a particular group to the neglect of other groups. (Hazlett, 1946, as cited in Guyer, 2008, p. 419)

A collective consciousness that the near future does not really matter is cultivated in evangelical Christianity as well as monetarist economics. Diligently awaiting the Second Coming directs attention towards an unknown end time, and away from human thought or action. Guyer (2008) observes “the attempt to render the current moment in time as subject to reason, whether by extrapolation from other times and places or by thinking through logical entailments, is explicitly rejected in favor of faith” (p. 415). Social movements focused on protest are another example of a tendency to disregard the near past and the near future. Showing up to oppose something can be the consuming focus,

without a consideration of how unjust social structures came into existence, or what kinds of actions would be necessary to cause those structures to change. The first section of this essay documents a lack of durational thinking in development practice over the decades.

The second section argues that the ability to place ourselves in time and strive towards an imagined future is a moral capacity that has to be cultivated. Trying to understand what allowed people to persist in difficult goals despite setbacks, Jane Guyer described durational ethics as the “prospective sense of taking responsibility for a situation, domain or activity going forward towards some kind of benchmark in the future whether immediate, near, far or eternal” (Guyer, 2014 p. 398). She wrote that it involved the ability to keep going and be flexible as circumstances changed, and identified fortitude/courage and perseverance/steadfastness as elements. This essay elaborates Guyer’s framework by exploring five components of a durational ethics: a multi-generational framework, a focus on the quality of relationships, learning, humility, and perseverance. It considers how a group of people striving to cultivate a collective capacity might apply these in the arena of small-scale agriculture in a village setting.

A Lack of Durational Thinking in Development

In its first decade, development endeavors did not logically link to the immediate past or to the immediate future. The habit of thought that defines development as an endeavor that begins with the end of colonial rule after World War II disconnected the people to be developed from the social and economic consequences of being colonized that they had just experienced. A disconnect from the future arose from the mid-twentieth century conviction that industrialization, following the pattern of England or the United States, would lead every nation to wealth, and therefore people ought to move out of agriculture and into industrial work. This belief, which seems in retrospect to have been a kind of blinding desire, led to practices whose immediate results were negative and whose long-term intentions were never realized. For example, in Uganda, there was an effort to dam the Nile and create a source of electricity for industrialization, and to pay for the dam farmers were taxed at a rate that drove them out of agriculture. Considerable scholarly effort in the mid-20th century went into proving that

agriculture could never be a source of economic vitality because farmers lack ambition. Economic researchers at the East African Institute for Social Research asked farmers what possessions they owned, and then asked “what possessions do you want that you don’t have?” (Hanson, 2022.) The view that agriculture was backward and progress would happen in the cities was a self-fulfilling prophecy when the profits of farmers’ labor paid for urban schools and urban electrification. This view was widely shared, and the push for industrialization diverted investment and human resources from rural areas. The “take-off” to industrialization that planners had imagined never materialized: new East African factories failed because they could not compete with well-established ones in other parts of the world, and the populations that had been driven out of rural areas did not become an urban industrial workforce.

Recognizing the failure of industrialization led to a change in focus of development in the 1970s, but the large-scale integrated rural development projects that became the norm continued to evacuate the near future. The steps that were prescribed, of massive investment in every sector in a region, did not lead in a rational sequential way to the social dynamism and economic prosperity that were the goal. World Bank projects were large and complex in order to allow the Bank to administer them efficiently and to win the support of members of different government ministries in the borrowing states (Finnemore, 1998, p. 216). These budgets are an evidence of a lack of durational thinking, because projects might work while large amounts of money were being spent, and then cease to operate when the project ended and the flow of money stopped. Dorothy Hodgson describes one such project, the Maasai Livestock Development and Range Management Project, which had the goal of increasing sale of Maasai livestock, involved millions of dollars of gifts and loans, but mostly resulted in overgrazing in the most developed areas, though the Maasai appreciated the net gain in access to water. Hodgson (2004) points out that in many respects, it was like a project carried out in the 1950s that had failed, and the project was based on the assumption that Maasai would change aspects of their lives, “including their semi-nomadic movements, their livestock management techniques, and their attitudes toward cattle and land” (p. 213) when they were shown that others were more

commercially viable. Like the 1950s project, this one involved loss of Maasai land to farmers. A friend explained to Dorothy Hodgson that at first things went well, “But then, and I’m not sure why, if the government ruined it or the project contract just ended, but suddenly the few things that we had received like veterinary medicines and the veterinary centers were stopped all at once...until now.” The long-term consequence of 1970s integrated rural development projects were some roads and infrastructure, a loss of land and a re-arrangement of access to land, and debt.

Participatory development emerged in the 1980s because people recognized that large-scale integrated rural development projects were not yielding the intended results. Also, in the 1980s Amartya Sen made an influential critique of development which came to be known as the capabilities approach, that the purpose of development is facilitating levels of social and economic well-being that allow people to participate in, and make choices about, their own future. Conceptually, participatory development involved durational thinking, as it places human actions in time, focused on what actions affect people’s capacities in the present and in the immediate future. However, it ignored the fundamental building block of agency for individuals and for groups: the plans and programs in which people were to participate were conceived by distant experts, and “participation” was often a rhetorical embellishment of programs which were actually coercive. As participatory projects multiplied, so did the necessity of showing up wherever participation was being measured. In a classic study, Sara Berry showed that development interventions forced people to devote their times to maintaining a place in more and more networks. Since time is rural people’s most scarce resource, participatory development took time without leading to sustained economic dynamism (Berry, 1993).

The turn towards market liberalization and privatization in the 1990s involved policies which denied immediate consequences in pursuit of imagined long term goals: what Jane Guyer described as the evacuation of the near future in economic thought. Introducing fee for service in health care and education reversed the significant progress in those areas which independent African states had made in the first decades after Independence. A decade later, the Millennium

Development Goals were an attempt to galvanize global action, a worthy goal. But looking at the Millennium Development Goals in the perspective of the second half of the 20th century, it is clear that they are much less ambitious than the expectations for development in the 1950s. The 1950s had been called the development decade because people thought it would take the nations that had been colonized 10 years to catch up, become industrialized, and create prosperity for their citizens in the same way that wealthier nations were doing. By the early 21st century, the goals had become much less ambitious: that there would be fewer hungry people by 2015, and the poor would be less poor. The profession of development had given up on its original goal of creating a world with prosperity for everyone.

This brief survey suggests that the enterprise of development is an example of our contemporary habit of thinking and acting without placing what we are doing in time. Development evaluation techniques and methodologies such as randomized control trials do draw attention to the actual immediate consequences of an effort. Yet durational thinking in a longer time frame—reasoning from an understanding of what actions in the past caused the conditions in the present, to what sequence of actions over time will create a desired alternative future—has not characterized the field, just as it has not characterized other realms of endeavor. Guyer (2014) surmised that the capacity for durational thinking and a cultivation of durational ethics might have diminished with the secularization that accompanied modernization (p. 398). The following section explores how these capacities could be cultivated looking specifically at the family farm.

Durational Ethics in Small-Scale Agriculture

Small-scale farmers have not always been poor. Although ‘rural’ and ‘prosperity’ are words that may not seem to go together, family farms had been understood to be the secure source of a nation’s wealth until quite recently. Fundamental structural transformations in three kinds of relationships have turned small scale agriculture into a sentence of poverty over the past century and a half. The transition to purchased fertilizers broke the reciprocal relationship of humans with nature that had characterized agricultural systems across the globe (Netting, 1993). The growth of off-farm waged work disrupted the farm family

as a labor system (Adams, 1988). The concentration of manufacturing and trade in ever-larger cities diminished the realm of action for farming communities and their institutions (Conelly, 1994). These changes happened in somewhat different ways and at different times in different regions, but everywhere the direction of change has been similar. The conditions they created have intensified and solidified over generations. In the present, the relationship of the nations of the world with each other is also a factor in the apparently irremediable stagnation of rural areas. Placing the question of the prosperity of family farms in a long-term perspective, we need to think about these four kinds of relationships: between man and nature, between the members of a family as contributors to the farm, between the farm family and the community it is in and that community's institutions, and between the nations of the world. We can identify moments in history when the first three relationships functioned in ways that made family farms prosperous, and all four sets of relationships now function in ways that make the mere survival of family farms difficult and sometimes impossible.

A Multi-generational Framework

Durational ethics requires a multi-generational timeframe because problems that took a long time to create will take a long time to fix. The impoverishment of family farms has been worked into the structures of economy, society, and culture for four or five generations in some parts of the world, and two or three in others. It is critical to recognize that this is a history of human choices: the industrialization of agriculture in the way humanity did it was not inevitable, it was not an uncontrollable event like an earthquake or a hurricane. New technologies, which were the result of human ingenuity, emerged in the context of forms of social and political organization that did not succeed in making those technologies work for the wellbeing of everyone. Humanity could have shaped the technology differently and used it in ways that benefitted all instead of only some, but that was not the path that was followed. But path dependence is a habit of human beings, not a law of nature. Thousands and millions of choices made by the great-great grandparents and grandparents of living people made the conditions of the present, and the results have not turned out to

be what they would have wanted for us or that we want for ourselves. Yet it is within the capacity of the current generation and ones that follow to make different choices. Since it took several generations for the structures of the present to be created, it has to be anticipated that it will take several generations to change them. It will take a long time not only because structures change slowly, but also because we do not have the capacity to fully imagine the world we would want. What kind of rural/urban relationships would support rural prosperity? How can instant global communication co-exist with vibrant human connections in localities? It will take time to learn the answers to these questions. We will have to move a little way towards the future, and when we see more than we can see now, build it out a little bit more.

The perspective that effective change is structural and occurs over generations explains why protest movements can lose momentum. Recognizing that things do not work does not change them. Adolescents can protest their frustration at not being adults, but it is more useful and rewarding to focus on developing skills and capacities. African American farmers who were systematically denied loans over the course of the 20th century have asked for reparations and received them, but they have also put significant effort into building learning communities to recover knowledge and create mutual support (Reynolds, 2003).

A Focus on Creating Mutually-Beneficial Relationships

A durational ethics focuses on creating reciprocal and mutually beneficial relationships. In other words, whatever the immediate goal of an effort—sustainable farming, better education, health care, or secure access to land or credit, or anything else—when those activities try to ensure that they build interdependence and reciprocity, the consequence is a contribution to long term, structural change. At present, we do not know how reciprocity can be established in the labor dynamics of a family farm, or how farms, rural communities, and their institutions regain an ability to fully support each other. We do not know how small producers fit into a world with cheap global movement of goods. In the mid-nineteenth century, when it became possible through the technology of railroads and steamships to grow food in the grasslands of the United States or India and sell it in Europe, that new technology was part of what eroded the reciprocity of man and nature and the

agency of farmers and their communities (Melilo, 2012). But does that history mean reciprocity is gone forever, or does that mean we have to learn how to create reciprocities in a much more complex world? When we require our development endeavors to foster mutually-beneficial connections among recipients, we participate in learning how to create a modern, technologically advanced world that is also characterized by reciprocity. We make our actions part of the thousands and millions of human choices that over generations build new structures.

The provision of credit to farmers is an example. In the nineteenth century in the United States, the enlargement of banks made the conditions of loans to farmers more rigid, which made farming harder (Cronon, 1991; Thornton, 2007). Credit systems which benefit bankers more than they benefit farmers are well-known, but credit structures which are mutually-beneficial are also possible. The person with the greatest need at a given moment often got the payout from African women's rotating credit schemes, which were such a fundamental part of life that enslaved women carried them to the Caribbean, where they still exist. Community share agriculture farms, in which consumers pay for their share of the harvest before the season begins, which shares the risk of a poor harvest and gives the farmer access to capital when planting, are another way of making credit mutually-beneficial.

Focusing on relationships introduces long term consequences to short or immediate term efforts. We engage the world in different time frames. Some human needs are immediate: we need food during a famine or shelter after a flood. Meeting those needs is considered relief rather than development because nothing is developing—the time frame is the present. Other human needs are met in the span of time required for people in a society to reproduce themselves in an orderly way. For the next generation to sustain themselves and advance, it is necessary to have functional systems of education, governance and healthcare. Economic vitality requires markets and transportation networks. The time frame for these elements of a healthy, successful society is ten to thirty years, since these needs have to be met for every generation for the next generation to thrive. Most development activities focus on this time frame, which makes sense, because human flourishing requires the needs that are met in this time frame. But actions we take intending to

have immediate effects or effects over a few decades also contribute to the thick layers of choices which have effects over centuries.

Striving to establish mutually-beneficial relationships can change the nature of an immediate or medium-term activity. For example, the United States used to provide grain grown in its own midwestern states as famine relief. That worked to feed hungry people, but it reduced the price of grain for farmers in the region around where the aid was received. So the United States began to purchase grain for relief closer to the area that it was needed. In the early 2000s, the grain that was going to feed Somalis in refugee camps in Kenya all came from East Africa. This is an example of meeting an immediate need with an eye to ensuring positive relationships over the longer term.

Because the density of mutually-beneficial relationships is not part of how we measure the success of a project or the dynamism of an economy, we cannot currently perceive how dense social connections contribute to actual economic vitality. Perhaps a measure could be created that would, like the happiness index or the sustainability index, help to reframe development goals. Even acting inside the current framework, cultivating an ethic of attention to positive relationships is empowering. There is a habit of thought which sees the current world economy as a kind of thing in itself: for some it is a shiny engine of growth, for others it is a monster, but either way it is beyond human control. An alternative view is that the economic world we inhabit is an almost infinite fractal of social relationships. Human will, human values, and the actions human choose to take make those actions positive or negative. If dense webs of mutually-beneficial social relationships are a source of economic dynamism, a focus on the quality of relationships allows development practitioners to engage with their core concerns.

An Effort to Learn Systematically

A durational ethics is sustained by an effort to learn systematically and in ways that engage as many people as possible. As we have seen, learning is essential to structural transformation because we do not yet know how to recreate the reciprocities that we left behind in the creation of an industrialized, globally-linked, technologically-advanced modern world. Because structural change takes a long time and the problems to be solved are vast, what one generation figures out will have

to serve as a basis for the following generation. It might seem daunting or unrealistic to conceive of one's actions as part of a centuries-long learning process, but it is actually quite useful in orienting oneself to action.

A focus on learning gives every individual, family and community a wide realm of agency. It can be difficult to engage constructively in a development endeavor when some in that context are self-serving, or overtly opposed to the success of a project. However, it is not possible to prevent people from learning when they are trying to learn. If we are engaged in a long-term process of learning about what interdependence looks like and how it can be manifested, we can learn about that everywhere. There are things to be learned through involvement with governments or civil society organizations, there are also things to be learned inside families, and there are things to be learned inside a neighborhood, or a school or an after-school tutoring group. If it seems that activities which are labeled development actually exist to serve the interest of a particular group, one can show up to the degree that is required but invest oneself in an area where one could learn more. Identifying things that we want to learn and articulating how the actions we take will help us learn those things is a realm of agency that we control for ourselves, and if what we are trying to do does not work, we still have met our aspiration of learning.

Systematic learning carried out by the broadest possible group of people and pursued across generations will require evolution in the existing institutions for advancing knowledge. There are many examples of knowledge generated for the purpose of development that failed because the university, our currently-existing system for generating and conveying knowledge, was too narrow in its outlook and experts did not see the whole picture. The designers of the Green Revolution believed they were curing the problem of starvation and food shortage; they ignored the negative social consequences which agrarian anthropologists predicted, and seem not to have considered the impact their technical packages would have on the environment. The groundwater crisis that followed the introduction of Green Revolution techniques in India could not have happened if the responsibility for knowledge generation had been shared by farmers. When governments in India subsidized electricity and people who could afford to do so

began to pump excessive amounts of groundwater, farmers saw the effect on their land almost immediately. If the system for the generation of knowledge about agriculture had been broad, and the farmers who suffered had been part of it, there would not have been years of deterioration and then suddenly a crisis of a ruined water supply. Once an African colleague and I were discussing the frustration of politicians using the agricultural extension program for their own purposes: the discouragement we both felt turned positive when we asked ourselves what structures would foster rural prosperity in the country, what capacities would be required to build them, and what actions could be taken in five years, ten years, and twenty five years to learn about them.

It is a significant challenge to open up knowledge generation so that that more people in a society are formulating questions, making observations and experiments, and explaining what they are learning through channels that allow them to share their insights with others. A shift in attitude is required and skills and abilities for systematic learning have to be cultivated. Institutions for advanced learning which draw people into horizontal organizations rather than excluding them in vertical ones are rare, but they can be created. *La Via Campesina* and FUNDAEC are two examples that show what is possible in the arena of small-scale agriculture (Arbab et al., 2025; Correa & Murphy-Graham, 2019; Holt-Gimenez, 2006).

Humility

Humility is an essential component of a durational ethics. It is a protection and a source of efficiency to recognize ourselves as a small part of a very long process to which countless others have contributed and will contribute in the future. It is also truthful: looking to the past draws attention to the many ways that people in the past thought they were doing the right thing when they created problems we are now trying to solve. The push to draw people out of agriculture into industrial labor was not intended to lay the foundation for a migration crisis a half a century later: but those who made the policies that had those consequences thought they were creating the conditions for new national wealth. Green revolution technologies were not intended to cause farmers to go into debt and lose their land; the scientists who designed the technologies were focused on increasing food supply.

A posture of humility asks us to hold in our minds that we might be making the same kind of mistake. It motivates us to try to see a situation from the perspective of others as well as from our own, and to diligently look for evidence that our assumptions might be incorrect and to act on the evidence we find.

Paradoxically, the cultivation of humility can enhance the utility of our efforts. While winning proposals claim superior insight and promise large and lasting impacts, humility requires ambitions which are more modest. A focus on what people can learn to do in the environment in which they live, incorporating the likelihood that mistakes will be made, creates conditions for creativity. We cannot control the actions of others, but we can control our own. We can find other people who can think with us about our community in the present and our community in the future and what kinds of things we can do to take our community where we want it to go. What that group figures out may be useful to others.

Perseverance

A durational ethics requires the cultivation of perseverance, because difficult work requires sustained effort over a long time. The more ambitious our aspirations, the more fortitude and perseverance will be required. In an essay about her experience on a board advising the government of Chad regarding the start of a petroleum industry, *Blueprints, Judgment and Perseverance in a Corporate Context*, Guyer (2011) observed that this quality can be under-emphasized or made invisible in modern secularized ethics, in contrast to its prominence in religious practice and texts (p. S25). *La Via Campesina*, the international peasant farmers' organization, learned that perseverance could be built by incorporating celebration and ritual into its activities.

Conclusion

Human beings are intelligent and creative now, we were intelligent and creative in the past, and we will be in the future. The enterprise of development seeks to harness that capacity to solve problems that arose because we, the human race, innovated with technology more rapidly and successfully than we innovated with social and economic organization. Applying durational thinking to small scale agriculture

reveals the very profound structural transformations since the mid-nineteenth century that have led to land that cannot produce, farm families without labor, and communities unable to support their agricultural base. Our challenge in the present is to find new forms of mutuality and interdependence to replace the ones humanity sometimes achieved when we operated on a much smaller scale.

There are many things we will have to learn. How do we develop the collective capacity to articulate the aspirations of a community? How do we recreate the reciprocities that prosperity requires? How do we create structures that foster learning and the creation of knowledge everywhere? How do we create forms of economic activity that are both efficient and allow for the agency and individuals and communities? Finding ways to contribute to a multi-generational effort, focusing on the quality of relationships, asking hard questions and learning about them over time, and proceeding with humility and perseverance will be essential.

This is not impossible. Just as actions people took in the past made the present, the actions we take will make the future. Cultivating moral and ethical capacities will support us in taking actions that will lead to the future we want.

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CHAPTER 3

The Problem of Poverty and Inequality

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Introduction

In an era marked by unprecedented technological advancements and interconnectedness, persistent global poverty and worsening inequality are ever-worrying and increasingly inexcusable. As our world becomes increasingly intertwined, disparities between the rich and the poor prompt important questions about the efficacy of current socio-economic structures and policies. Poverty and inequality have evolved into a multifaceted crisis, manifesting as a source of social and political unrest, as vividly witnessed in regions like the Middle East and Latin America. By reviewing several illustrative vignettes, this paper explores these worsening crises before turning to an examination of interrelated non-economic indicators—in part seeking to unravel the web of factors contributing to their persistence—and concludes with several potential avenues for meaningful intervention and change.

The Persistence of Extreme Poverty

It is essential at the outset to acknowledge that substantial progress has been made in recent decades across a range of critical development indicators. There are several statistics in particular that illustrate these remarkable improvements. Since 1960, the world has seen a sharp increase in average life expectancy, from 52 years in 1960 to 72–73 years today. Relatedly, the global infant mortality rates have declined from 122 deaths per 1,000 live births in 1960 to 30 today. Longer lives have also been accompanied by an increase in skills; global adult literacy increased from 47 percent in 1960 to 76 percent in 1990 and 86 percent today, despite marked discrepancies between the statistics for women and men.

This progress has also been seen with respect to extreme poverty alleviation. In 1990, for example, nearly 2 billion people were living under the World Bank's extreme poverty line, determined as \$2.15 per day.¹ In the three decades since, nearly every year saw reductions in extreme poverty and by 2020 this figure had decreased by roughly 65 percent to 700 million people even as the global population has continued to soar. However, reductions have not been uniform, given that much of the decline in extreme poverty occurred in the East Asia, Pacific and South Asia regions, while extreme poverty in Sub-Saharan Africa actually rose during the period. Furthermore, some of this progress is being reversed in the wake of the COVID-19 pandemic. Today, it is safe to estimate that between 100 and 130 million people were added to the extreme poverty head count in 2020 and 2021.

In addition to COVID-19, this trend has been further exacerbated by the impact of the war in the Ukraine, which has led to soaring global commodity and fertilizer prices and by the worsening effects of climate change. The implications of both trends land disproportionately on the poor, leading to destabilizing manifestations, particularly in the developing world. As a result, the regression in poverty alleviation has made achievement of Sustainable Development Goal (SDG) number 1, which aims to achieve the "elimination of extreme poverty by the year 2030" all but impossible.

A Worsening Income Gap Between Countries

In addition to extreme poverty, the issue of income inequality, a widening gap between the richest and poorest, is also worsening. To illustrate, the aggregate Gross Domestic Product (GDP) of Sub-Saharan Africa, encompassing nearly 50 countries and a total population of approximately one billion, stands at slightly over \$1.5 trillion. In contrast, Switzerland and the Netherlands, two moderate-sized European countries with a combined population of roughly 25 million represent a mere 2.5 percent of the population of Sub-Saharan Africa, while their combined GDP is roughly equal to that of Sub-Saharan Africa. A parallel scenario unfolds with Spain and Australia, each individually boasting a GDP roughly on par with the whole of Sub-Saharan Africa. These datapoints underscore the significant concentration of wealth on a global scale, wherein the aggregated

market value of goods and services generated by an entire continent is roughly analogous to that of either two diminutive European countries or two middling, yet high-income, economies.

A Worsening Income Gap Within Countries

Income concentration can also be analyzed at the intra-country level. In the early part of the 20th century, for example, roughly 15–20 percent percent of income was in the hands of the top one percent in various industrialized economies including the United States, Japan, and France. Progress toward greater equality was made between the 1940s and the 70s, in which the top one percent saw a decline in their share of national income, reaching approximately 7.5 percent by 1980. However, beginning in the 1980s, the share of income held by the top one percent began to skyrocket again. Several developing countries accompanied countries such as the United States on this rise including Argentina and South Africa, whose income share of the top one percent is now comparable to that of the United States at roughly 20 percent.

Processes of Divergence and Convergence

Among rich countries, there has been a massive convergence in national income gaps. A comparative analysis of GDP per capita data from 1870 to 2016 reveals the erasure of gaps between countries at the center of global capitalism. In 1870, for example, Japan's GDP per capita (in 1985 PPP dollars) stood at \$622, while that of the UK was \$2,740 and of Australia \$3,192. Fast forward to 2016, and the GDP annual per capita figures (in current PPP dollars) for these nations were \$41,220, \$42,421, and \$48,712, respectively. This noteworthy convergence is exclusive to high-income countries and can be attributed, in large part, to the equalizing influence of globalized trade and investment flows.

A compelling story to explore is Japan's transformation from a low-income country, relative to the UK and Australia, to a global economic powerhouse. Analyzing income per capita data from the 19th century for largely industrialized societies (like the UK, Australia, the United States and Germany) reveals an approximately 19-fold increase in the income per capita gap over the past century. In contrast, low-income countries experienced a mere five-fold increase over the same period. So, while a convergence process unfolded among

high-income nations, a parallel divergence occurred when comparing today's high-income countries with those outside the group.

To illustrate this point further, economic historian Angus Madison conducted a comparison of GDP per capita ratio between the richest and poorest countries. In 1824, at the onset of the Industrial Revolution, the ratio stood at 3:1. By 1992, using the same methodology, the ratio had expanded to 72:1. In 2016, this ratio nearly doubled to 141:1.

The International Income Gap

Given these large gaps between high-income and low-income countries, it is intriguing to explore convergence scenarios. An analysis of high-income countries (for which the average GDP per capita was \$41,000) and low-income countries (for which GDP per capita was just \$600), shows that over the last 20 years, high-income countries have grown at roughly 2.5 percent per year on average whereas low-income countries have been growing at a more robust 4.7 percent. Assuming that these growth rates continue for the foreseeable future, how long would it take low-income countries to catch up with the high-income group or, in other words, when will currently low-income countries attain lifestyles, services, public health facilities, consumption levels, and other attributes akin to those observed in high-income countries? Unfortunately, analysis reveals a prolonged widening of the gap between these country groups, as the growth rate of 2.6 percent was applied to a base of \$41,000, while the 4.7 percent growth rate was applied to a base of \$600. The gap is anticipated to expand until 2197, with convergence not foreseeable until the year 2226.

This disparity can also be analyzed at an individual level, as demonstrated by an exercise conducted by Branko Milanovic of the World Bank. In this exercise, the global population is arranged side-by-side in a long line, ordered from poorest to richest. Starting from the poor end of the spectrum, you would need to count 75 percent of the world's population, or roughly 6 billion people, to account for the first quintile of global income (a 20% slice of the global economy). In contrast, counting from the opposite end of the spectrum, a mere 1.7 percent of the world's population, approximately 136 million individuals, is sufficient. This group at the highest end of the global income spectrum has also reaped the majority of the economic gains

over the past two decades. In fact, estimates suggest that individuals within the top 5 percent of the income distribution have captured over 50% of the gains in global income growth during this period.

Correlated Indicators: Form of Government

It is also helpful to explore non-economic indicators that are linked with varying levels of poverty and inequality between countries. A few that will be explored in this section include a country's form of government, the quality of its business climate, and the level of discrimination against women.

For better or worse, a country's efficacy in addressing poverty and alleviating inequality is intimately linked to its system of governance. Democracies, for instance, often demonstrate greater effectiveness in identifying and implementing solutions. The accountability inherent in mature democracies allows citizens to hold their government accountable while failure to deliver on promised policies can result in regime changes through elections. In parliamentary democracies, this accountability is even more immediate, as governments can be ousted outside the typical electoral cycle. Consider the United Kingdom, which in 2022 witnessed multiple changes in government within a year, some lasting only several weeks. This turnover resulted from a lack of credibility in announced policies, leading to a lack of confidence among the electorate and subsequent leadership changes. In contrast, autocracies tend to be less adept, lacking a credible feedback mechanism from the population to the rulers. The absence of a requirement to legitimize themselves before the population can result in a diminished focus on competent governance in autocratic systems.

A lack of government accountability can directly exacerbate poverty and inequality, especially in nations with high levels of corruption. In these countries, the rich wield considerable political influence, frequently (among other things) manipulating the government to uphold a tax system that shields their wealth and absolves their responsibility for contributing to the common good. This does not occur to the same level in transparent and democratic societies, where effective democratic processes prevent a concentration of power in the hands of a privileged few. Egalitarian laws and robust safety nets are also common in these countries, further fostering a more equitable distribution of resources.

The repercussions of widening inequality often manifest in the political realm, where segments of the population left behind by widening inequality turn to demagogues as a form of protest. The demagogues exploit discontent, promising solutions to problems while having little true regard for the well-being of the impoverished. This manipulation often leads to dissatisfaction and disappointment which can culminate in social unrest. Moreover, in an era of open communication and widespread access to information through the internet, poor populations can more easily mobilize, potentially increasing levels of political toxicity if inequality is not meaningfully addressed.

Correlated Indicators: Restrictions Against Women

There are also important linkages between poverty, inequality, and the prevalence of discriminations against women embedded in national legal codes. These codes can include the Constitution, the civil code, family law, tax codes, labor codes, and company laws. In many countries these legal frameworks explicitly incorporate discriminations against women, ranging from limitations on property rights to restrictions on mobility and often hindering women's ability to open bank accounts, obtain passports or open small businesses.

Upon correlating the number of areas of discrimination against women with various other indicators of economic vibrance and health, a clear pattern emerges. A higher incidence of discrimination correlates with lower rates of women's participation in the labour force, lower wages, reduced secondary school enrolment rates for girls as compared to boys, and fewer women-owned businesses. In short, discrimination against women significantly influences the broader economy, with lower Gini coefficients observed in countries where women experience fairer treatment and less discrimination, all else being equal.

Despite these correlations, women's inequality remains pervasive. Many of the legal restrictions against women entrenched in national legal codes are legacies of long standing. With awareness, these can be removed, leading automatically to a better environment for women; education plays a pivotal role, as empowered and educated women contribute to family income, and when they engage in political life, become catalysts for eliminating discriminatory practices. One very

effective policy is the introduction of parliamentary quotas for the participation of women in national parliaments. Countries that have done this have been very successful in boosting the role of women and empowering women economically and politically.

Correlated Indicators: Quality of Business Climate

A final area we can explore is the range of indicators the World Bank has developed to track the quality of the business environments in various countries. These include factors such as the friendliness of government regulation towards the private sector and the extent to which governments actively promote entrepreneurship. Notably, countries that proactively streamline regulations, thus reducing bureaucratic burdens on private enterprise, tend to witness a decrease in income inequality. Intelligent and strategic regulation, as opposed to convoluted and arbitrary measures, fosters an environment conducive to increased entrepreneurship and job creation. This, in turn, contributes to elevated income levels, including within low-income segments of the population.

The Need to Reframe Economic Objectives

We turn now to the exploration of potential strategies for reducing the global population living in extreme poverty and to closing inequality gaps both within and between countries. A reframing of objectives seems a sensible place to start. The current global economic system is premised on a misguided growth imperative. Politicians are assessed on the extent to which they deliver economic growth, often prioritizing short-term growth without concern for sustainability. It is crucial to shift the focus towards the *quality* of the growth we pursue.

Introducing better indicators of growth and metrics that encompass broader elements of human welfare, beyond the mere production of goods and services, could lead to higher-quality and more sustainable growth. In essence, we should be aiming to privilege truly meaningful metrics rather than simply boosting artificial metrics like GDP. This shift has the potential to be a game changer, prompting a realignment of economic and development priorities and the formulation of policies that foster a more sustainable, human-centric global economy. Within this reframing are three specific such policies that could be useful:

progressive taxation, aligning the incentives of labour and capital, and the introduction of a universal basic income.

Progressive Taxation

Countries that have embraced a robust progressive taxation system with minimal loopholes have been successful in reducing poverty. These countries have actively employed their national tax systems to redistribute resources from higher income groups to lower income groups, typically through the provision of a social safety net and effective public services. The European Union for example boasts the world's lowest average Gini coefficients—signifying minimal income inequality— and comprehensive safety nets. To varying degrees, these tend to include a national public health system, access to free education at primary and secondary levels, and substantial investments in infrastructure and education aimed at enhancing workforce skills and training.

The European Union has another extremely successful strategy, although one that is not as easily replicable in non-federal states. In essence, when a lower-income country joins the European Union, it automatically qualifies for transfers from wealthier member countries through the European Union budget. These transfers function as grants rather than loans and can be used to improve the country's infrastructure, invest in education, and address needs in a range of areas. Thus "fiscal federalism" can be a potent strategy that could be adopted more proactively by such federal countries as India to more actively diminish regional income disparities.

Aligning the Incentives of Labor and Capital

Another solution, as foreseen in the writing of 'Abdu'l-Bahá, calls for workers to receive not only a salary as compensation for their work, but also to be made shareholders of the enterprise, thus receiving a share of the profits ('Abdu'l-Bahá, 1976, p. 282). This dual income approach aims to align the incentives of capital with those of labour, bridging the gap between owners and workers. Granting workers a stake in profits encourages loyalty, reduces turnover, and cultivates a genuine commitment to the firm's success. Today, profit-sharing is used sporadically across industries and in different geographic regions, but

its extensive adoption could prove to be a potent tool in fostering a more mutually beneficial work environment.

Universal Basic Income

In recent years, there has been much discussion surrounding universal basic income as a strategy for income levelling. Given the prevalence of extreme poverty globally, many people, particularly in the developing world, have been advocating that our economic systems should prioritize a comprehensive safety net for the entire population. Such a safety net would encompass essentials such as education, access to primary health care, food, and possibly some forms of minimum shelter.

The primary counter-argument put forward against such proposals is that they would be unaffordable. However, the argument about affordability tends to be slightly dishonest, presupposing that we need to continue to allocate resources toward things like subsidizing energy, which accounts for a full 6 percent of global GNP annually. This is a colossal waste of resources which not only accelerates climate change, but worsens income inequality. According to the IMF, a full 60 percent of subsidized gasoline goes to those at the top 20 percent of the income distribution. In short, when governments assert that a safety net for the poor or society at large is unaffordable, it conveys a reluctance to scrutinize other budget items. A genuine debate on the affordability of universal basic income requires a comprehensive examination of the entire budget structure. We must take care to refrain from reflexively assuming that certain items, such as energy subsidies or extravagant defense spending, are sacrosanct and immune to scrutiny.

Beyond defense and energy, many developing countries rely on the State as the employer of last resort, maintaining massive levels of public sector employment with low salaries. A more efficient, professional civil service could potentially deliver better public services at lower cost. Thus, the inadequate delivery of critical services such as health and education in numerous countries can be argued to stem, at least in part, from a lack of proactive government measures to restructure expenditures. While it is true that some countries face deficit and public indebtedness challenges, these should not serve as excuses to refrain from spending on education, public health, and infrastructure.

The reallocation of resources towards more constructive ends has vast social potential.

Conclusion

The persistence and pervasiveness of extreme poverty and inequality demand urgent attention and effective solutions. The vignettes provided in this paper underscore the magnitude and urgency of the challenge confronting the global community. Correlating factors such as the form of government, the quality of the business environment, and gender equality have further illuminated this complex web of interconnected issues. However, the web itself may also illuminate the potential for interconnected solutions, including support for democracy and gender equality. More targeted solutions concentrate around the reframing of economic objectives and include the implementation of progressive tax systems and universal basic income and correcting the alignment of incentives between labor and capital. Through these strategies, we can make progress toward a more equitable global economy in which the alleviation of extreme poverty and the reduction of inequality become focal points of the global community's vision for the future.

NOTE

1. Using this World Bank poverty line metric has its own issues, however. If instead of using \$2.15 a day, the figure of \$6.85 a day is used to calculate, nearly 50% of the world's population today would be categorized as impoverished.

REFERENCE

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CHAPTER 4

Addressing Institutionalized Inequalities in India: Labour Rights and Labour Codes

Ritu Dewan

Introduction

The amalgamation and codification of all 44 labour laws in India into four Labour Codes has to be perceived in the context of several structural mutations that have occurred in the past several years in the country¹. These relate to the changing pattern of economic growth which has become disconnected from employment creation and has led to the scenario of the increasing control of capital over labour. In addition to this, several fundamental alterations in policies as well as economic and extra-economic processes have together had dire consequences for the role of workers and their rights in a democracy. While there is no merit in romanticising the past, the historical achievements of the labour movement in India and the winning of the long struggled-for labour rights put in perspective how much is being lost through such structural changes. There is thus an urgent need to demystify the speeding up of the process of what I term as the decimation and dispossession of the working class and their increasing alienation from their rights and achievements.

Labour laws relating to all categories of workers in all sectors have been amalgamated in the name of “rationalisation” and “ease of doing business”, seeking “to improve the business environment” in the country largely by reducing the labour compliance burden of industries. The Codes were passed in Parliament in spite of vociferous opposition and under the camouflage of the COVID-19 pandemic when workers were

absorbed in just ensuring their basic physical survival. All the codes have been notified in the official Gazette, with their implementation being taken up now in several ways and in several states.

The analysis of the process of curtailing the rights of workers through these codes is presented in this paper in four sections. The first section lays out the broad economic context by focusing on macroeconomic data; the second section discusses the reinforcement of economic and extra-economic inequalities especially in recent decades; the nature of the institutionalisation of inequalities via laws and policies with a detailed examination of the four Labour Codes is presented in the third section while the concluding section presents some possible policy interventions for addressing these growing inequalities in the Indian context.

Contextualization

India's global rankings today across various indicators of social and economic justice are quite concerning and cover almost all the Sustainable Development Goals (SDGs). The country ranks 111 among 125 countries in the Global Hunger Index; 140 (among 156 countries) in World Economic Forum's Global Gender Gap; 129 (among 157 countries) on Oxfam Inequality Index and ranks 145 (among 195 countries) in Healthcare. Over the last decade, all G20 countries, except for India and Indonesia, increased their female labour force participation rates. India also has the highest gender gap in employment rates at 57 percentage points, and the maximum gender wage gap at about 40 percent (International Labour Office, 2024; World Bank Group, 2024).

Despite these troubling indicators, India continues to be perceived as a nation on a "high growth" trajectory. In fact, India was already the third largest economy in 2014 after China and United States in terms of the size of GDP at constant prices. However, at present, in terms of GDP per capita, India ranks amongst the lowest at 136 in nominal prices and 125 in terms of purchasing power parity among 196 countries. The last decade has also witnessed a virtual collapse of several growth indicators: private investment falling from 31 percent of GDP in 2011 to below 20 percent in 2023; 59 percent rise in debt to GDP reduced public provisioning; sharp rise in inflation of especially

food commodities; industries functioning at less than 40 percent capacity. The percentage of non-agricultural value-added growth which had peaked at 7.7 percent during 2004-11, recorded its lowest share at a mere 3.4 percent in the post-demonetisation period of 2017-21. The average annual growth rate of manufacturing which was 5.7 percent between 2005-06 and 2013-14, almost halved to 3.1 percent from 2014-15 to 2022-23. (Arun, 2023; Dewan, 2024).

Combined with these economic indicators is the fundamental change in the paradigm of growth: growth-with-jobs has been replaced by a paradigm that clearly states that growth can take place only by disregarding employment and labour rights. Today the majority of policies overtly support profits over wages and the control of capital over labour via State-supported centralisation of capital. The seven Periodic Labour Force Surveys (PLFS) between 2011-12 and 2022-23 reveal the combined massive negative impacts of economic slowdown as seen with the demonetisation of 2016, the national COVID-19 induced lockdown with a mere 4-hour notice, and thereafter the lack of an empathic pandemic policy that drove workers back to their villages in a virtual repeat of the process of reverse migration that began in the wake of demonetisation. Simultaneously, the 66 percent Labour Force Participation Rate (LFPR) of 2004-05 fell steeply by 14 percentage points to a low of 52 percent in 2017-18, with the share of manufacturing in employment also declining from 12.8 percent in 2012 to 11.5 percent in 2018 (Periodic Labour Force Surveys, Government of India, Various years).

Historically, as a country makes economic progress, its workforce moves away from agriculture. This process has reversed in India in the past several years. The agricultural sector grew at an average annual rate of 4.6 percent during the last six years, its share in GDP rising from 17.8 percent in 2019-20 to 19.9 percent in 2020-21, and combined with allied sectors accounted for 20.2 percent in total Gross Value Added (GVA). For three consecutive years, agriculture was the only resilient sector, the GVA growth rates of agriculture, industry, and services being +3.63 percent, -6.96 percent, and -8.36 percent respectively at 2011-12 prices in 2020-21, and + 6.56 percent, - 5.61 percent and -4.86 percent at current prices (Dewan, 2023).

Consequently, the share of agriculture in total employment went up from 38 percent in 2019-20 to 39.4 percent 2021-22 (Dewan,

2023). The latest PLFS report shows an even sharper increase from 42.5 percent in 2018-19 to 45.76 percent in 2022-23. As of today, 49 percent of working men and over 76 percent of working women are employed in agriculture. Further, the majority of India's workforce is employed in the informal sector, estimated at nearly 90 percent today.

It needs to be pointed out that the state of the informal sector and of informal workers in India are constituted through three interlinked processes: the expansion of the informal sector itself, the increase of informal workers employed within the formal sector, and the rapid shrinking of formal-sector arrangements even within the formal sector itself. Further, it goes without saying that more women and transpersons work in more economically-vulnerable, insecure, precarious, and unsustainable forms of employment, characterised by deeply connected economic and extra-economic intersectionalities.

Women in particular, and increasingly single male migrants, bear the huge burden of unpaid work and time poverty. The paid/underpaid/unpaid work continuum is complex, and integrates income-earning, income-augmenting and income-saving economic activities that are not necessarily separable, measurable and calculable. The burden of unpaid work is reinforced by the lack of adequate public provisioning in critical sectors such as energy, health, water and sanitation, food security and livelihoods. Intensifying the burden and increasing it manifold is the huge vacuum created by macroeconomic policies and strategies that do not take cognizance of the existence of unpaid work. It is aggravated even more by the continuous withdrawal of whatever little State support exists in the eternal hunt for capital accumulation. The nature of the subsidising support provided by the underpaid and especially unpaid economy to the paid economy has to be perceived in the context of the prevailing interdependence of macro, meso and micro factors and processes within the framework of the fundamental and on-going changes in the macroeconomic and financial architecture which questions the very concept of a welfare State. Increasingly, exclusive and exclusionary market and macroeconomic policies are blind to the existence of unpaid work. Such policies also do not take cognizance of the non-fulfillment of the essential needs of especially the marginalised as well as the limited and rather erratic implementation of schemes at the ground level.

Reinforcing Inequalities

The analysis of several laws and policies that have deepened both economic and extra-economic inequalities within and outside labour market structures has to be based on data rather than mere rhetoric. This section presents a data-driven snapshot of the several layers of inequalities that are sharpening over time.

India is among the most unequal countries in the world. The top 1 percent account for 22 percent of the total national income, while the top 10 percent hold 57 percent. Simultaneously, the share in national income of the bottom 50 percent has reduced sharply to below 13 percent, their average income being merely Rs. 53,610. The Oxfam Inequality Report 2022 mentions an even higher level of inequality, with the top 10 percent holding 77 percent of the total national wealth (Mahendru et al., 2022).

The “leaked” NSS report of 2017-18 reflects this reality: it calculates that in rural India between 2011-12 and 2017-18, the per capita real spending on all goods and services fell by 9 percent. The proportion of India’s rural population not able to access 2,200 calories per person per day has risen sharply from 68 percent in 2011-12 to 77 percent. The country’s ranking in the World Hunger Index has accordingly fallen to a historic low (National Statistical Office, 2019).

The share of Regular Workers—not all of them formal—in total employment fell from 23 percent in 2017-18 to 21 percent in 2022-23 and the quality of work also declined sharply. Fifty four percent today receive no social security benefits, male rural regular workers being the worse off; 60 percent of them are out of the social security network compared to 51 percent just six years ago. 60 percent of male and 56 percent of female regular workers do not have a job contract; almost half of them do not get paid leave. Over the past six years their real wages fell by 5 percent, their average wage growth is now negative at -2.9 percent. And this, even though they work for 51 hours per week, way beyond the international work day norms that India has ratified. Self-employed males earn just about 42 percent and women not even 30 percent of what their regular work counterparts earn (National Sample Survey Office, 2023). The inclusion of gig and platform workers within the category of self-employment effectively denies them the limited benefits available, such as regular work hours,

social security, and minimum wages. Employment opportunities for casual workers have witnessed a steep decline of 12 percentage points since demonetisation. As is well known, this form of work is highly precarious, characterized by the absence of specified work hours, safety norms, job contracts, paid leave, and social security benefits.

Inequalities at all economic and extra-economic levels have risen across the board especially for all marginalised communities. Discrimination in income inequality rose sharply by ten percentage points to 79 percent just in one year alone in 2019-20 for rural Schedule Castes (SC) and Schedule Tribes (ST) casual wage workers. In terms of agricultural credit, SCs and STs receive not even a quarter of what people of forward castes get. For rural women the situation is even worse, gender discrimination accounting for the entire employment gap at 100 percent. Muslims witnessed the sharpest rise in unemployment at 17 percent: the discrimination in total employment gap against urban Muslims today is unprecedented at over 70 percent. Even in regular employment, urban Muslim men earn two-thirds less than their non-Muslim counterparts. Data on unemployment are equally revealing of the increasing extra-economic inequalities: for the category of Others, unemployment has increased from 5.5 percent to 13.7 percent; for SCs and STs it has risen from 6.9 percent to 15.1 percent, and for Muslims from 8.6 percent to a shocking high of 27.5 percent (Centre for Sustainable Employment, 2023; National Sample Survey Office, 2023).

The major emerging source of livelihood for the majority of Indians is self-employment which accounts for over 57 percent of the total workforce according to the PLFS of 2022-23. This clearly reveals the prevailing predominance of the growth-without-jobs paradigm, reflecting as it does the collapse of the availability of regular and even casual employment opportunities. A major component of self-employment is today touted as being the expansion of entrepreneurship.

Of the 633.88 lakh unincorporated Micro, Small and Medium Enterprises (MSMEs), the overwhelming majority at 99.5 percent are micro enterprises, 79.6 percent of them are owned by males and a miniscule 0.01 percent by transgenders. Though more than two-thirds are owned by all Socially Backward Groups, the Other Backward Castes (OBCs) constitute the bulk at almost half, with SC and ST

accounting for merely 12.45 percent and 4.10 percent respectively. This reflects an imbalance even within the non-upper caste hierarchy. Yet another illustration of extra-economic inequality is the fact that the net income gap between SC and ST businesses and those owned by Others is as high as 55 percent due to discrimination. Enterprises owned by women, SCs and STs—the most marginalised and vulnerable sections—have multiple disadvantages. Their ownership declines sharply as enterprise-size increases, they are smaller in scale, generally unregistered, increasingly informalised with over four-fifth of them being financially excluded and dependent mainly on family workers. In this context, it is important to note that the micro sector accounts for 97 percent of total employment; the small and medium sectors account for merely 2.88 percent and 0.16 percent respectively (Ministry of Micro, Small and Medium Enterprises [MSME], 2022; MSME, 2022-23). The denouement of this analysis is obvious: that the micro sector does not consist of “entrepreneurs” in the classic sense of the term, but of those who are driven into self-employment as a last refuge as a result of the slow-down in the rate of increase in job creation. Nothing can be more elucidative of this process than the fact that 92 percent of women-owned enterprises are today necessity-driven.

Intensifying Inequalities through Law and Policies: The Case of the Labour Codes

The analysis of the ongoing process of rigidification as well as the deepening of multitudinous inequities and discrimination needs to be located in the several laws and policies that have been enacted and initiated recently, resulting in the institutionalisation of inequalities. This could be seen in policies such as the wide-ranging increase in the centralisation of capital thereby creating a highly oligopolistic market through methods such as monetisation, liquidation, disinvestment, corporatisation, privatisation of public resources and public goods; demonetization; the implementation of the Goods and Services Tax (GST) which introduced uniformity in taxation equating commodities of petty producers and corporations; the inadequate and inhumane policy responses to the COVID-19 pandemic giving only four hours for an entire nation to shut down, a nation where migrants constitute almost a third of the workforce; and the Forest Rights Act (FRA),

the Forest Conservation Act (FCA) and the Environment Impact Assessment policy (EIA) which taken together curtail the constitutional rights of tribal communities to natural resources and deprives them of not only income earned from the sale of commodities such as non-timber forest produce but also cuts them off from access to a vital source of un-priced nutrition for their families.

This process of institutionalising inequalities is most clearly illustrated with the withdrawal and revocation of all labour laws. The process of the curtailment of the rights of workers had in fact begun several years earlier, even before the introduction of the Labour Codes. Labour rights were already being diluted through four simultaneous processes:

- Procedural changes in labour administration directed at curtailing inspections to check on labour law compliance, along with the granting of exemptions and self-certification by employers
- Legislative and executive changes directed at increasing flexible employment relations, allowing employers to hire temporary (contract and casual) rather than permanent employees
- Restructuring of premises and principles of social security for workers by reducing employers' contributions, greater emphasis on limited private insurance, linking benefits with market behaviour rather than assured public provisioning
- Imposition of additional conditions and restraints on the registration of trade unions and institutions for collective bargaining.

Code on Wages

The Code on Wages (CoW) was passed as an Act of Parliament vide Ministry of Law and Justice on 8th August, 2019, and published in the Official Gazette on 7th July 2020. The CoW repeals and replaces 4 existing laws:

- (1) Payment of Wages Act, 1936,
- (2) Minimum Wages Act, 1948,
- (3) Payment of Bonus Act, 1965 and
- (4) Equal Remuneration Act, 1976.

The definition of work, worker, and workplace under the CoW restricts the definition of employee or worker to those employed in establishments or industry thus precluding private households. Omitted therefore are the vast majority of workers, especially women workers: domestic workers; gig and platform workers; auxiliary nurses; apprentices; home-based workers; scheme-based workers (including ASHA² workers, Anganwadi workers, and those who find work through the MGNREGA³) and the rather absurdly-named “sisters and friends”: *pashu sakhi*, *bank sakhi*, *ped sakhi*, drone *didis*. Also left out of this definition of a worker are establishments where five or less workers are employed which implies the exclusion of 98.6 percent of agricultural establishments from any benefits. Other labour rights and protections achieved as a result of many long struggles have thus become “non-applicable”. For instance, this code reverses the achievements of the historic movement of the beedi workers of Nipani through which they obtained bonuses, subsidised housing and the cancellation of wrongful deductions by contractors under the guise of their produce being “rejected”.

The Code permits the extension of hours of work from the internationally-accepted and ratified norm of 8 hours per day to 9 to 12 hours and even in some cases 16 hours under the guise of “spread over hours” or an “emergency”. Several states like Gujarat, Haryana, Assam, Goa, and Odisha have already extended through Ordinances the hours of work from 8 to 12 hours in a day and 48 to 72 hours a week. There are several implications of this: work hours are left to the discretion of the executive and the employers; an entire shift of workers will become redundant and unemployed; such long working hours will result in faster burnout of an already undernourished workforce; and this will increase the unpaid work burden of women which will in turn lead to their faster exit from the labour market.

Under CoW, Minimum Wages are fixed presuming a household consists of two adults and two children, that is, three adults, the base being the Indian Labour Conference Criteria of 1957 at 2700 calories per day. The gender bias in CoW is overt: a male is equated to one consumption unit, a woman to 20 percent less at 0.8 even though she might in fact need more given that her work hours are at least one-third more if unpaid work is taken into account. Children are calculated at

0.6 consumption units each, less than what growing children would need if full physical and mental development is to be attained. In this connection, it is crucial to point out that children are the future workforce and not mere “non-adult dependents”. Aged individuals and those physically and mentally challenged who are dependents find no mention whatsoever, neither do female-headed households or single-person households. The patriarchal definition of a household is additionally reinforced by the conditionality of the 2-child norm.

Cloth has been reduced from 72 meters per household to 66; rent is calculated as 10 percent of expenditure on food and clothing; fuel, electricity and other miscellaneous needs are calculated at 20 percent of Minimum Wage; and education, health, recreation, and contingencies at 25 percent of Minimum Wage. No amount has been calculated for transport, mobile phone services or Internet use. The dilution of commitment towards the worker is also evident in the use of language. The word “shall”, for example, which connotes a firm commitment has been watered down to “endeavour to” which is more tentative, for computing Cost of Living Allowance twice a year. Further, the calculation of a “monthly wage” is based on daily wages multiplied by 26 days when it should be 30 days. The implication is obvious: the mandatory “rest day” is thereby unpaid.

681 skillsets have been listed in CoW which excludes domestic workers. These skillsets not only deepen but also create new forms of occupational gender stereotyping, by defining different wages for men and for women even though they perform the same economic activity. Working conditions are now to be checked not by the erstwhile “Labour Inspector” but an “Inspector-cum-Facilitator”. Physical examination of the work site has been replaced by an online process of self-certification of compliance by employers. This is not only cynical but also ironic, given that, the same Indian state in the context of another law requires mainly poor and migrant Indian citizens to provide physical proof of their citizenship.

The now-replaced Payment of Bonus Act had been based on a clear methodology worked out after long negotiations between the government and trade unions: the bonus will now be defined by the executive which will decide as and when it is to be given. Further, the Technical Committee for Wage Determination has no representatives

from workers' organisations nor does it mandate inclusion of women members. While equal remuneration for equal work is retained, the Advisory Board for Minimum Wages and the Committee for Increasing Employment Opportunities for Women have been merged into a single board, with one third being women, representing a reduction from the 50 percent stipulated under the ERA. Also, the term "gender-based" has been replaced by "male-female", thereby excluding other genders.

Code on Occupational Safety, Health and Working Conditions

The Code on Occupational Safety, Health and Working Conditions (COSH) which was introduced in the lower house of the Parliament as Bill No. 186 of 2019 replaces 13 laws:

1. The Factories Act, 1948
2. Mines Act, 1952
3. Dock Workers (Safety, Health and Welfare) Act, 1986
4. Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act, 1996
5. Plantations Labour Act, 1951
6. Contract Labour (Regulation and Abolition) Act, 1970
7. Inter-State Migrant Workmen (Regulation of Employment and Conditions of Service) Act, 1979
8. Working Journalist and other Newspaper Employees (Conditions of Service and Misc. Provision) Act, 1955
9. Working Journalist (Fixation of rates of wages) Act, 1958
10. Motor Transport Workers Act, 1961
11. Sales Promotion Employees (Condition of Service) Act, 1976
12. Beedi and Cigar Workers (Conditions of Employment) Act, 1966
13. Cine Workers and Cinema Theatre Workers Act, 1981

Similar to the Code on Wages, employment in private households is omitted, leaving out yet again all home-based and domestic workers as well as apprentices and the many categories that have been specified earlier. Night work for women workers (after 7 pm and before 6 am) is permitted "with her consent", but without any obligation on the

part of employers to provide safe transport. Existing health provisions in relation to crèches under the Factories Act have been dropped. The most cynical change is that in spite of the recent massive increase in violence against women, the 2013 POSH Act—the Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act—has been kept out of the ambit of this Code, thus denying a safe environment for women workers even in the organised sector.

This Code withdraws the mandate guaranteed under the 1948 Factories Act that all establishments engaged in hazardous processes must compulsorily constitute a “safety committee”. The requirement that the employer furnish a written contract is actually more like a suggestion, as this does not contain any specific penal clauses for non-compliance. A Safety Committee “may” exist “if constituted by the employer” (Section. 11). In this context, it needs to be pointed out that India has not ratified 12 of the 17 occupational safety and health conventions of the International Labour Organization.

Code on Social Security

The Code on Social Security introduced in the Parliament as Bill No. 375 of 2019 replaces 15 laws:

1. Unorganised Workers’ Social Security Act, 2008
2. Mica Employees’ Compensation Act, 1923
3. Employees’ State Insurance Act, 1948
4. Employees’ Provident Funds and Miscellaneous Provisions Act, 1952
5. Maternity Benefit Act, 1961
6. Payment of Gratuity Act, 1972
7. Unorganised Mines Labour Welfare Fund Act, 1946
8. Limestone and Dolomite Mines Labour Welfare Fund Act, 1972
9. Iron Ore Mines, Manganese Ore Mines and Chrome Ore Mines Labour Welfare (Cess) Act, 1976
10. Iron Ore Mines, Manganese Ore Mines and Chrome Ore Mines Labour Welfare Fund Act, 1976
11. Beedi Workers Welfare Cess Act, 1976

12. Beedi Workers Welfare Fund Act, 1976
13. Cine Workers Welfare (Cess) Act, 1981
14. Cine Workers Welfare Fund Act, 1981
15. Building and Other Construction Workers Cess Act, 1996.

This Code formally grants rights such as medical insurance, gratuity, Employment Provident Fund, and maternity benefits but only to formal workers who constitute merely about 6 percent of India's workforce. However, no specific measures are spelt out. The code merely states that all schemes "as may be framed" and "as may be prescribed" (Rule 9(1)(d)) under existing social security organisations such as Employees Provident Fund and Employees Insurance will apply. Also, the use of the term "maybe" instead of "shall be" in the clause related to funding is quite problematic. This opaqueness is further increased by the statement that "The Central Government shall identify the source(s) for initial funding/replenishing the Social Security Fund from time to time" (Rule 59(2)). Further, unemployment allowance and insurance have been totally omitted even though the definition of "social security" contained in the Code itself includes as a component income security against unemployment.

The Maternity Benefit Act is replaced by a section on Maternity Benefits that reiterates the provision by employers of 26 weeks paid maternity leave. A major amendment relating to crèche facilities states that every establishment employing "fifty or such number of women employees as may be prescribed" (Rule 39(1)) must establish crèches "within such distance as may be prescribed either separately or along with facilities". This change in the eligibility condition from "50 employees" to "50 women employees" hugely reduces the coverage of establishments required to have crèches, apart from being patriarchal and misogynist for reinforcing the assumption that responsibility for childcare rests solely on women.

Code on Industrial Relations

The Code on Industrial Relations (Bill No. 364 of 2019) seeks to replace and repeal 3 laws:

1. Trade Union Act, 1926
2. Industrial Employment (Standing Order) Act, 1946

3. Industrial Disputes Act, 1947.

This code significantly limits—to put it mildly—the rights of collective bargaining, formation and recognition of trade unions and labour organisations. The threshold for applicability including for retrenchment and closure has been increased three-fold, from 100 to 300 workers. This implies that now firms employing less than 300 employees can discriminate between workers in several ways: in terms of conditions of employment relating to probation period, late coming or notice period, employment termination and quantum of leave; provision of means of redress against unfair acts; framing of charges against “inconvenient workers” without defining what is “misconduct”; dismissal without inquiry and denial of payment of subsistence allowance to those suspended. Further, a trade union in industrial establishments must now have at least 51 percent of the workers’ votes to be recognised “as the sole negotiating union which can make agreements with employers”. Where no trade union gets this 51 percent, “a negotiating council of trade unions shall be constituted for making agreements with the employer” (Ministry of Labour and Employment, 2020; labour.gov.in/sites/default/files/Draft_IR_Notification.pdf).

The Code extends restrictions on strikes and even mass casual leave to all sectors. Constraints include 60 days’ notice, thereby prohibiting any strike action during pendency of proceedings before a conciliation officer or tribunal. The government has given itself extraordinary powers to “exempt” an establishment or class of establishments. It is also asserted that any person who for the first time “instigates or incites” others to take part in, or otherwise acts in furtherance of an illegal strike or a lockout, is punishable with a fine and/or imprisonment of up to one month. In this context, it is important to note that a pending bill—the Essential Defence Services of 2021—states that the punishment for commencing or participating in or instigating, inciting or providing financial assistance to illegal strikes or even refusing to work overtime, would face imprisonment of up to two years and/or a fine. These offences are declared punishable and non-bailable.

Conclusion

The process of institutionalising inequalities in multiple and myriad ways is located within the prevailing economic growth paradigm,

which is characterised by the centralisation of capital, the expanding control over labour by capital and the dominance of profits over wages. Increasingly State-aided, the degree of monopoly power negatively impacts livelihoods as well as real incomes. Diminished, if not negated, are the essential elements of development, equity, egalitarianism, inclusiveness and democracy itself. The combined effect is of de-development, de-growth and de-equalisation. With policies and laws more and more excluding the needs of the majority of the country's citizens, their most detrimental impacts are on the already marginalised, resulting in the reversal of whatever had hitherto been attained.

Of the several manifestations of the on-going process of the institutionalisation of inequalities, probably the most questionable one is the already existing unequal equilibrium between capital and labour that is sought to be deepened, legitimised and legalised via the four Labour Codes that “seek to improve the business environment in the country largely by reducing the labour compliance burden of industries” (Ministry of Labour and Employment, 2020). The alarming increase in economic inequalities is accompanied by extra-economic inequalities: deepening of gender and caste-based differentiations, especially those between OBCs and SCs/STs. Of major concern is the relatively newly emerging community-based divide with Muslims reporting lower Labour Force Participation Rate; reduced access to good quality jobs; significantly lower wages and higher unemployment levels.

It is in the context of the reinforcement of existing inequalities and the emergence of new ones that the issues of universalisation of basic income as well as social security policies enter the debate, in the form of societal rights and not as the reductionist, paternalistic and patriarchal concept of “security”. Apart from the problematic semantic morphology is the issue of availability of resources to finance both Universal Basic Income as well as Social Security Rights many of which are enshrined in our Constitution. With its still strong economic base and a multitude of institutions—even though somewhat weakened—the monetary and fiscal architecture can be made more people-friendly in several interconnected ways.

The tax-GDP ratio in India is today not even 12 percent, one of the lowest in the world. Also, the country's share of direct taxes to total

revenue is amongst the lowest in the world at less than 35 percent: the highest ever India had achieved was 61 percent in 2009-10. The accepted ideal is 65 percent, achievable by a mere one percent rise in surcharges for the richest 7 percent of Indians. Further, a small four percent tax on the wealthiest 953 families would generate revenues worth a minimum one percent of GDP. The single most crucial step is therefore to increase direct taxes, which in fact have been falling over the last few years: the half percent rise in the last financial year is solely due to increase in Income Tax, with the share of Corporate Tax actually declining. The Wealth Tax was abolished in 2016, and corporate taxes have been consistently lowered. The share of Corporate Income Tax to Gross Tax Revenue has fallen to about 26 percent today compared to 35 percent in 2014-15. The effective tax rate for Corporations is 22 percent, with a further reduction to 15 percent for specified sectors, not including the writing off of bank loans worth Rs 11.17 lakh crore in the last 6 years (Press Trust of India, 2022). While capital expenditure has been increasing, it must be noted that over 35 percent of revenues is by borrowing and goes in interest payments.

The problems of the resultant slowing of the revenue growth rate and the need to reduce the fiscal deficit are sought to be resolved primarily by slashing social sector allocations, down from 33.5 percent of total budget outlay in 2022-23 to a new low of 21.2 percent in 2023-24, a huge decline of over 12 percentage points within just one year. Probably the most problematic is the massive reduction in food subsidy, from Rs.7.6 lakh crores allocated in 2020-21 to the lowest ever at Rs 2.05 lakh crores today. Allocations to the crucial rural sector as proportion of GDP have declined, that of the agricultural sector reducing from an already low share of 3.36 percent to 2.78 percent of GDP between 2022-23 and 2023-24. Simultaneously, allocations to the mainstay of the rural poor—MGNREGA—have been reduced to its lowest level: and this is the sector that today supports an increasing number on India's workers especially in the wake of the new trend of reverse migration triggered by demonetisation, exacerbated by a non-empathetic pandemic policy, and now by declining employment opportunities. Further, fertiliser subsidy has been slashed by over 13 percent in the current Interim Budget (Ministry of Finance, 2024; Open Budgets India, n.d.), impacting agricultural productivity. Social

security allocations for the unorganised sector have been reduced, even though informal workers constitute the overwhelming majority at 93 percent of workers. While insurance allocations have risen somewhat, the extent of dilution of a supposedly welfare State can be judged by the fact that three-fourths of expenditure goes to the private insurance sector. The National Urban Livelihoods Mission has disappeared, as have the much touted “Health & Wellness Centers”.

The institutionalisation of community-based inequalities via the fiscal architecture is evident in that the budget for the Ministry of Minority Affairs was drastically slashed by 38 percent within just one year between 2022-23 and 2023-24. This is apart from the pre-Budget withdrawal of Scholarships for Minority students. Persons with disabilities who constitute 2.2 percent of India’s population witnessed a huge reduction in allocations from an already meagre Rs. 240 crores to Rs. 150 crores. Transgender persons are almost totally invisibilised, receiving a pathetic Rs. 6 crores as part of SMILE (Support for Marginalised Individuals for Livelihood & Enterprise), and non-existent in all other schemes (Ministry of Finance, 2024; Open Budgets India, n.d.).

An illustration of the centralisation of even State-capital in terms of gross revenue resources is the rise in the share of tax collection not shared with states, today standing at a high of almost 20 percent, more than double of the 9.3 percent of 2014-15 (Ministry of Finance, 2024; Open Budgets India, n.d.). The route followed for constraining revenue to the states’ exchequer is the converting of cesses and surcharges into more permanent elements. Additional issues relate to Revised Estimates being invariably lower than Budget Estimates and much lower than the Demand-for-Grants especially of ministries and departments related to social security; the consistent underutilisation of what has been allocated and the increasingly delayed release of the central share to states some of whom have been compelled to approach the highest court for redressal.

Indirect taxation is always regressive, impacting the poorest the most especially during times of declining employment opportunities and unprecedented food inflation. Indirect taxes today account for more than 65 percent of revenue collection with all, whether rich or poor, paying the same rates. The tax burden is hence the heaviest on

the middle class and especially the poor, the majority of whom earn much less than minimum wages. Currently, the poorest 40 percent of citizens pay 64 percent of the country's revenue. Apart from the somewhat chaotic and unplanned implementation of GST is the fact that a single rate has been replaced by multiple rates, leading to financial accounting confusion and a lack of clarity and compliance particularly for small and micro enterprises. Another factor resulting in the institutionalisation of expenditure inequalities is the unfairly high rates imposed on goods of mass consumption. The recently released fact sheet on Monthly Per Capita Consumption Expenditure (MPCE) presents data in nominal terms. Adjusting for 2011-12 prices using Consumer Price Index (CPI) rural and urban for 2022-23 and CPI Agriculture Labour and Industrial Workers before 2011-12, the Compound Annual Growth Rate of MPCE shows a steep decline: 7.48 percent for rural and 5.59 percent for urban between 2009-10 and 2011-12, to less than half at 3.13 percent and 2.66 percent respectively for the period 2011-12 to 2022-23 (National Sample Survey Office, 2024). The consequence is that not only are the already high income and consumption gaps widening, but that this form of retrogressive taxation in fact represents a reverse subsidy.

The central issue here is therefore that there is no dearth of revenue: what has been "lost" is due to policy paths that do not benefit those who need financial strengthening the most. The amount of revenue foregone through corporate tax expenditures and exemptions which accounts for 60 percent of direct taxes, is estimated to be more than 2.5 percent of the GDP, with another 10 percent of GDP being "lost" as a result of uncollected taxes. The total revenue loss is large enough to ensure the universalisation of healthcare, education, social security and welfare for every citizen of India. The consequences are long-term and intergenerational, negatively impacting not only the present but also the future workforce: intensification of precarity of labour and migration movements, both horizontal and vertical; loss of potential for increasing employment and employability; reinforcement of patriarchal divides; expansion of poverty and the intensification of economic and extra-economic inequalities. The analysis of institutionalisation of economic and extra-economic inequalities hence needs to be perceived in the context of a growth trajectory located within a political economy that

does not place as its central focus the urgency to prioritise equitable and inclusive sustainable and sustained livelihood opportunities.

NOTES

1. In 2019, the Central Government in India introduced four bills on labour codes to consolidate existing labour laws. These bills were passed by Parliament in 2019 and 2020.
2. Accredited Social Health Activist (ASHA).
3. Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA).

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CHAPTER 5

‘Conjugated Oppression’: Social and Political Economy of Women’s Work in the Informal Sector²

Sudeshna Sengupta

Introduction

A large number of women in India are employed informally with multiple exits and entries from the labour market. The opening up of the economy since the nineties has resulted in the withdrawal of the State to a large extent in regulating labour markets, allowing flexibility of production processes and informalisation in conditions of employment. Women workers also have reproductive responsibilities within families. Housework and childcare continue to remain their primary responsibilities, even if they are participating in the labour market.

Multiple debates, spread over more than half a century, have engaged with the relationship between women’s work and the political economy. Through work, women interact with the market, the family and the State as structures. The question arises, what are the work relations women have with these structures? How are these structures creating exploitations and oppressions for women working in the informal sector?

In the economic domain, women’s participation in informal sector has been more in occupations that are generally low paid, undervalued, and segregated on the basis of sex (Elson & Pearson, 1982; Kabeer, 2000). Women’s reproductive work within homes, has been undervalued and perceived as a domain located outside the economy (Bhattacharya, 2017b). For many decades, feminists had questioned

the mutually exclusive functioning of the productive and reproductive domains. They have highlighted that economic exploitation and social oppressions are interconnected. This paper situates its findings within multiple strands of feminist literature to understand the social and political economy of women's work in the informal sector. It is based on the research done for a PhD thesis.

The women workers interviewed for the study were selected from four sectors—paid domestic work, construction work, home-based work and self-employment. A total of 60 women workers (15 from each sector) were interviewed. The home-based workers were piece-rate workers who received work from contractors. The self-employed women were small shop owners: one sold milk and three of them were tailors. These sectors were selected keeping in mind the overwhelming presence of women in these occupations. The occupations were diverse in terms of working conditions and workplaces. It is important to note that the study does not make any sectoral claim in regard to women's work as the numbers interviewed were very low.

The method of sampling was purposive and the criteria on the basis of which the women were selected were as follows. First, they have continued as workers for at least two years in the sectors selected for the study; second, they are in the reproductive age group (18 to 50 years) with reproductive responsibilities; and third, they agreed to give time for interviews. It is important to note that while selecting women with reproductive responsibilities we ended up finding married women with children in different age groups. Thus, the women interviewed are workers and also mothers. As mothers and wives, they had responsibilities of care work and housework of many forms. The field work was done in Delhi and Gurugram and was restricted to two locations per occupation.

The article flows in the following way. Section 2 briefly discusses the theoretical framework used in the study. The discussion on multiple strands of literature helps us to understand the complexity of structural interactions. After the literature review, we move on to the findings of the study. Section 3 highlights the social deprivation that emerged from the profiles of women workers interviewed. This establishes the social marginalisations that exist in the low paying informal sector occupations. Section 4 discusses the work relations of women with their employers and co-workers. This section throws light

on how their economic relations were often social relations too! It also discusses the interaction between the workers and the State. The intent of this section is to understand the structures that are defining women's work. Taking off from the earlier discussions, Section 5 brings the observations together to discuss how economic, social and political structures are coming together to result in domination and conjugated oppression. Section 6 is the conclusion.

Situating the Study in Existing Scholarly Work

The United Nations Economic and Social Council (ECOSOC) define the informal sector as private unincorporated enterprises or households engaged in production and sale of goods and services with employment size below a pre-determined threshold (Tokman, 2001). The workers include persons whose employments are not subject to labour legislation, social protection and certain employment benefits.

The accelerated growth rates in the 1990s powered by neo-liberal reforms did not translate into creation of decent jobs (Bhattacharjee, 2016). In the urban areas, the number of women in formal employment grew only marginally (Rustogi, 2013; Unni, 2001). Since the informal sector is diverse, women's engagement in the informal sector is not homogeneous. The working conditions vary and so do the worksites. The wages for some occupations are based on time rates; some are based on piece rate. Sometimes women take up more than one occupation and earn meagre amounts from them. Breman (2013b) argues that most of the time the sector fails to provide full employment to both men and women.

Feminist economists have argued that women informal sector workers find employment in occupations that are segregated on the basis of gender, are labour intensive, and require mundane manual work (Elson & Pearson, 1982; Mezzadri & Srivastava, 2015). The conditions of employment are precarious and there is no job security. Studies have established that women are offered lower wages than men as they are looked upon as supplementary earners. Women seek flexible income-earning opportunities due to multiple and competing demands on their time and energy and in the absence of any familial, community or State-run support system (Harris-White, 2002; Kabeer, 2000; Neetha, 2016).

Typically, the work in the informal sector is less remunerative and takes place under precarious working conditions. The workers are located at the intersection of different kinds of inequalities based on class, race, caste, occupation and legal status (Kabeer et al., 2013). The vulnerability of the workers is compounded by the fact that they exist outside the purview of the labour legislation and trade union organisations. They may even be in direct competition with each other for work, or for space to sell goods and services. In order to manage their multiple roles, women organise their work in spaces situated near or within homes and experience the blurring of workspaces and living spaces (Elson, 2000; Raju, 2013). It is difficult to delineate labour market activities from their other forms of activities or distinguish between their roles as workers, mothers, wives or members of communities (Kabeer et al., 2013).

Scholars have observed that the development policies in India have been urban-centric, leading to rural economic distress and large-scale migration from villages to the cities (Mazumdar et al., 2013; Srivastava, 2011). Migrant women in the informal sector are mostly concentrated in casual, part-time, and task-based activities located at the intersection of multiple inequalities (Kabeer et al., 2013). Migration exacerbates economic exploitations (Breman, 2013a; Srivastava, 2019) and creates partial citizenships, excluding them from State welfare schemes (Roy, 2010).

The Social Reproduction³ Theorists and feminist scholars working on the contribution of reproductive work towards material accumulation had pointed out that the productive and the reproductive spheres function in an interconnected manner and are often difficult to segregate (Acevedo, 1995; Beneria & Sen, 1981; Dalla Costa & James, 1972; Mezzadri, 2019; Molyneux, 1979). The processes located within both these spheres trigger gendering of work, and institutional control of women's labour through interplay of structures that manifest themselves through outcomes in the form of State policies, precarious working conditions in informal employment and rules governing marriages. (Federici, 2010; Hartmann, 1979). Feminists also pointed out that institutional oppression and exploitation based on class and gender are interrelated (Baglioni & Mezzadri, 2020; Bhattacharya, 2017a). They highlighted that subordination is to be understood

in the context of their interplay (Elson, 1979; Molyneux, 1979; Ranganayakamma, 1999).

Situating our findings within these multiple and interconnected strands of literature, we move on to our study findings.

Social Deprivation among Women Workers

There were multiple forms of social deprivations observed among women informal sector workers such as caste or religion based social discrimination, lack of education, and the status of migrants. It was found that more than 50 percent were either from Scheduled Caste (SC) or minority communities. Approximately 82 percent of them were either illiterate or had dropped out before Class V. Fifty out of 60 women were migrants and 47 were married off before the legal age of marriage (18 years). Figure 1 depicts the percentage of workers in each sector who faced social deprivation in some form. It was observed that a high proportion of home-based workers and construction workers belonged to scheduled caste communities. Self-employed women had the highest representation from minority communities. Incidence of early marriage, migration and lack of formal education were observed to be equally high among all the sectors.

The overwhelming presence of migrant women was observed among the paid domestic workers and construction workers. Among

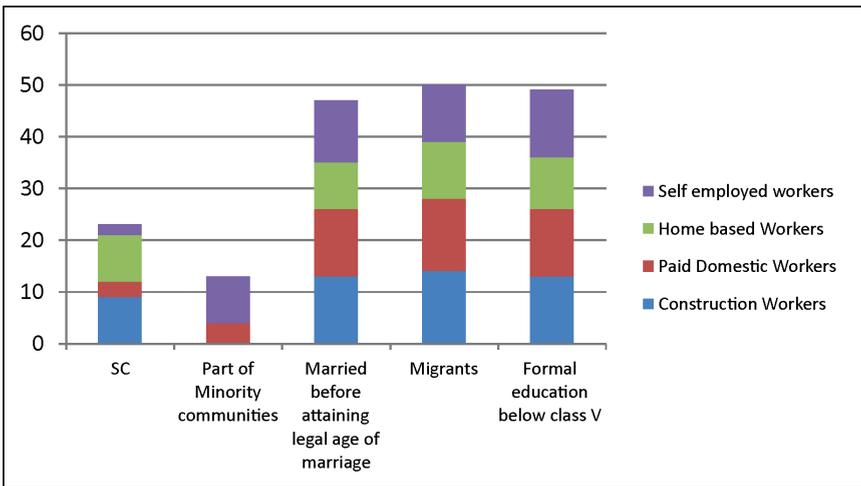


Figure 1: Categories of Workers on the Basis of Age, Marital Status, Migration and Education

the paid domestic workers, all were migrants except one who was the daughter of a domestic worker. Similarly, among the construction workers all were migrants except one worker. Her parents, husbands and parents-in-law were in construction work.

Thirty-four out of 60 women had suffered from all forms of social deprivation. They were all migrants belonging to socially-marginalised groups; all married before the legal age and had formal schooling till or below Class V. Many women regretted being deprived of education. They felt that they were compelled to do physical work due to a lack of education.

Fig. 2 depicts the percentage of women who faced social marginalisation. The figure reveals that in every occupation at least 1 out of every 2 women experienced all forms of social deprivations.

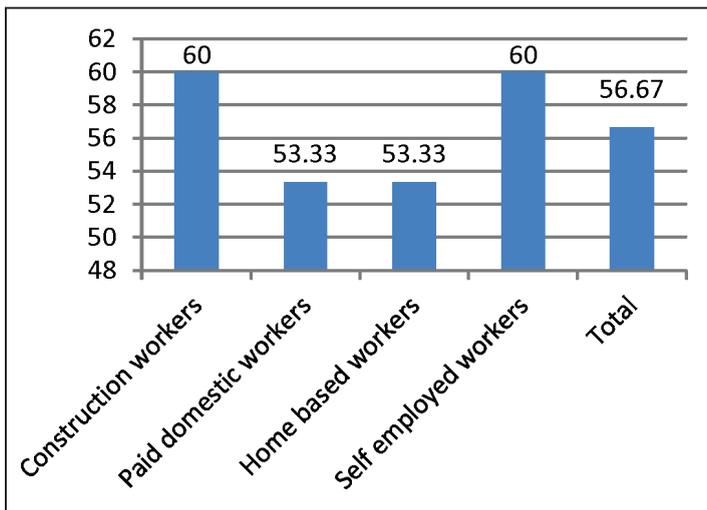


Figure 2: Percentage of Workers in each Category Who Were All Migrants with Education till or below Class V, Married below the Age of 18 and Belonging to SC or Minority Communities

The relationship between social and economic marginalisation that had been pointed out by scholars (Acevedo, 1995; Bhattacharya, 2017a; Breman, 2013b; Harris-White, 2002; Kabeer, 2000; Srivastava, 2019), finds resonance in the above profiles. It is important to note that the study almost uniformly observed the continuity of material deprivation in women’s lives barring a couple of workers who faced

poverty much later. According to their narratives, they started their lives in working-class families and continued to depend only on their physical labour.

Work Relations and Structures

Work relations discussed in this section examines the economic relationship established by women in their paid jobs. It specifically focusses on relationships with employers and co-workers to understand whether they were only economic relations or there were social dimensions to these relationships too. The section also examines the interaction between the workers and the State.

Before going into the discussions on work relations, it is important to note that none of the workers received notified minimum wages (the construction workers were eligible for the same). Only construction workers were in full employment but there was no guarantee of employment. The workers in Gurugram worked for 12 hours a day without any overtime payments. The paid domestic workers, home-based workers and self-employed workers defined their working hours depending on financial responsibilities and care responsibilities. The working conditions were precarious and unregulated.

Work Relations with Employers

The employer-worker relationships were diverse. In construction work and home-based work the contractor was considered as the employer. Self-employed women were not in wage work; hence they did not have any employers. Paid domestic workers worked under mainly women in middle class homes.

A similarity between home-based work and construction work was that they represented a formal-informal continuum of production processes. In both these sectors, the capital owners exercised labour control through the labour contractors. Existence of contractors fragmented the labour process and the workers, being part of the fragmented process, lacked information on wages in other areas (Srivastava, 2019). The norms of labour control were localised. There was no existence of written contracts; all terms of work were verbal informal contracts, based on local conditions.

The labour contractors shared social relationships with the workers. A construction worker interviewed at a Gurugram site said, “We are all under the same *thekedar* (contractor) who is from our village,” and Purnima, another construction worker said, “the *thekedar* is my relative”. Kinship bondage with the contractor, originating from the source village, was a common feature in the narratives of migrant construction workers. It brought the social hierarchies of the villages to the urban setting thereby expanding and linking it to the market hierarchy. The contractors felt having women on construction sites added to the cost of production in the form of housing, constructing and maintaining toilets, and running crèches. Interestingly, they did not think that male workers would need these basic provisions. Their main concern was minimisation of expenses and this was usually done by paying women less than men and also by employing women as helpers of men.

Home-based workers had no idea about the finished product as they interacted only with the contractors and not the factory owners. The distance of the factory from the area where home-based workers stayed, acted as a barrier to go to the factories and collect work. The contractor was the mediator between the factory and the workers. He distributed and collected jobs on a weekly basis, negotiated terms with the workers, kept an informal account in an exercise book, and paid the workers at the end of the month. A contractor in Delhi, who took home-based work to the slums, shared that the factory owners outsourced menial work to homes only when the machine work was more expensive than physical work. In home-based work the tools of production were shared by the contractors and the workers. For example, women workers who made doll dresses on a piece-rate basis needed to have sewing machines and scissors and the contractor provided the thread and the cuttings. Home-based workers who pasted tapes on electronic items had to share the blades and the tapes provided by the contractors. Feminist academicians (Harvey, 2019; Raju, 2013) have pointed out that home-based work is profitable because there is no overhead cost or investment on tools and the pool of workers is easily dispensable. According to Harvey (2019) home-based workers are an important part of the production chain as they lower production costs both in terms of wages and factory expenses—but they can be easily detached from the chain in case of any fluctuation in demand.

Paid domestic workers were paid localised wages. Even within a state, wages varied. One worker was doing a cleaning job in a factory and another worked in a nursery school. They were paid as per local rates for paid domestic work and not paid the hourly rates of a factory worker or a worker employed in an establishment. The labour of paid domestic workers was under the control of women employers inside private households. The worker-employer relationship was a social one on the surface. The workers addressed their employers as “Didi” (elder sister) or “Mausi” (aunt) and the relationships were more based on benevolence and abuse rather than worker and employer relationships based on rights and entitlements. However, the lines between the classes were clearly drawn and the employee did not get any sense of dignity as the work was informal and undervalued. Rabina said:

“I used to feel awkward and wonder what kind of a destiny I have. It was lowly to work in other people’s homes. If somebody complained about my work, I feel very hurt.”

Radha, however, had risen above her feelings regarding her work. She beautifully articulated her thoughts:

“Initially I was stressed out. I do understand now that there is no such thing as lowly work. You just need to have the right intent (*bas niyat ache hone chahiye*). I don’t think what I am doing is lowly (*neecha*).”

Lahiri (2017) argues that paid domestic workers were freed by their families for doing paid work but they were restricted by the families they served. Their relationships with employers were unique as they were away from the public gaze. The work was carried out in a closed sphere of private homes and workers were isolated in their workplaces. In spite of the confusion in their narratives, the power equations and division of spaces were clearly recognisable.

Work Relations with Co-Workers

Women workers shared different forms of relationships with their co-workers. Women from the same slums worked in a group as home-based workers. They were neighbours who fought over collecting water or had complaints against each other’s children. Migrant construction workers sometimes migrated with their co-workers from the same

village, organised by the same labour contractors. Paid domestic workers often migrated because they had relatives in the city, who would help them cross entry barriers of gated colonies and many a times they worked in the same locality.

Skill development or training was not considered as the responsibility of employers. The poor could not afford to get employed in work which had a long waiting or preparation period and hence most of the training happened through observing each other at work (Bremar, 2013a). Women in different informal sector occupations spent different durations of time to learn the work by observing and helping their co-workers who were often their relatives or neighbours.

Sonia in West Delhi, who pasted adhesive tapes, said the woman who distributed home-based work would "...tell us to go to the people who are doing this and to sit near them. She would say, 'Learn it like this because I cannot teach you.'" Generally home-based workers would help each other in learning the required skills. Kamla, who did both home-based work and construction work, said that in both occupations she learnt the work from her co-workers. Anjana, a self-employed woman, said that after marriage when she was looking for paid work, she came across a woman in her neighbourhood who pasted bindis and made sets. She did not know many people in the neighbourhood as her mobility was restricted, so she gave free service for two months to the woman and learnt bindi-making from her. After two months, this woman introduced her to the contractor and she started getting independent piecework. The informal arrangement of learning work was beneficial for the employers as well.

Many a times, intimate family members were co-workers too. Mohina, a paid domestic worker migrated with her husband because her brother and sister-in-law were in the city. Her sister-in-law helped her get a job and also accompanied her for the first few days to teach her the job. In case of her prolonged illness, her sister-in-law worked in her place as a substitute, so did Feroza's (another paid domestic worker) sister. Nayna and her sister-in-law collected home-based work from the same contractor. The children of home-based workers and self-employed women would sometimes sit in the shops or lend a hand in the trade.

Short-term circular and irregular migrants who worked as construction workers in the cities and unpaid helpers in their villages shared work relationships with intimate family members from both marital and natal families in both the places. These relationships were sometimes horizontal and sometimes hierarchical. Mothers-in-law, daughters-in-law, co-sisters and sisters would go with their neighbours to the “*naka*” (labour chowks) for work and then labour side by side on construction sites.

Ranganayakamma (1999) points out that women’s relationship with their husbands represented an entangled economic and social power structure. This was observed particularly in construction work. Commenting on the husband-wife employment in the construction sector, researchers have commented that this was a continuation, in a different form, of the agrarian work relations where husbands and wives worked together in the fields and the husbands worked as supervisors of their wives (Mazumdar, 2018). It was observed that women construction workers mainly worked as their husbands’ helpers. They addressed their husbands as *mistri* (mason), indicating the overlapping of productive and reproductive spheres where the patriarchal hierarchy prevailed.

It is intriguing to note that even though the co-workers shared economic and social relations, they hardly came together for collective bargaining. During the study, women construction workers interviewed in a resettlement colony of Delhi, were neighbours and co-workers for decades. They were all registered under the welfare board but did not have information on their entitlements and had no history of collective bargaining.

The State and its Relationship with Women’s Paid Work

The State was an invisible structure in the lives of these women. It hardly found mention in their work-related narratives. The construction workers were covered by a sectoral law that regulated the hours of work, wages, maternity benefits and childcare provisions. However, we did not observe this law being implemented except for the existence of a crèche on the worksite. However, the crèche was perceived as an act of benevolence of the employer and not an entitlement.

By not implementing its own laws, the State allowed the market to pay local wages, which were less than minimum wages. It also helped

employers to shirk their responsibility of providing social security entitlements like maternity benefits and childcare as enshrined in laws like the Unorganised Sector Social Security Act, 2008 and the Building and Other Construction Workers' Act, 1996.

There were unionised women construction workers in Delhi who had no idea about the maternity benefit of Rs. 30000 that they were entitled to for the first two childbirths. Women hardly got any wage compensations and had to withdraw from paid work during pregnancy and childbirth. Even though there was no awareness observed on maternity benefits by women workers, a trade union leader shared that the provision of or maternity entitlements discouraged employers to engage women.

The absence of laws to regulate domestic work brings out the absence of political will of the State to recognise paid domestic workers as workers and employers' homes as workplaces (Palriwala, 2019; Rustogi, 2016). The non-recognition of home as a workplace reinforced the undervaluation and invisibility of paid domestic work (Rustogi, 2016). India is yet to ratify the International Labour Organization's Domestic Workers Convention, 2011 (No.189) which came into force in 2013. The convention extends basic labour rights to paid domestic workers across the world. The non-ratification of the convention is an endorsement of patriarchal values by the State that continues to deny worker-status to a large number of workers.

In some of the narratives, there were glimpses of the State as a provider, such as receiving cash transfers under the Janani Suraksha Yojana (JSY) schemes from the hospitals. Most of the women were not aware of the JSY or the Pradhan Mantri Matru Vandana Yojana (PMMVY) which were notified under the National Food Security Act, 2013. Four of them mentioned getting money for JSY from the hospitals. The amount varied from Rs. 500 to Rs. 1400 depending on the state from which they migrated.

Domestic workers of one area availed of Anganwadi Centres (AWCs) for keeping their children for a few hours. Two self-employed women said that their children spent two hours every day in the AWC before she started going to school.

The State also emerged as a coercive force that demolished slums as illegal settlements and relocated workers with their families in

resettlement colonies, thus impacting their livelihoods and earnings. The workers were forced to relocate and had to either find new livelihoods or travel a large distance to reach their workspaces. Cohelo (2016) points out that relocation led to these workers being forced to opt for flexible low-wage jobs as the resettlement areas were at the city fringes where earning opportunities were low. They remained outsiders even after spending two or three decades in a city.

The streets were public spaces where women vendors interacted with the informal power structure of the local mafia. They had to pay the mafia Rs. 100 per week just to be able to stand and sell. Neither the State police nor any other State agency was present at the local level to protect the attack on women's earnings.

Harris-White (2002) underlined how the 'shadow State' that functions at the local level uses social hierarchies in such a way that the actual State (the policy maker and the regulator) becomes insignificant and invisible. The implementing State was observed to be non-intervening. It allowed the informal market to function through local-level hierarchy.

Intertwined Structures and Conjugated Oppression

Federici (2010) argues that capitalism as a dynamic structure has changed itself over time and its relationship with patriarchy has evolved. She points out that women were entering the workforce in a time that experienced attack on wage workers by way of the rampant informalisation of work on the one hand and the cutting back on reproduction benefits on the other. The fragmentation of the labour processes is accompanied by occupational segregation on the basis of sex. It creates an informal hierarchy between men and women workers participating in different processes using the ideology of patriarchy. The men-women hierarchy in the labour market deepens the exploitation of women as they are paid less than men. It has no relation to productivity; rather women's work is considered socially to be low in commitment, dignity and value (Banerjee, 1997; Neetha, 2016). Women are also considered easy to control. Kabeer (2000) argued that employers preferred women due to their docility even though they were considered less efficient than men.

In home-based work, even though controlled by organised capital, the terms of employment showed no signs of formality. The market

reinforced women's reproductive responsibilities and the notion of 'women's place is at home' on the one hand; on the other, the work that was more expensive when mechanised, was outsourced to homes. Mazumdar (2018) points out that this labour was structurally free of cost and hence minimization of production cost is attained. Even the tools of production either totally belonged to the women or were shared between workers and employers, thereby reducing production costs. The workers had mentioned that, wherever possible, they have their children participate in the work to produce more and earn more which provided the employers with access to labour power without paying for it. Breman (2013b) drew attention to the fact that the exploitation of informal work not only involved the worker, but also entered the homes of the workers through social doors. The process also made it easier for capital owners to push women workers out of the ambit of the law by shifting production from factories to homes. Baglioni and Mezzadri (2020) point out how informalisation has led to the overlap of the productive and reproductive spheres and turned private homes into spaces of labour control.

We have already discussed how family hierarchies turned into work relations too in construction work. Employing workers as couples and paying them local wages reduced wage costs for the employers. Men were paid more than women. The income was considered family income and not individual income for individual workers by both employers and the employees. The women accepted it through their internalised value of subordination; the men were happy as it expanded the hierarchy from the family to the market; and the principal employer gained by paying low wages. The control over women's labour was done socially and at the local level where the profit-making face of the capital owner and the regulator State remained invisible. Labour laws regulating terms of employment and social protection were found to be either absent or not implemented.

As mentioned earlier, labour contractors were the ones who negotiated wages and working conditions. Collective bargaining was not encouraged by labour contractors as increased labour costs did not work in favour of them. Thus, the bargaining, if any, existed between two classes of workers, and not between the labour and the owner of capital. The division of class within the working class, and

the difference in power relationships between the contractor and the workers adversely affected the bargaining power of the workers.

Ellickson (1987) pointed out how enforcement of social norms that emanated from a macro level ideology was decentralised in character and at times became more powerful than the existing laws. The strength of the social norms was not only used to discipline social behaviours but also to favour material gains when the social relations transcended into work relations.

The State created partial citizenships by using coercive methods of demolishing 'illegal' slums and pushing workers to relocate time and again. The migrants mostly were people without relevant documents to prove their citizenship and hence got relocated a number of times. Anupama Roy mentioned how displaced migrants are pushed to a 'precarious existence' due to the substantive citizenship practiced by the State (Roy, 2010). The provider State excluded migrants from State welfare programmes in spite of having progressive policies in place. Those who had identity documents carried village-based papers that excluded them from entitlements in the cities. Breman (2008) argues that migrant workers are outside the ambit of the law and outside the reach of State agencies.

Reproduction of labour power within families was heavily dependent on women's labour. The production sites often overlapped with the reproduction sites. Sometimes the production-reproduction continuum crossed geographical borders, when children were being raised in the villages and parents worked at home. Construction workers, who did not have crèche facilities, took their children to their worksites. Two paid domestic workers with young children took them to the workplaces.

The employers felt no responsibility towards sharing reproductive costs. For migrants with part of their families in the villages, it was the villages that absorbed part of the reproduction costs. There were instances when villages not only bore reproductive costs during intensive care needs but also absorbed the costs of health emergencies and situations of unemployment. Families in the villages provided foodgrains for consumption of those in the cities. Thus, the reproduction of informal sector workers and their families was not always restricted to one location. Shah and Lerche (2020) highlighted the role played

by the invisible economy of care and the intimate relationship between production and reproduction. They argued that appropriation of surplus value from workers happened both on the site of production and outside in the migrants' residential areas that could be in a different geographical location. Outsourcing of reproductive costs was a strategy used by the market to maximise material gains.

This allowed the employers to get away with paying wages which were much below the reproduction costs of workers. Bhattacharya (2017b) articulated how gender was structurally located within the intertwined processes of social oppression and class exploitation. She pointed out that the cost of social reproduction varied depending on the class, social group and gender of the workers as access to social goods became restricted to the workers and labour power as per the wages received. The shortfall was subsidised by pooled family and community labour which was mainly provided by the women. The gendered work in the reproductive domain in working-class families reproduced gender embedded in class through the social reproduction domain, which was closely connected to the productive domain.

As far as policies and laws on maternity benefits and childcare are concerned, the character of the State at a macro level is both a progressive one and one that endorses the exploitation of patriarchy and economic class. On the one hand, it upholds the Constitution that articulates positive discrimination in favour of women and equal opportunity for all citizens. On the other hand, it overlooked the flouting of laws. By not implementing its own policies and letting local hierarchies and social norms subsume State regulations, the State contributed towards the exploitation.

So was there any space for women to exercise choice and agency? The market did provide women with a space to exercise agency. Paid work created a sense of autonomy for some women giving them the power to decide how their incomes would be spent. Two women walked out of their abusive and oppressive marriages. Their assertion of autonomy that sometimes led to estrangement from their husbands included exercising economic autonomy, claiming control over their bodies, and deciding on the number of children they wanted to have. However, raising children continued to be their responsibilities. Feminists (Elson & Pearson, 1982; Walby, 1990) have argued that

women at times were able to overcome private patriarchy through economic independence but fell prey to new forms of subordination within the market-controlled spaces.

Even though migrant workers experienced the intersection of multiple oppressions, migration also enabled some families to generate assets and emerge from dire poverty and debt. There were also examples of asset building in the form of buying 'jhuggies' or constructing homes in villages, which were done using the money earned from informal work in cities. Some of the permanent migrants as well as migrants with strong roots in the villages reported constructing *pucca* houses, admitting their children to private schools and purchasing auto-rickshaws for their husbands. Even though migration as a strategy helped some of the workers in improving their material conditions, it neither helped them in coming out of precarious working conditions nor in crossing an economic class.

Conclusion

The insights from the study helps in understanding that the productive and reproductive work continuum are interlinked and are contributing in an integrated way towards constituting gender identities embedded within class. In the context of this study, the market was observed to be a privileged institution. It used social hierarchies for material accumulation. The social and political economy of women's work in the informal sector is a dynamic account of multiple structural interplay triggering different processes to create gender identity for material gain. The market as economic structure, patriarchy as social structure and the State as the political structure came together and acted in an intertwined manner. It was difficult to separate the economic from the social. The lives of women informal sector workers, when seen from the lens of work, is a saga of conjugated oppression flowing out of the interplay of intertwined structures that are vertically and horizontally interwoven.

There were multiple challenges related to terminology on work and capturing 'productive' and 'reproductive' work. At times it was difficult to use the terms 'paid' and 'unpaid' to indicate economic and non-economic work as all women had experienced blurring of the lines between paid work and unpaid work at some point of time during

their work lives. It was also observed that a productive-reproductive continuum may not necessarily imply a paid-unpaid continuum. Thus, there is a need to address the discrepancies and inadequacies in the way data on women's work is understood and collected. Firstly, in the national dataset, some activities when done by the women for their own families are captured as housework, while the same activities when done for the labour market are considered economic. Secondly, many women participated in family trades as unpaid helpers and were invisible. Thirdly, there is under-reporting in capturing women's migration for economic reasons. The high incidence of labour migration connected to marriage migration and joining marital families in the cities questions the over-reporting of migration for social reasons. Fourthly, the present system of describing the types of migration as temporary, short-term and permanent was observed to be inadequate in capturing the circularity and different durations of migration. The data systems should be geared up to address these challenges.

In India, working conditions in the informal sector are regulated in a limited way, but even those limited regulations are not followed by employers. The State's non-implementation of its own progressive laws and programmes allows informal social hierarchies to function in favour of material gain. Undervaluing women's work in the market needs to be replaced by policies ending men-women hierarchy in the labour market. Full employment with written contracts mentioning wages, leave rules, and social security provisions should be mandatory in all occupations. The new thrust on skill development can play an important role. The policy-making State should not view women as temporary workers and supplementary earners, but as individual workers and citizens with full rights.

As far as the redistribution of care work is concerned, both the State and the market need to invest in the social organisation of care. The continuity of perceiving families as the only places to provide care needs to be replaced by care provisions at the workplace and in the neighbourhoods. This will not only defamilialise care but also ensure public participation and underline the importance of care as a public good. Laws on maternity benefit for formal sector workers are wage-linked and the entitlements are clearly articulated. However, the entitlements for informal sector workers are in the form of mandated schemes, where

entitlements can be tinkered with because the laws do not spell out the entitlements clearly. Informal sector women workers need wage-linked mandated entitlements. Last but not the least, feminist policy-making needs to be backed by strong political will to be implemented.

NOTES

1. Philippe Bourgois used the term “conjugated oppression” in his paper, *Conjugated Oppression: Class and Ethnicity among Guaymi and Kuna Banana Workers* to denote a dynamic, institutionalised oppression based on the class system embedded in the exploitative production processes and ethnic discrimination within the political economy (Bourgois, 1988). This term has been used to denote the intersectionalities of oppression and exploitation.
2. The author gratefully acknowledges the contributions of Monika Banerjee, Aamir Rasool and Arkja Kuthiala to this paper. She also thanks Achintya Sengupta for copy editing.
3. Brenner and Laslett (1991) defined social reproduction as “...activities and attitudes, behavior and emotions, and responsibilities and relationships directly involved in maintaining life on a daily basis and intergenerationally. It involves various kinds of socially necessary work—mental, physical and emotional—aimed at providing the historically and socially, as well as biologically, defined means for maintaining and reproducing population.” (p. 314)

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CHAPTER 6

Towards Human Endurance: Cooperatives as Institutions of the Future and a New Paradigm of Development

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Introduction

I have been privileged to study cooperatives over several decades and to engage with them both in India and outside. These engagements have convinced me that despite their mixed record and certain imperfections observed in their work, cooperatives still hold immense potential for social and economic transformation of human society and they can emerge as institutions of the future as will be explicated in this chapter. Given that human society is faced with several grave social and economic crises and is struggling to evolve sound alternatives, it seems clear that the most crucial principles needed for reorganising human society are those that strengthen social cohesion and solidarity among human beings. Of the various forms of organizations invented by humans that exist in today's society, cooperatives seem to be particularly relevant for such a cause, embodying, as they do, values which can foster affinity, compassion, and equality among humans to thrive collectively. There is also a historical urgency for adopting an alternative social and economic model as larger crises like acute social inequalities, conflicts, and climate change-induced vulnerabilities loom large over the human race (Amin, 2011; Jossa, 2020; Veltmeyer, 2021). For this reason, I consider cooperatives as institutions of the future having the necessary ingredients as a higher form of organization capable of mitigating the consequences of the above crises. This chapter outlines why I remain hopeful about this higher form of organization. I also explicate the

approaches and steps that may be needed to realise the full potential of cooperatives, including exploring ways of rejuvenating cooperatives as key constituents of an alternative paradigm to the existing crisis-ridden social, political, and economic systems.

This chapter is divided into seven sections including the introduction and the conclusion. In the second section, I elaborate on the context of the crisis of capitalism, which has made the advent of an alternative form of societal organization imminent. An overview of how cooperatives evolved historically in various contexts like capitalism, socialism and mixed-economies, and the lessons that can be drawn from these experiences are highlighted in the third section. In the fourth section, I discuss the core features and principles of cooperatives and identify the reasons as to why they deserve to be elevated as institutions of the future. The fifth section highlights the alternative approaches involving cooperatives, and the sixth section identifies some of the enabling conditions necessary for cooperatives to succeed. The last section concludes the chapter.

The Crisis of Capitalism and the Need for Alternatives

The dominant capitalist system of today has become a threat to the well-being of the majority of the world's people in several ways. As various scholars have pointed out for long, capitalism is an evil system (Jossa, 2020) being in an endemic state of crisis (Amin, 2011). It breeds eternally chronic instabilities in social and economic systems as evidenced by the massive global financial crisis of 2008 (Amin, 2011) or the severe precarities induced by the COVID-19 pandemic (United Nations Development Programme [UNDP], 2020). The persistent lack of stability in economic conditions undermines the resilience of individuals, institutions, and communities with a clear separation occurring between society and economy. The crisis is driven inherently by the deepening contradictions of capitalism owing to unbridled greed of capital owners to accumulate profit and surplus values globally through extractive means involving labour, consumers, and nature. Accumulation is an endless quest pursued through technological advancement, economic growth and expansion of markets.

The relevance of an alternative has become notably evident in the aftermath of the COVID-19 pandemic where the glaring gaps and

contradictions of the prevalent capitalist model of development were exposed in terms of the descent of billions of people, especially the poor and the marginalised, into a state of acute precarity and large-scale deprivation in terms of healthcare and economic and social security (United Nations, 2020; UNDP, 2020). The collapse of health systems in many countries during the COVID-19 pandemic was an illustration of the fragility of systems that place public welfare in the hands of private interests driven by profits. Governments in many countries were compelled to either take over private health systems or regulate their functioning as they failed to respond to the crisis adequately.

Today's capitalist societies are characterised by high levels of economic inequalities with the disparities between the rich and the poor at the two ends of the economic spectrum constantly widening. This comes out vividly from the World Inequality Database, which has been compiled since 2013 (see Figure 1). Inequality remains one of the significant factors in various social and economic conflicts seen globally (Chancel et al., 2021)

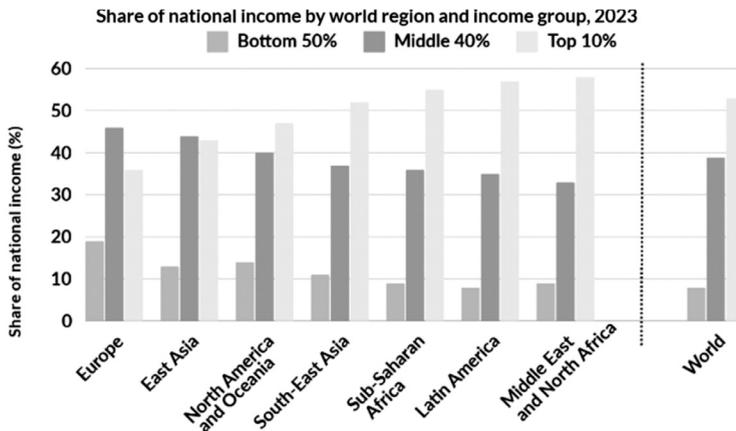


Figure 1: Growing Inequalities between the Poor and the Rich

Source: World Inequality Database (2024)

The excessive economic growth-oriented paradigm, a product of market capitalism, has caused massive environmental damage and destruction of biodiversity. Today, climate change is one of the most glaring pieces of evidence of the life-threatening consequences of capitalism's impact on the natural environment and its sustainability.

The United Nations Environment Programme (2024) calls the prevailing environmental crisis a triple planetary crisis of climate change, pollution, and biodiversity loss, feeding into human crises manifested via conflicts over territories and resources, displacement of communities, and deteriorating health. The environmental crisis emerges as a fundamental crisis of the rift between ecology and society induced by capitalism's attempt at plunder and depletion to create a limitless production and consumption cycle (Foster et al., 2010). Capitalism is trapped in a vicious cycle of economic growth, enslavement of the population to artificially created wants, and depletion. The resultant ecological crisis has been pushing the planet to the brink of destruction, with several safety limits set by specific planetary boundaries being crossed continually (Stockholm Resilience Centre, 2024).

The combined impact of economic inequalities and the increased precarity caused by climate change and natural disasters has resulted in despair, deprivation, and hopelessness for the masses fuelling wars, social unrest, polarization, and intolerance in all societies. The outcomes of such scenarios serve as germane conditions for the political rise of authoritarianism and the centralization of power. Markets themselves behave, especially under neoliberal influence, in a way that centralizes power and control in the hands of global capitalist forces thereby undermining democracy (Patnaik, 2014; Shylendra, 2020). Devoid of economic equality, democracy prevails only in an illusory sense. At the same time, the fundamental problem of human alienation, which is endemic to capitalist relations, becomes even more severe through 'alienation of alienation' (Amin, 2011), wherein even any scope or means to end basic forms of alienation gets denied.

With profit and surplus generation becoming the pervading logic, capitalism makes it difficult for other systems or organisms to survive based on alternative conceptions of human nature and motivations for co-existence. Even when they exist within the capitalist system, alternative forms of organizations like family, cooperatives, commons, trade unions, and non-profit organizations face the constant threat of being diminished or coopted to serve the overarching dictates of market logic and private property relations. This undermines systems that foster collectivisation relying on practices of sharing and solidarity

to overcome scarcity and precarity, more so during times of crises. Given that capitalism relies on the motive of profit and recognizes only methodological individualism (i.e., individuals as the central unit of economic agency and action), it tends to undermine alternative mechanisms of social and economic organising that can coexist to mitigate the consequences.

Towards resolving the crisis of capitalism, several reformative ideas have been mooted, especially by its apologists, to remedy its deficiencies so that it can be sustained eternally (Rajan & Zingales, 2004). Some have advocated, though naively, for increased reliance on technology and technological solutions to address a whole set of issues ranging from the problem of scarcity to pollution, to moral problems such as corruption (Whittaker & Nakata, 2025). While there is no denying the importance of technology for building a better future, it is also true that any excessive reliance or an uncritical adoption of technology as a means to progress has given rise to many challenges humanity is grappling with today like unemployment and exclusion. Apart from technology, various notions of reformism or institutionalism have been proposed to mitigate capitalism's adverse social, political and ecological consequences. Reformists, while recognising the crisis within capitalism, propose mere modifications by way of better laws, better means for accountability, and transparency (Shylendra, 2009) without addressing the underlying premises and the contradictions of capitalism which foster this crisis-riven situation. Similarly, various forms of institutionalism have been pursued—for example, tapping into “social capital” to restore the social dimensions of economic relations without fundamentally altering their nature (Harriss, 2002). Both reformism and institutionalism can become symptomatic solutions for the underlying contradictions, devoid of any attempt to replace capitalism with alternative systems. Radical thinkers have noted the futility of such attempts to reform capitalism (Amin, 2011; Luxemburg, 1908).

At the other end of the spectrum are propositions for a complete revamping by replacing capitalism with better alternatives like an all-cooperative system and socialism (Amin, 2011; DuRand, 2016b; Jossa, 2020; Veltmeyer & Bowles, 2022). Even ‘degrowth’ has emerged as a potent idea to put limits to the growth-based economic model

which has turned cancerous for the planet. Many social movements globally have sought alternatives to the crisis-ridden capitalism and its plunderous ways (DuRand, 2016b). Yet, despite renewed interest in reviving alternatives, capitalism remains the dominant economic order while moving from one crisis to another.

A Brief History of Cooperatives

In the context of seeking alternatives to capitalism, cooperatives occupy an essential place as they have the potential to address many of the fundamental problems of capitalism, and are not just a band-aid solution. Since cooperatives work on the principles of solidarity, collective ownership, and self-governance, they can help reverse capitalism's deleterious tendencies such as the insistence on methodological individualism as the sole driver of economic and social behaviour. The continued existence of cooperatives within a capitalist society will constantly challenge the strength and integrity of a pure cooperative system. Many valuable lessons have been learnt about ways of sustaining cooperatives in their essential (non-capitalist) form giving a reason for hope that these institutions hold the potential to emerge as viable and socially-relevant form of organization of the future (Jossa, 2020; Lichtenstein, 1984; Ostrom 1990; Vanek, 1970).

Cooperatives, over the years, have evolved through various political and ideological systems across the globe. In their essential form, cooperatives reflect the basic social principles inherent to human nature and existence such as mutual interdependence and reciprocation (National Cooperative Union of India [NCUI], 1975). They arose in organised form during the Industrial Revolution in Europe when the economic landscape was rapidly changing. The feudal order that was predominantly agricultural and peasantry-based was being replaced by capitalism that was prone to the large-scale exploitation of labour. Robert Owen, a nineteenth century social reformer in the United Kingdom (UK), was among the earliest proponents of cooperatives (Engels, 1970). Owen formed industrial communities and cooperatives to improve the conditions of the working classes. He based his concept of cooperatives on a vision of an egalitarian society where cooperation would be the governing principle for social and economic relations. As Owen (1826) put it:

There is but one mode by which man can possess in perpetuity all the happiness which his nature is capable of enjoying, — that is by the union and cooperation of *all* for the benefit of *each*. Union and cooperation in war obviously increase the power of the individual a thousand fold. Is there the shadow of a reason why they should not produce equal effects in peace; why the principle of cooperation should not give to men the same superior powers, and advantages, (and much greater) in the creation, preservation, distribution and enjoyment of wealth? (as cited in Irving, 2009, para. 8)

Owen's ideas, though considered idealistic, inspired a group of traders in Rochdale, UK, to organize themselves as the Rochdale Society of Equitable Pioneers in 1844 (International Cooperative Alliance, n.d.a; Shylendra, 2013). This was a direct response to the unjust state of the society brought on by the unfolding capitalist economy in the country that was particularly exploitative of the labour class, paying very low wages, making them toil in poor working conditions with no share in the profit. This left the working-class population in severe poverty with little access to even necessities such as food and housing. To counter the exploitative nature of capitalism, the Rochdale pioneers decided to pool their resources and form a cooperative to meet their consumer needs while ensuring democratic and autonomous control of the business and a share in its profits. Some of the Rochdale principles included voluntary membership, democratic control of the organization by its members, ownership of the surplus by members, honest and transparent practices, the need to advance the common good, the need for education and capacity building of members, autonomy, and concern for the community (International Cooperative Alliance, n.d.a). The Rochdale principles served as a blueprint for the subsequent working of cooperatives.

These ideas quickly spread all over Europe. In neighbouring Germany, Friedrich Wilhelm Raiffeisen, the mayor of a town, attempted to resolve the problem of persistent debt and exploitation faced by peasants and artisans in the wake of severe economic crisis and famine by setting up credit societies based on mutual savings (International Cooperative Alliance, n.d.b; Shylendra, 2013). These societies were the pioneering credit unions which eventually served as a model for agricultural cooperatives elsewhere in the world, including India (Ibbetson, 1975).

Cooperatives in Capitalist Societies

In the twentieth century, cooperatives spread to many countries worldwide, covering various economic sectors. While in their early history, cooperatives emerged as a means to empower disadvantaged groups in capitalist societies, over the period, they have seen only modest success because they were co-opted either by capitalists or by the state (Parthasarathy, 1991). The domineering capitalist forces have precluded them from reaching their full potential. Characterised by limited growth (due to the logic of homeostasis) and mutual profiting, cooperatives became an anathema for the capitalist world (Krimerman, 2016). But it did not take long for policymakers to recognise that capitalism was not always improving the conditions of the poor due to its exploitative nature and its tendency for exclusion. Seeking remedy to the crisis, the governments and civil society increasingly turned to cooperatives expediently to alleviate the poor’s dire conditions (The Antigonish Movement, n.d.). Hence, cooperatives gradually became a common fixture in capitalist societies. However, the role of cooperatives in altering the working of the capitalist society was limited. The principles of solidarity, collective ownership, and mutual profit-sharing on which cooperativism rests ran counter to the pursuit of profit, private property, and accumulation. Hence, in due course, cooperatives lost their importance and relative share and they remained as mere appendages of capitalist firms (Parthasarathy, 1991). Even in recent years, as per a global census, cooperatives constituted only a small segment of capitalist economies, both in terms of employment and the share of revenue in GDP (Table 1), unable to make any

Table 1: Global Status of Cooperatives (2014)

Region	Coops	Membership & Clients	% Pop. Coop Member	Employee	% of Pop. Employed in Coops	Offices of Coops	Total Assets in US Dollars	Annual Gross Revenue in US Dollars	Gross Rev % of GDP
Africa- Sub Sahara	85,260	18,509,605	2.73%	10,914	0.00%	5,844	10,847,166,275	851,640,000	0.08%
Asia	1,933,299	484,105,695	12.68%	4,306,521	0.11%	481,871	3,847,329,029,490	653,629,184,870	3.25%
Caribbean	1,049	3,583,511	12.94%	54,569	0.20%	462	5,934,856,987	182,714,007	0.13%
Europe	356,380	368,006,463	45.55%	5,248,852	0.65%	224,593	11,688,164,988,277	1,482,481,568,728	7.08%
Latin America	42,785	44,179,104	7.81%	816,122	0.14%	14,913	83,886,544,810	18,360,221,538	0.33%
MENA	162,779	4,537,084	1.57%	37,714	0.01%	1,095	31,681,636,000	3,619,358,000	0.27%
North America	31,078	134,725,891	38.63%	1,675,778	0.48%	41,750	3,825,837,112,751	744,228,134,380	4.12%
Oceania	1,988	14,142,814	37.80%	460,278	1.23%	1,460	113,746,762,037	59,543,292,416	3.46%
WORLD	2,614,598	1,071,790,167	16.31%	12,610,748	0.19%	771,988	19,607,428,096,426	2,962,896,113,938	4.30%

Source: Dave Grace & Associates (2014)

significant dent into the fundamental nature of the working of these economies.

Cooperatives under Socialism

In socialist countries, collectives and cooperatives were adopted extensively as part of the centralised planning system. A strong theoretical rationale for cooperatives' existence under socialism has also been identified by Marx and other scholars (Foster et.al, 2010; Jossa, 2020).

Socialist countries mobilised cooperatives by having them serve as channels through which the state could organise agricultural and industrial activities on a collective basis. Cooperatives also helped address people's basic needs like food, employment, and housing. The challenges for cooperatives, in the context of socialist states, were that they were excessively controlled by the state and used in a top-down way as instruments of central planning and surplus extraction. The malaise of bureaucratisation which afflicted socialist societies also crept into the functioning of cooperatives at every level (Parthasarathy, 1991). Lacking autonomy to exercise agency and the constant exposure to state control undermined the democratic character of cooperatives. Cooperatives did show some resilience soon after the collapse of the communist system in the absence of apparent alternatives (Shylendra, 1996), they were soon undermined by the inroads of capitalism in the subsequent years. More recently, there have been attempts to revive and strengthen cooperatives in socialist societies given the continued problems of many disadvantaged sections (DuRand, 2016a; 2016b).

Cooperatives in India

Cooperatives met a somewhat similar plight in countries such as India that adopted the mixed-economy model. In India, the British had initiated formal cooperatives through the Cooperative Credit Societies Act of 1904 which aimed to provide relief to peasants. After gaining independence from British rule, India adopted the planned economy model, and cooperatives became an intrinsic part of the state's welfare apparatus. The planning era started with the goal of creating cooperative socialism through cooperativising the rural economy more along the Gandhian lines. Gandhi advocated a cooperative way

of life in all domains of rural society. Voluntarism and high moral values among members were identified as the necessary conditions for the working of cooperatives (Gandhi, 1962). The state adopted a proactive approach to support cooperatives through various means (Shylendra, 2021a). Given that the economy was in a nascent stage of development, cooperatives could make some dent in sectors such as credit, milk, sugar, and fertilizers. The policy of favouring cooperatives in some of these sectors helped them grow significantly through the adoption of integrated models which helped control the value chain and ensure member loyalty through assured price and services (Bhaviskar & Attwood, 1991; Shah, 1996). However, despite some pockets of success, cooperativisation could not succeed to the desired extent. The overbearing nature of the state did not help the cause either, as the cooperative field not only lost its autonomy but also got excessively politicised. Moreover, cooperatives generally suffered from other factors that impacted their sustainability, such as constraints in achieving scale, lack of professional support, and lack of adequate capital (Shylendra 2022). Inter-group conflicts and domination by the local elite were other common problems that afflicted cooperatives.

Over the years, there was an impressive absolute growth and spread of cooperatives. The planned effort resulted in India having more than 8.5 lakh cooperatives with the total membership accounting for about 22 percent of the total population (Table 2). Yet, as it soon became evident, India had widespread cooperatives without a cooperative movement in the true sense (Shylendra, 2021a). Like socialist states, the establishment of cooperatives and their functioning were state-driven. The state used them as tools for dispensing patronage of various kinds and restrained their functioning as democratic and autonomous institutions (Parathasarathy, 1991; Ministry of Agriculture, 2009).

Table 2: Progress of Cooperatives in India

<i>Particulars</i>	<i>1950-51</i>	<i>1991-92</i>	<i>2016-17</i>
Total Number	181190	318700	854355
Total Members (Million)	13.72	148.0	290.1
% Of members to total population	3.8 %	17.5%	22.2%

Source: National Cooperative Union of India (NCUI), 2018

Thus, cooperatives were set up in a top-down mode in almost every village spread across several sectors, regardless of whether the conditions were ripe for organizing them. Commonly, cooperatives in many sectors followed a three-tier structure not because they genuinely needed it for their organic growth but rather because of the uniform way they were conceived in the state's policy frameworks. With the onset of economic liberalization, beginning from the early 1990s, the working of cooperatives became even more challenging when they lost the level playing field with the entry of private business enterprises. The setback was despite the attempts to create more self-reliant cooperatives and market-friendly collectives. Except for certain well-run cooperatives, an overall decline occurred in the fortunes of cooperatives with the change of economic policies since the 1990s (Shylendra, 2021a).

Notwithstanding these challenges, the state has continued to support cooperatives though with less and less ideological conviction. Incidentally, a new Ministry of Cooperation has recently been established by the central government in India to aid in building a cooperative-based economy. It is also perhaps an admission by the state that capitalism is in permanent crisis, and there is an urgent need for alternative economic institutions such as cooperatives.

The Continued Relevance of Cooperatives as a Higher Form of Organisation

“Cooperation has failed, cooperation must succeed” were the words of a major official committee set up soon after the launch of economic planning in India (Reserve Bank of India, 1954, p. 321). Though the above observation was made in the context of the efforts at organising rural cooperatives in the first half of the 20th century during the colonial period, the statement's significance remains even today.

In my own assessment, despite their limitations and failures, cooperatives continue to be relevant because of the immanent nature of capitalism's crisis and the intrinsic strengths of cooperatives which embody higher principles for organising human society. Although the record of cooperatives has been mixed, there is a view that much can be learned from both the successes and failures of cooperatives. All forms of collective institutional arrangements in history like democracy and cooperatives have had their share of setbacks, leading to enough

wisdom about the conditions that make them work. We must have faith in institutions that have evolved based on higher principles of social organising with potential to elevate human society progressively to newer levels. As a higher form of organisation, cooperatives can help lead the transformation towards an alternative system.

Before we enunciate the features of cooperatives as a higher form of organisation, we can start with an illustration highlighting the relevance of how cooperatives emerge as alternatives from the global experience with the COVID-19 pandemic. The pandemic led to the near collapse of economic activities following measures like lockdowns. Capitalist countries worldwide offered huge relief packages to rescue the economic system from collapse and prevent firms from retrenching workers before going bankrupt (similar to what was attempted during the 2008 financial crisis). But for the relief granted, the severity of the economic crisis and unemployment would have been even greater. In India, the government tried to grant loans and partly pay social security contributions on behalf of employers who could not fulfil their obligations. State support based on Keynesianism to tackle depression or recession has been a common feature of the capitalist world. The relief package to the corporations and their executives was a stark case of privatizing profits and socializing losses. During the same crisis, another alternative mooted as a way forward was cooperativising the firms struggling to survive by transferring their ownership to the workers. The experience during the pandemic revealed that cooperatives had responded more sagaciously to the crisis in their domain to mitigate the consequences to their members (Shylendra, 2021b). Their sheer strength as collectives, built over the years, enabled them to accomplish what they did during the crisis. Factors like the loyal membership, focus on service rather than profit, member-control over the supply chain, and the credibility as a cooperative to meet the standards expected during a crisis played a significant role. Theoretically, it is identified that destaffing and insolvency are not common among cooperatives as they tend to apportion losses among all partners (Jossa, 2020).

Even as many of the fallouts of the COVID-19 crisis are yet to be fully overcome, human society is likely to be ravaged by similar crises in the future, including those induced by climate change, not to mention the recessions and depressions that afflict capitalism endlessly. While attempts were made to restore normalcy after the pandemic, some voices

questioned whether the world should return to same normal which was the cause of the problem. If human society has to endure, the answer lies in working towards alternatives that can fundamentally alter the structures and relations that cause these distortions. The various attempts at reforming capitalism have been merely tinkering with the system. The new system must limit the abusive role of profit-seeking and amassing wealth. Only a system that can strike a harmonious balance between society, economy, and ecology can thrive soundly. Collectives hold the potential as a viable alternative given that they are driven by higher moral principles, allowing them to tread a path that can achieve collective well-being while avoiding the excesses of capitalism. The world has witnessed several social movements for social, economic, and ecological causes. Many of these movements have sought solutions to the problems of exploitation and injustice through collectives and collective action (Barkin, 2016; DuRand, 2016b; Shylendra, 2025; Veltmeyer & Bowles, 2022). Thus, collectives and cooperatives emerge as potential harbingers of a new system that can reverse the prevailing system's contradictions.

Cooperatives as a Higher Form of Organization

The aim of transformation is to create a new social order and a new human being (Foster et al., 2010). Given the challenges posed to the social, cultural and moral fabric of society by the excesses of capitalism, cooperatives have been viewed as organizations that rely on a different set of human motivations from those that underpin capitalism. Having identified the future relevance of cooperatives, let me elucidate here about the inherent strengths of cooperatives that elevate them as a higher form of organisation. There are many reasons as to why people tend to repose faith in cooperatives. I have identified at least six principles that make cooperatives exceptional, with the potential to address many complex challenges humanity faces today. These are drawn from some of the available literature on cooperatives (Dubhashi, 1970; International Cooperative Alliance, 2015; NCUI, 1975; Parthasarathy, 1975) complemented by insights from my own experience including as a member of a cooperative.

- (i) Firstly, cooperatives get organized to meet the members' common and genuine social and economic needs, enhancing their well-being and satisfaction. The needs are livelihood-oriented and often

relate to food, employment, income, inputs, housing, education, and health. They may also address the members' needs of art, craft and leisure which enrich the quality of human life. No rift persists between members and their cooperative unlike market-based organisations which may exist only for profit. The activity of the cooperative, be it production or service, is pursued not for the sake of growth or exchange but rather for helping restore the ethical basis of production and exchange (Barkin, 2016). Cooperatives operate on the principle of the primacy of people over profits (UN Inter-Agency Taskforce on Social and Solidarity Economics [UNTFSSSE], 2022) which can help create better living conditions or decent work for their members/workers (Ruggeri, 2016). Cooperatives do not foster alienation; members as co-producers (Pestoff, 1995) can directly relate to each other, their cooperative, and its activities (UNTFSSSE, 2022). Through such a relationship, cooperatives bridge the chasm between society and its economic units which is not the case with capitalist firms where production is organized for the purpose of exchange in markets driven by profit. At another level, it is argued that cooperatives use human capacities to enhance their self-respect (as argued by Alfred Marshall, see Jossa (2016), and make them ethically-oriented.

- (ii) Members of cooperatives come together based on the principles of mutual help, reciprocation, and solidarity, reflecting the higher propensities of human nature. These are the essential principles that make collective action possible. A cooperative can work effectively only when these principles are met. These principles require members to go beyond their individualistic orientation to maximize self-interest. In the case of cooperatives, collective agency is expected to meet common goals and interests of the members and, in turn, of the society (Khvostov, 1975). Such a collective-based approach enables members to become communitarian subjects (Barkin, 2016). The principle of solidarity drives collective action based on reciprocal altruism (Ray, 2021). Reciprocal altruism can ensure mutual growth and insurance, and when extended to larger levels, it can help overcome civilizational crises and foster social harmony.
- (iii) The third important feature of cooperatives is that they go beyond the logic of profit maximization and accumulation. A cooperative's

aim is primarily serving its members' needs and not on growth for the sake of growth (i.e., working based on homeostasis). These features make cooperatives stand apart from typical capitalist firms whose *raison d'être* is earning profit for accumulation. While a cooperative might very well earn profits in its functioning, the accumulation of profit is not its primary aim. Employment generation, wage payment, and affordable provision of services become the main goals. The cooperatives would privilege their primary goals over profit as long as these goals are well served. As the profit-motive is shunned, the whole rationale turns different making a cooperative assume more of a social rather than an economic form, which reverses the tendencies towards greed and plunder which are the root causes of environmental degradation.

- (iv) Fourthly, cooperatives can work based on the collective ownership of property and resources, which provides a significant corrective to the contradictions created by the individual private property regime under capitalism. Cooperative property serves as common property held in trust by the cooperative on behalf of its members. If the idea of cooperatives with collective property is extended to larger society, property ownership in society becomes collective rather than individual, ending the dichotomy of the propertied and non-propertied classes. Such ownership eliminates the exploitative capitalist-labour relations, making the workers/members of the cooperative the masters (Jossa, 2005). Thus, cooperatives foster social relations that prevent man-to-man exploitation. A healthy sense of belonging and purposefulness avoids alienation from the division of work and the separation between labour and its products within a capitalist society.
- (v) Another advantage of the cooperative model is that cooperatives despite not working on the motive of profits, can serve as efficient enterprises and thus become the preferred form of enterprises for creating a new social order. It is shown that even in a capitalist system, cooperatives can work more efficiently if they are organised on non-capitalist principles (Jossa, 2020; Vanek, 1970). Decentralisation and self-management by members/workers aid in efficient performance given wage and employment generation goals. Even in regimes with mixed public and private

instrumentalities, collectives organised on a self-governing basis can ensure a minimum level of solutions for problems of the commons, if not leading to optimum solutions (Ostrom, 1990). Moreover, cooperatives lend themselves for integration both vertically and horizontally. In this sense a single institution (or a local cooperative) does not need to grow endlessly in size. It can maintain its focus on serving the needs of people at the local level and, at the same time, attain the benefits of higher scale or meeting higher needs through the organic formation of federated structures based on the principle of democratic federalism (Dubhashi, 1970). Cooperation between cooperatives can build overall resilience among cooperatives, and enhance their scale, outreach, and scope for larger collective action.

- vi) Yet another inherent strength of cooperatives is that they are essentially democratic units governed and managed by their members, whether workers or peasants. Cooperatives working on democratic principles ensure participation and accountability. They work in a decentralized manner based on self-governance or autogestion (UNTFSSSE, 2022; Vieta, 2016). When primary cooperatives are anchored locally in a decentralized way, they help retain the surplus locally (DuRand, 2016b) and facilitate its redistribution (Vieta, 2016). If cooperatives get organized on a wider basis in a system, they can facilitate socialisation of economic management creating economic democracy (Amin, 2011). Economic democracy in a capitalist system is a chimera, as the ownership of capital or property forms the basis of political democracy. Self-management restores political life to the members. With cooperatives fostering common property relations and self-governance, economic democracy becomes obvious, ultimately strengthening social/political democracy (Jossa, 2020).

Pathways towards Cooperative-Based Paradigms

Marx had remarked that “the philosophers have only interpreted the world, in various ways; the point is to change it” (Marx, 1888/2005, section. XI). For cooperatives to emerge as institutions of the future for social transformation, a paradigmatic change is needed. Given the current material conditions and the experience of cooperatives so far,

ushering in any type of progressive cooperative-based paradigm is a challenging task. But given the system's acute crisis and the potential of cooperatives to resolve the same, the future role of cooperatives and the ways in which a cooperative-based paradigm can be ushered in necessarily have to be visualised (even if the argument is idealistic). This section makes a modest attempt in the above direction. Three possibilities are visualised in terms of building a cooperative-based paradigm. All the three possibilities, along with their pros and cons, are explicated below.

Deepening Cooperatives under Capitalism

One of the ways identified for reforming the capitalist system is to ensure that cooperatives assume a prominent role. Though this comes as a reformist approach, if the deepening is significant, it can alter the logic of capitalism significantly. The capitalist system is based on the norms of individual liberty and private property, which are also its bane. Enhancing the role of cooperatives can help reverse these tendencies. Cooperatives can work in a market-friendly way to democratise markets. But given the well-entrenched nature of capitalist norms, any alternative organising of economic activities would face considerable resistance from reactionary forces. The shift towards cooperatives may come when the deepening crisis of capitalism induces a change towards more collectivist ways, if not transforming the system. Cooperatives, which are now mere appendages of capitalist forces, can emerge as prominent structures to become a balancing force. Crisis-induced change can be further complemented by the state adopting a progressive orientation that creates more enabling conditions for cooperatives to thrive. Even social movements can become harbingers of collectives in different domains. Cooperatives can then spread to all sectors to significantly influence the political-economy to tilt the balance towards more collectivist social relations. Consequently, political democracy can become more equitable based on the democratisation of economic domains fostered through cooperatives.

Deepening Cooperatives under Socialism

Socialist systems that adopted cooperatives to reap many benefits subsequently undermined them through rigid centralised planning and bureaucratic control. Such an undermining of cooperatives eventually

weakened the democratic character of socialist systems. Socialism can ignore collectives at its own peril. Cooperatives, in true form, must remain an integral part of the socialist system. True cooperatives can thrive only under conditions of autonomy and decentralisation. Cooperativisation of the society would be relatively easier as socialist systems have state ownership of property. Besides state ownership, there can be cooperative ownership of property, which can help balance the role of the state and the community. Further, cooperatives at various levels have to get integrated through federated structures and become part of the economy-wide planning and development. Planning will be more decentralization-driven, by the needs and priorities of the cooperatives. Cuba is currently showing a way towards deepening socialism through cooperativisation of its economy (DuRand, 2016a).

Building an 'All-Cooperative System'

The third pathway visualised is about creating a new alternative system (a new mode of production) which can be called an 'all-cooperative system' or cooperative socialism. The all-cooperative system is also visualised in the Marxian literature (Jossa, 2020) though more as a transition system towards socialism. Here it is proposed as a new mode of production. This is the most mature stage of cooperative development in human society. An 'all-cooperative system' as a paradigm can be realized either based on revolutionary change or through a progressive transition of the prevailing systems. Marx and Lenin had visualised that creating a cooperative socialism is feasible. Lenin equated cooperatives with socialism wherein democratically-managed firms predominated over the centralised planning system. Under an all-cooperative system, cooperatives are universal in nature with the whole of economy working based on the cooperative approach. All citizens, at various levels, are associated with cooperatives, with relevant material and moral incentives, for meeting their needs and priorities. Cooperative materialism determines social relations. In such a setting all the property is owned by collectives at various levels organised into democratic firms. Only those properties outside the purview of cooperatives are under state ownership. All citizens are simultaneously members, producers/workers, and consumers under the cooperative system. Cooperatives ensure the livelihood and welfare of all their

members. These cooperatives are integrated horizontally and vertically for coordinated working. They exchange goods/services among themselves in a coordinated way, balancing the demand and supply of members' needs. Working at various levels, they also provide the basis for the local and the larger political system to work democratically. Thus, an all-cooperative system enables a total integration of social, economic, and political systems, overcoming alienation, exploitative relations, and exclusion. The network of cooperatives connects all citizens on an equal footing in society.

Some Preconditions for the Successful Working of Cooperatives

As cooperatives will play a prominent role in the paradigms visualised above, they must evolve as more mature and robust organisations overcoming their weaknesses and building on their strengths. Scholars argue for the need to improve our understanding of the ways to make cooperatives' work more effectively. The principles of cooperation that embody the higher nature of human beings constitute ethical and moral ends for individuals and society to aspire towards. After all, cooperation, mutual support, and solidarity require the individual to overcome egoism, selfishness, and greed. It is for this reason that establishing successful cooperatives has been a challenge. It requires a transformation in individuals and calls for a society to be governed by cooperative principles and relations. Such a transformation at one level is moral and cultural; at another level it is a change in the material basis of society and its social relations which can sustain the cooperative conscience. While a radical transformation aided by social movements can facilitate a transition into a cooperative-based society, a more calibrated approach may be adopted to usher in such a society by creating the necessary conditions as explicated below.

What is required is that the society as a whole must embrace the ideology of cooperation with various institutions and structures within it complementing the same. Both in ideology and praxis, the role of cooperatives is elevated to a higher level. Cooperatives would be the chosen form of organizations in society with preferential policy instruments adopted to lift and support them. Only when an ecosystem of mutually-reinforcing values is created can the centrality of cooperation be established.

Several pathways have to be traversed for the success of cooperatives. The primary aim of cooperatives must be to meet the genuine needs of members. The likelihood of the success of cooperatives depends on the effectiveness with which these diverse needs are identified and addressed. These are material needs of livelihood, housing, education, production, and marketing, as well as social and cultural ones. In this sense, cooperation becomes the way of life based on the recognition that human beings are social beings relying on mutual support for their livelihoods and the achievement of their latent potential. Some limited or specific activities can be allowed to thrive at family level to meet supplementary needs and for fostering creativity.

In terms of participation, instead of mobilising their members through top-down state patronage, cooperatives have to enrol them both as basic members and as protagonists driven by the need to contribute to social transformation through collective action. Cooperatives are most likely to succeed when they are the outcome of a self-propelling movement of people who organize themselves to achieve common needs and goals. Thus, for cooperatives to succeed, rather than adopting coercive strategies, the mobilization of members would be more effective and likely to endure when initiated through the rise in collective consciousness for change.

Also, the formation of cooperatives should not be approached in a piecemeal manner. This can only end up as a mere reformation rather than a pathway for radical transformation (Luxemburg, 1908). Instead, cooperatives should come up across all sectors and domains and be integrated to create a robust and resilient network of institutions from the local level upwards. Such widespread integrated structures can bring in the much-needed force and coordination to significantly influence the economy's working on cooperative lines. Until they emerge stronger, cooperatives would need to be nurtured with preferential treatment including through dedicating various sectors and activities for them. Cooperatives may themselves become a kind of market player through the mutual exchange of inputs and commodities on behalf of their members, enabling a pricing mechanism more closely based on use value.

Efforts must be made to help cooperatives overcome some of their past limitations, structural or otherwise, to attain the required degree of members' participation and enterprise viability. India's efforts under the planning era to cooperativise the rural economy revealed that a

political economy characterised by acute socio-economic differences and a divided polity, resulted in the lack of effective participation of the weak and marginalised. These features of the polity suppressed the widespread growth of inclusive cooperatives. The above constraint must be overcome for cooperatives to emerge as empowered agencies working towards human welfare. Through their effective functioning, cooperatives can play a key role in overcoming many of the constraints they face. Mass cooperative education will serve as the fulcrum for awareness creation and the mobilization of members.

New ways of structuring cooperatives must be necessarily evolved to ensure their economic success. Though a cooperative unit may not emerge in every village or habitation, the outreach of cooperatives must be extended to all villages and communities. There can be multi-village/town cooperatives working as a hub. The approach should include all members in the jurisdiction/sector and overcome the viability challenge through innovative design. Higher-level cooperatives must provide much-needed professional support to the primaries.

A multi-tier cooperative structure may evolve more organically through integration as per the need of local units to enable a clear division of functions. Integration can enhance the scale and scope of cooperatives. Such integration into a multi-tier system must necessarily be promoted on the basis of democratic federalism to ensure autonomy and accountability of each tier. Under the principle of democratic federalism (Dubhashi, 1970) each institution operates at a particular level and is integrated based on 'cooperation among cooperatives.' All the cooperatives could balance each other's strengths and weaknesses, and support through mutual sharing with members of all units assured of a common minimum livelihood essential for human development.

The state and civil society will promote and support cooperatives through suitable laws, education, finance, technology, and policies without hurting their genuine autonomy. Both have to chalk out their roles based on the exact needs of cooperatives.

Conclusion

Cooperatives may have failed in the past but cooperatives no doubt are the institutions of the future as they represent a higher form of organization needed for a newer world. As suggested by Marcel Mauss, "[c]ooperative

economic organisations guarantee the perpetuation of the future society" (as cited in Nash et.al, 1976, p. 3). The chapter identified three pathways for a cooperative future, though creating an 'all-cooperative system' is the most ideal. No doubt moving towards a cooperative-based society is an ambitious vision. However, considering the crisis of capitalism and imminent threats facing the human race, there is no alternative to embracing such a vision to usher in a more just and harmonious society where people can live with dignity and where economic relations are freed from the blight of exploitation and alienation.

Cooperatives have faced enormous challenges to reach their potential, with past policies constricting their performance. Building a successful cooperative-based society involves greater participation and collective consciousness. What is true for cooperatives is also true for democracy at the larger level, as true democracy faces many hassles, whether at the grassroots or at the larger level. But the alternative to a democratic and collective society is chaos, conflicts, and destruction. For the sake of the future of humanity and the planet, humans need to learn to form well-running organisations and societies on principles of participation, reciprocity, and solidarity. Though cooperation among humans has existed historically as a feature of social and economic life, limited experience exists of drawing on cooperatives as a basis for organising the larger human society. For the endurance of human society, cooperatives, which are identified as the institutions of the future, must be made to work and thrive.

NOTE

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CHAPTER 7

Community Management of the Commons in the Context of Water Governance

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Both the themes of the community management of the commons and of water governance are among the most fundamental issues facing development planners and policy makers in the twenty first century. The increasing water scarcity and conflicts facing large number of countries in the world, the ominous threat of climate change and the failure of State and market-driven models of owning and managing natural resources has only made more urgent the need for community-based structures of governance of common property resources. This paper is an attempt to shed light on the learning that has been accrued on community management of the commons in the context of water governance and to reflect on the possibilities and challenges for further diffusion of this learning to other settings.

The paper is broadly organised into four broad sections. It begins by setting a broad context by discussing some of today's critical issues in the water sector. Following this, part 1 attempts to problematise the idea of community management in the context of water-as-commons by taking a historical view starting with the traditional water systems and asking whether colonialism was the only factor responsible for the disappearance or decline of these traditional systems. Part 2 will discuss some of the important biophysical and socio-cultural peculiarities of water which have a bearing on community management. In Part 3, I shall talk about the normative concerns—like sustainability, equity, participation and efficiency—that should underpin community management of water as commons. The final section will discuss some positive directions in the policy arena starting with the reports of the

working groups constituted for the preparation of the 12th Five Year Plan around 2012 right up to the recent Draft National Water Policy prepared by the committee constituted by the Government of India.

Though these policy documents mark a paradigm shift in the approach to water management, it is unfortunate that they have remained exercises mainly on paper as the Government of India has yet to act on any of them.

The Context

At the outset, it is important to understand the context of climate change within which we seek to advance developmental objectives. Climate change is for real. There are no more doubts about it, though there may be some difference of opinions about the details. We are all experiencing extreme rainfall events leading to floods and droughts and the rise in temperatures. According to the Sixth Assessment Report (AR6) of the Intergovernmental Panel on Climate Change (IPCC) the global average air temperature may rise by more than 1.5 degrees Celsius over pre-industrial levels between 2021 and 2040 (Working Group I, 2021). Himalayan glaciers are receding. Observational records and climate models provide evidence that freshwater resources are vulnerable and likely to be strongly impacted by climate change (Joy & Srinivasan, 2020). This can have serious consequences for human societies and ecosystems. Along with climate, everything else is changing too (Joy & Srinivasan, 2020). For example, patterns of land use are changing at a rapid pace. All these developments bring uncertainties. Thus, the discussion on the community management of commons, especially water, is happening in the overall context of the uncertainties brought about by climate change and other such momentous changes.

There is increasing reallocation of water from the rural/agriculture uses to the urban domestic use and also industrial use. Urbanisation has two dimensions. One, there is rapid growth in urban population. Two, there is also the increasing urbanisation of rural aspirations. Although this second aspect of urbanization is not often discussed, it is important to take note of it as it has a bearing on water use and on migration. Water reallocations from the rural/agriculture uses to urban/industrial uses are taking place everywhere in India. For example, Prayas Resources and Livelihoods Group study report (2013) shows that the diversion of

agriculture water for non-irrigation purposes between 2003 and 2010 was to the tune of about 2000 mm³ from 51 dams. This seems to have reduced the irrigation potential by about 323,300 ha (Prayas Resources and Livelihoods Group, 2013). Also, the ruling class is preoccupied with higher economic growth rates with the dream of making India a \$ 5 trillion economy by 2024. Industrialisation (including infrastructure development and commercial activities) is the chosen route to achieve it.

Since 1990s, there has been increasing emphasis on water privatisation. Water privatisation operates at two levels. The first level is source privatisation which involves privatising a stretch of the river itself (as in the case of Sheonath river, see Das and Pangare (2008)) or giving access to groundwater to bottling plants (like the Coca-Cola case in Plachimada, Kerala, see Surendranath (2008)) or selling water rights (which is basically the commodification of water). The second level involves service delivery as can be seen in the case of the supply of domestic water being given to private entities or being done through the Public Private Partnership (PPP) route.

Along with the above, we also need to take into account the bleak picture that emerges of the water scenario of the country from Composite Water Management Index brought out by NITI Aayog in 2018. According to this document, India is suffering from the worst water crisis in its history, millions of lives and livelihoods are under threat, 600 million Indians face high to extreme water stress, about 200,000 people die every year due to inadequate access to safe water and by 2030 water demand will be twice the available supply implying severe water scarcity for hundreds of millions of people (NITI Aayog, 2018).

All these macro phenomena or developments have a bearing on the water resources and their management. Community management of water as commons need to engage with them.

Part 1: Community Management in the Context of Water as Commons

Traditional water systems like the tank systems that were prevalent in South India as well as in Eastern India, Phad system in North Maharashtra (Sane & Joglekar, 2008) and Kuhls in Himachal Pradesh

(Tiwari, 2022) are often cited as examples of community-managed water systems. They were all managed by ‘communities’ or actual water users. However, the understanding of ‘community’ was limited to only the upper caste people. They were also the landowning castes. The erstwhile untouchable castes did not own land and hence did not have access to water or any role in its management (especially decision making) except may be, in some cases, one or two persons from these communities were appointed as ‘watermen’.

The general understanding is that the colonisers destroyed our traditional water systems. The accepted narrative is that prior to the arrival of colonisers, water systems in India were managed by communities as commons and in a sustainable manner. The colonisers (read mainly the Britishers) destroyed these systems either by changing the cropping pattern (like introducing commercial crops and/or crops that could be exported to Britain for further processing) or by changing the revenue system. According to Sengupta (1980), the ahar (tank) and pyne (channel) network in South Bihar began to breakdown following the introduction of a new revenue system which involved a shift from ‘produce’ to ‘fixed’ and then to cash rents. This impacted the maintenance of the ahar-pyne system. The *Dying Wisdom*, brought out by Centre for Science and Environment, says that these traditional water systems declined by a range of colonial actions for rule and profit (Agrawal & Narain, 1997). There is also a counter narrative to this. Some scholars have questioned this narrative that British colonialism is the only reason for the decay of the traditional water systems. According to David Hardiman, commercialisation and peasant indebtedness were processes that not only pre-dated colonial rule but were more to do with expanding well irrigation in Gujarat (Hardiman, 1998, as cited in D’Souza, 2006). David Mosse argues that claims of ‘organic and autonomous villages’ sustaining stable water management practices prior to the British rule cannot be historically validated (Mosse, 2003, as cited in D’Souza, 2006).

Though colonial rule was not the only reason for the decline of the traditional water systems as there were internal contradictions within the Indian society, it is true that some of these systems did decline in India during the colonial rule. In the context of the transformation of

traditional water systems, Rohan D’Souza talks of colonial hydrology. According to him, the conceptual notion of “colonial hydrology” characterises the colonial interventions in water as comprising of a cogent and distinct hydraulic paradigm that involved fundamentally realigning land and water in new sets of social, political and ecological relationships (D’Souza, 2006). This is closely related to what is called the hydraulic mission. Though hydraulic mission had its origins towards the end of the 19th century in Europe, it got fully developed and exported outside Europe in the 20th century. Molle et al. (2009) call it the defining feature of the 20th century. It marks a complete departure from the approach and worldview of the traditional water systems. It combines scientism, ideology of the domination of nature and a technology to do it. Though the West, where it originated, adopted more ecologically-informed approaches to water (the latest being integrated water resources management (IWRM)), India still persists with the hydraulic mission mode. Interlinking rivers (ILR) project is a telling example of this.

When we talk of community management of water as commons we need to talk about caste. Most of the narratives around traditional water systems do not problematise the water-caste relationships or ask the question—what caste is water? In this context, we need to refer to the Mahad Satyagraha by Babasaheb Ambedkar in 1927. The first mass political action by Babasaheb Ambedkar was the Mahad Satyagraha to open up the Chawdar Lake in Mahad to the erstwhile untouchables. There is a statue of Babasaheb Ambedkar on the banks of the lake and the plaque has the following inscription: “This struggle is not for water alone, but to establish fundamental human rights”. In the speech during the satyagraha, Ambedkar said,

It is not as if drinking the water of the Chawdar Lake will make us immortal. We have survived well enough all these days without drinking it. We are not going to the Lake merely to drink its water. We are going to the Lake to assert that we too are human beings like others. It must be clear that this meeting has been called to set up the norm of equality. (as cited in Dangle, 1992, p. 225)

Namdeo Dhasal, one of the best Marathi poets and also one of the leading activists of the Dalit Panther movement in his famous poem *Golpitha* (it is also the name of the collection of his poems published

in 1972 and translated from Marathi to English by Dilip Chitre) does raise this issue of what caste is water when he says, “.... You will draw water upstream, And we downstream, Bravo! Bravo! How you teach *chaturvarnya* even to the water in your sanctified style!” (Dhasal, 1972).

In rural areas there are many places where the water sources (for example wells for drinking water) are different for the savarnas (upper castes) and the Dalits. In Maharashtra there was this social movement called ‘*Ek gaon, ek panvta*’ (one village, one water source/well) movement in the 1970s and 1980s led by Dr. Baba Adhav and others against the practice of having separate water sources (Adagale et al., n.d.).

Economic reforms in the form of liberalisation, privatisation and globalisation (the LPG regime) that started in the early 1990s had a significant impact on the water sector in terms of policies, laws and institutions. The issue of privatisation and commodification of water we discussed in the beginning where we talked about the context emerged out of the LPG regime. Water is seen more as an economic good in the sense that water is getting allocated to uses that can produce the greatest value. This is one of the reasons why water from agriculture is getting diverted to industries. The second implication of this is in terms of water pricing as there is increasing talk about full cost recovery through water pricing which can price out the resource poor.

As mentioned earlier (in the section on context) increasing amounts of water are getting concentrated in the urban areas or are getting diverted for industrial use. Also, in the agriculture sector water is getting increasingly used for surplus generation (water is increasingly used for commercial crops). This is leading to dispossessions of various types like the rural versus the urban; agriculture versus urban domestic water use and industrial use; and, within the agriculture sector, rainfed, subsistence farming versus commercial agriculture. This is very close to what David Harvey calls “accumulation by dispossession” (Harvey, 2003, p. 137). This is also giving rise to many water-related conflicts.

The state is changing its role from a service provider to a regulator. There is also a move to separate the function of regulation from the legislature and the executive. Independent water regulatory authorities are being set up in different states. Maharashtra was the first state to establish one in 2005 when it passed the Maharashtra Water Resources

Regulatory Authority (MWRRA) Act. It also opened up institutional spaces for community/water users participation in the management of water. Water Users Associations (WUAs) are examples of this and nearly 15 states in the country have come up legal instruments to support participatory irrigation management (PIM).

Part 2: Biophysical and Socio-Cultural Peculiarities of Water and Water as Commons

In this section we shall discuss some of the biophysical and socio-cultural characteristics or peculiarities of water that have a bearing on its management (Joy et al., 2008; Lele, 2004).

First, water is an ecosystem resource. It is often called as an embedded resource because it is embedded within ecosystems. It is not a freely manipulable resource; nor is it a resource to be indiscriminately mined. For example, how much water will be available for use will depend upon the ecosystem it is part of—what is the type of forest cover, what is the type of land use, what is the geology underneath, what is the slope? Apart from humans, there are other life forms that are dependent on the water flow such as the biota and the riparian vegetation. Owing to this, the concept of environmental flows becomes important. Environmental flow means the flow required for the preservation of an ecosystem (and also its services) needs to be kept unbound or allowed to flow. Issue of water quality—who is returning how much of water to the ecosystem and in what condition—is also related to it.

Second, water is a common pool resource. If water has to be used in a sustainable manner (within its regenerative capacity), it needs to be treated and managed as a common pool resource irrespective of what property regime it operates under. For example, surface water by and large is treated as a common property (with either state or community functioning as trustees) and groundwater operates under the private property regime. Water is not a public good like street lights. No matter how many people sit under a street light everybody gets the same light. Water is different. One unit of water used by a person for a particular use is unavailable for another user or for another use. It is also divisible and amenable to sharing having multiple, competing uses and users. Hence, how water is shared across different users and uses will have trade-offs. There is an inherent problem of excludability meaning that

it is difficult to exclude from water in its natural state and the exclusion costs involved are often very high. Water in its natural state flows in a unidirectional way—upstream to downstream or as per gravity. However, the relationship between those who are in the upstream and downstream is asymmetric, meaning that the actions of those who are in the upstream can impact the downstream river but not the other way around. For example, a factory situated upstream can pollute the entire downstream if it lets out effluents into the river. But if the polluting factory is situated downstream, it cannot pollute upstream. Many of the water related conflicts are embedded in these characteristics of water.

Third, water is both a local and a non-local resource. Water is present at many scales. Rivers are made of different orders of streams and water is present at different scales ranging from a micro watershed having an area of 5 to 10 km² to large river basins in India ranging from 30,000 to 250,000 km². The way water is planned, used and managed causes unintended consequences or externalities. For example, a check dam built on a stream or any intervention made within the watershed can have unintended consequences for some of the people. Similarly, any intervention one makes in one part of the basin can have basin-wide impacts as water is an inter-connected resource. Very often, especially in NGO circles, water is seen only as a local resource. Slogans like '*gaonka pani gaonme*' (the rainfall of a village to be fully harvested within the village itself) are a reflection of this mindset. We need an approach that nests different scales—from micro watershed upwards to basins and further up to states and nations. This has implications for our viewpoint about rights. Can we say that local communities should have full right over water in their areas? What about inter-watershed or basin-level equity? Every community has a proportional right to water as part of a collective right to assured livelihoods. Water use, beyond the fulfilment of livelihood needs, cannot be part of this right and cannot be at the cost of others' livelihoods.

Fourth, water has certain socio-cultural dimensions. Socio-cultural needs draw attention to the multi-faceted nature of water. Water needs—drinking water use, domestic water use, and water for livelihoods—are often mediated, at least partially, through cultural traditions and values. However, social hierarchies and inequalities get intertwined with cultural traditions and values. As discussed earlier, caste is an important example of this.

Fifth, there are certain peculiarities of water as ‘private property’. The issue is whether we can call it a private property, the way private property operates in the case of land?

‘Ownership’ of water is basically an entitlement to use water in a certain way at certain points and times. Entitlements cannot be seen in an absolute sense; it is more in the sense of a relative or proportionate share in a common pool. There is also the issue of variability. Every year we do not get the same amount of water and this has implications for the sharing of water during times of surpluses and shortages as compared to the water one gets with certain degree of dependability, say 75 percent dependability. Dependability indicates the assured nature of water availability and 75 % dependability means that in a 100-year period we will get certain amount of water for 75 years. Each of these characteristics of ownership of water moves it further and further away from classical private property ownership that is the basis of most of our laws. In short, because of the peculiar nature of water both as an ecosystem and a common pool resource, it cannot be treated as private property in the classical sense. Instruments like classical market mechanisms cannot work efficiently in relation to water because water lacks the reliability, the ready manipulability and the constancy that other private property has. All these characteristics have a bearing on water: water related institutions, policies and laws, movements and struggles around water and the normative concerns underpinning our approach and viewpoints about water.

Part 3: Normative Concerns that should Underpin Community Management of Water as Commons

It is assumed that the community management of water as commons will lead to good outcomes.¹ For this, we need to define these good outcomes and in this context normative concerns become important. These normative concerns could be sustainability, equity, efficiency, and participation/democratisation.²

Sustainability

“The earth, the air, the land, and the water are not an inheritance from our forefathers but on loan from our children. So, we have to handover to them at least as it was handed over to us” (Mahatma Gandhi).

“Even a whole society, a nation, or even all simultaneously existing societies taken together, are not the owners of the globe. They are only its possessors, its usufructuaries, and, like *boni patres familias*, they must hand it down to succeeding generations in an improved condition” (Marx, 1894/1993, p. 510).

As can be seen here, though both Mahatma Gandhi and Karl Marx belonged to two ends of the ideological spectrum, the above two quotes show that they have a lot in common when it comes to taking care of the earth. For me, these two quotes explain very well what sustainability means.

The concepts of stocks and flows are used to explain what it means to limit our water use within sustainable limits. Flows is the water we get within the annual water cycle. Stocks is the water stored over longer periods of time. In the case of groundwater stocks, it can mean thousands of years. The general axiom is to use water within renewable limits meaning use only the annual flows and as far as possible to not use stocks. Stocks can be used only in bad years (continuous drought years) with the understanding that the community will make efforts to replenish the stocks in good rainfall years. Sustainable use of water also means to minimize the import of water and, if one has to import water in exceptional cases, then to do it in a fair manner, meaning that it should not be at the expense of somebody else’s access to water.

Equity, Fairness and Rights

Article 21 of the Indian Constitution is about the right to life and the judiciary has interpreted this to include the right to water (Forum for Policy Dialogue on Water Conflicts in India, 2015). Water is a natural resource and everyone has a right to sustain her/his life and livelihoods. However, presently, that’s not the case. This is mainly because of the different types of inequities in Indian society. There are mainly two types of inequities. The first type constitutes the historically disadvantaged/marginalised sections of society who are discriminated against on the basis of class, caste, gender, ethnicity, and for belonging to minority communities. The second type of inequity relates to the spatial or locational disadvantages emanating from the biophysical characteristics of water that we briefly discussed in the previous section. For example, in the context of watershed development, most of the water and soil

conservation works take place in the upper part of the watershed and the water appears in the valley portion. Thus, the benefits of increased water due to watershed development often goes to those who have land in the valley portion whereas people in the upper part of the watershed pay the price in terms of giving their land for various treatments like contour bunds. Very often the historical inequities map on to locational disadvantages as it is the resource poor (Dalits, marginal farmers) who own land in the upper part of the watershed whereas it is the resource-rich ones who own land in the valley portion.

We could talk of equity at different levels—equitable access to water within a particular water use, equity/fairness in the allocation of water across different uses, and equity in terms of upstream and downstream or at regional scales. In the case of domestic water, the supply norms for cities and villages are different as the LPCD (litres per person per day) is much higher in the cities as compared to the rural areas. In the case of irrigation water, the present practice is that water right goes with land rights meaning those who own land within the command or service area of an irrigation project get water as per the size of the holding—larger the size, more the water. There is a need to de-link water rights from land rights and instead link it to livelihood needs. This is what Pani Panchayat did three to four decades ago in Pune district (Maharashtra) and this is what the South Maharashtra Equitable Water Distribution Movement is trying to do in South Maharashtra. Certain minimum amount of water needs to be guaranteed to all those who depend on land and water for their livelihoods including the landless. Allocation of water across different uses has become a serious issue in India, and as said earlier, there is an increasing trend of (re)allocating water from the rural/agricultural to urban and industrial uses. So ensuring equity/fairness in allocation across different uses is also very crucial. Another dimension of equity is equal opportunity or space for participation in decision-making and representation in all water-related institutions. This is further discussed under participation and democratisation below.

There is also a need to go beyond the human-centric view point of the right to water and bring in the interests of non-human life forms, including rivers, into the discourse around the right to water. There is increasing concerns for rights of nature including rivers.

Participation and Democratisation

Participation has become a buzzword in development policy and practice the world over. Since the late 1980s and early 90s, there have been efforts to bring in participation of water users in the management of water especially irrigation water. Water Users Associations (WUAs) provided the institutional space for the water users to come together and manage their share of irrigation water. Today about 15 states in the country have passed laws making formation of WUAs mandatory to get access to irrigation water. There is an effort to debureaucratise the water sector. This could be a good starting point to further democratise the sector where the primacy of the local community in decision making is upheld. However, we should not forget that the local communities themselves are not democratic as caste, gender and other such exclusions still work. Thus, we need to start with democratising the community itself. All the institutions should have sufficient representation of women, the landless and other resource-poor sections. The idea is to go beyond tokenisms and see that they can influence the decisions taken in these institutions. Democratisation also involves the accountability of larger structures and agents (supra local agencies or institutions) to the local communities and their institutions. One of the important institutional gaps is that there is no legally mandated institutional space for participation of different stakeholders where the different stakeholders can come together, share data, experiences and concerns and come to negotiated settlements of claims and conflicts. There is also a need to democratise both state and non-state institutions. All the state's water-related institutions like the Central Water Commission (CWC) and the Central Ground Water Board (CGWB) are more or less manned by upper class and upper caste males. They are also mostly from the cities. The NGO sector or research institutions are no different. We need to make conscious efforts to bring diversity into our institutions. Another issue is how we bring in interdisciplinarity in the water related institutions especially in institutions like CWC and CGWB. These institutions are dominated by civil engineers and hydro-geologists. People with a background in social science disciplines are absent. This gets further reinforced because of gender stereotyping in education as very often it is the males who take civil engineering as a discipline in engineering education. Access to data is an important precondition for effective participation.

Efficiency

Efficiency seems to be the main driving force for water sector reforms. Water is a limited, finite resource. In fact, there is an increasing awareness of this especially because of water scarcity experienced by most people at least in the summer months and the increasing frequency and intensity of droughts in the country. In the water sector, efficiency means water conveyance and water use efficiency. Presently in Maharashtra the conveyance efficiency from the reservoir to the land to be irrigated is about 40 percent. In this context, efficiency means improvement in the operation and maintenance (O&M) of the system as well as the lining of canals and now shifting to pipe distribution networks (PDN) in place of open canals. Another dimension of efficiency is to have more area irrigated per unit of water. The mainstream response has been to incentivise the adoption of water-efficient technologies like drips and sprinklers. These measures have not led to water saving—the tendency is to bring in additional land under irrigation with the saved water. International Water Management Institute many years back came up with the slogan—“more crop per drop”. Experience shows that sufficient attention had not been paid to various demand management options to save water. For example, aligning cropping patterns and agronomical practices to agro-climatic conditions can offer a wider set of practices for water saving. The critical question we should ask is where does the saved water go? Does it go to enhance equity in the sense that the saved water is pooled together and given to those who have no access to water? Or does it lead to less abstraction of fresh water from our rivers and aquifers? Probably, we need to shift to what Sharachchandra Lele (2004) means by efficiency—concern with maximising current well-being derived from the natural world at minimum cost, whether measured in physical or monetary terms.

Part 4: Winds of Change?

In the above sections, we discussed some of the important issues and aspects that have a direct bearing on community management of water as a commons. Since water is an interconnected common-pool resource that is both local and non-local, community management implies recognizing the primacy of local communities in governing it. This does not exclude the role of supra-local institutions as well

as communities situated in different parts of the same watershed or basin. What we need is a nested institutional framework in which the institutions at different scales are accountable to each other and function in coordination with each other.

Over the last three to four decades there is substantial accumulation of social experience around restructuring water governance in more equitable, sustainable and democratic lines through community participation. We can see this in watershed development, participatory groundwater management as well as participatory management of surface water through PIM. Of course, the successful cases are very few. There is a need to learn from such experiences and see how the insights can be brought into water-related policies.

There have been some effort in this direction over the last 10 to 12 years. As part of the preparation for the 12th Five Year Plan, Dr. Mihir Shah, then a Planning Commission member in charge of water, constituted various working groups. For the first time all these working groups were headed by either academics or by civil society persons. As part of this exercise, there was a group headed by Prof. Ramaswamy Iyer that drafted a very comprehensive national water framework law for the first time. Then around 2016, three committees were constituted by the Government of India and all these committees were headed by Dr. Mihir Shah. One committee looked at the two drafts of national framework law (one brought out by the committee headed by Prof. Iyer and the second one brought out by the committee headed by Prof. Alagh) and brought out a third version – the *Draft National Water Framework Bill, 2016* (“Draft National Water Framework Bill”, 2016). The second committee looked at groundwater and came out with the report, *Model Bill for the Conservation, Protection and Regulation and Management of Groundwater, 2016* (International Environmental Law Research Centre, 2005). The third committee was appointed to suggest ways to reform the two most important water institutions in the country— Central Water Commission (CWC) dealing with surface water and Central Ground Water Board (CGWB) dealing with groundwater. It came out with the report *A 21st Century Institutional Architecture for India's Water Resources* that essentially argued for the integration of both these organisations into the National Water Commission (Committee on Restructuring the CWC and CGWB, 2016; Joy, 2016; Shah,

2016). In 2019 the Government of India constituted a committee, headed by Dr. Mihir Shah, to draft a new National Water Policy for the country. The committee held extensive consultations with all the state governments, concerned departments and organisations, NGOs, academics and think tanks in the country. Though the draft policy was submitted to the Ministry of Water Resources in 2020-21, it has not been yet put out in the public domain for wider public discussion, leave alone be accepted.

All the above-mentioned documents and reports together marks a paradigm shift in the approach to water management (Shah, 2021). They take cognizance of the biophysical and social characteristics of water that we discussed in Part 2. They also try to advance the normative concerns that we discussed in Part 3. Many of us thought that these efforts mark a new beginning, something like a wind of change. However, the response of the state shows that probably the expectations these efforts created are rather premature. There are well-entrenched interests that are aligned against the changes that these reports sought to bring. Unless the ideas contained in these initiatives become the basis of concerted civil society action, no change will be possible. Water will move further away from the idea of the commons and gets increasingly privatised and will be managed and governed by not communities but corporations.

NOTES

1. There are three broad functions of water governance—allocation, management, and regulation. The allocative function which involves decisions about norms of water access, water allocation and water pricing, is more political/legislative in nature. Management, on the other hand, involves water resources development, actual water distribution and the operation and maintenance of the system. It is more of an executive function. There is an increasing trend in the Global South (in fact, this was also the case in the North for some time now) to have independent regulatory systems for the service sector. Independent regulatory systems have been in place for electricity and telecommunications for some time now. The regulatory function in water governance in India is rather new. It started with the Maharashtra Water Resources Regulatory Authority (MWRRA) Act in 2005.
2. The discussion on normative concerns is drawn from Joy and Paranjape (2004).

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CHAPTER 8

Are Leaders Born or Made? Creating Spaces that Foster Youth Leadership and Social Change

Ashraf Patel and Arjun Shekhar

Context

India is one of the youngest countries globally with a youth population of over 300 million¹ in the age group of 15 to 29 years, comprising 27.2% of the total population (National Statistical Office, 2022, p. 8). There has been much written about how this demographic dividend will become a disaster if it is not tapped adequately to reap the economic outcomes through suitable skilling and employment opportunities. The other side of this discourse that needs as much attention is how do we ensure that young people can thrive in every sense of the word with not only access to quality education, health and nutrition but also opportunities to contribute in powerful ways to further strengthen this beautiful country, its democracy, diversity and development. How can young people become intrinsic to shaping their own and the country's destiny in ways that will build a better world that is facing unprecedented inequity, conflict and ecological challenges? How can young people become part of taking leadership and contributing to transforming India's social, economic, cultural, political and environmental landscape not only in the future when they grow up but as much in the present? Young people are leaders of now and not just the future.

At the heart of the question of nurturing youth leadership is the idea of 'leadership' itself. When we think of leaders, often we think of people who have risen to positions of power—the class monitor, the

principal of a school or a college, the panchayat representatives in the village, the politician, the supervisor, the manager, the boss or the head of a private, public or civil society institution, the judge, the captain of the sports team—are the immediate images that come to our mind. Typically, even the symbol of leadership in nature has been that of the mountain—tall, powerful, standing head and shoulders above the rest, taking decisions for the team, commanding from the front. While this works in some situations (maybe, for example, in a war zone), in most other spaces it leads to a hierarchical privilege and power structure that is propped up by half-true narratives of exceptionalism (purity stories) and excludes many. On the other hand, the ocean is a very different metaphor for leadership and probably more apt for today's times. The ocean inspires and draws the rivers to join it, is able to contain all opinions and notions however shallow or deep, and decides with the people and operates at the same level as them. Here the privileges are similar for all, power is more distributed and decision making is truly democratic leading to more authentic narratives.

The leadership we are talking about here is a larger concept; it is not a noun but a verb. We need to move away from the idea of leadership as a position at the top of a pyramid and instead view it as an evolving ability in people to exercise their agency in whatever context they are, in whatever space they occupy. It is the capacity to make change in one's own life and that of others through consistently building perspective, oceanic leadership competencies and expanding one's circle of concern and influence by acting in the real world. Embedded in this idea of leadership is the fact that leading and following are part of a life-long learning journey, that propelling from behind is sometimes a more appropriate leadership dynamic than leading from the front and that embodying the change we want to see in the world is the only sustainable, congruent, inside-out process of self- and social transformation.

The Challenge of Developing Youth Leadership

Incarnating this conception of leadership into an enduring process of social transformation embracing the whole nation is not only an immense administrative and logistical feat requiring the mobilization of resources on a scale that has not yet been attempted by civil society,

it also calls for a more nuanced and creative conception of the kind of change that is to be achieved. First, a few words are in order about the scale of such an enterprise.

The insights and issues shared here are drawn from the collective experiences of the authors with many committed co-voyagers including youth facilitators and young people, over many decades of working on adolescent and youth leadership, social and emotional learning and life skills with different organisations including Pravah, ComMutiny — The Youth Collective and the VartaLeap Coalition.

Scale: What must be appreciated at the outset is the immensity of the challenge of attempting social change in a country like India which is now the most populous country in the world. The hierarchical and patriarchal social order that is the object of efforts aimed at social change in India spreads and becomes more entrenched as families and communities grow. In this context, young people are the most promising agents of social change. They are also the demographic group that is most in need of adopting new ways of thinking and acting that are in tune with the vision of an inclusive, just and united India. In other words, what is called for is youth leadership of the kind described above to initiate positive change on a nation-wide level.

Research has clearly indicated that leadership is not necessarily an in-born trait and that it can be learned. This then brings into focus the role of facilitators in building and nurturing such youth leadership on such a vast scale. These facilitators would hold the firm belief that every young person has the potential and must exercise leadership in the different spaces they occupy, be it in their families, among friends, in schools, colleges, neighbourhoods, communities or work spaces across all sectors. Considering that there are 300 million youth in India and assuming that a facilitator can work with at the most 100 youth, what is called for is at least the 3 million youth facilitators with a suitable understanding of youth work and the competencies to build leadership capacities in this cohort of 300 million youth.

This is indeed a tall order. Although flagship youth leadership programs like the National Service Scheme (NSS) and the Nehru Yuva Kendra Sangathan (NYKS) do work with young people in large numbers and there are many civil society organisations and educational institutions who run different kinds of youth leadership programs,

developing youth leadership at the scale needed requires far greater investment in quality training and infrastructure. Although some youth development professionals may seem naturally gifted, youth development is a science, an art, and a skill to be acquired and honed. With youth work not even recognised as a profession in India and very few institutions and organisations investing in youth worker learning and development, the prospect of preparing so many facilitators seems next to impossible.

Complexity: A few words are also in order about the kind of change being attempted. These youth leaders have to function within a world of increasing complexity. The COVID-19 pandemic brought home to us how interconnected and interdependent life is. Every social problem has several stakeholders who approach the issue from opposing points of view which creates log jams that are hard to overcome. An example of one such policy paralysis can be found with the pressing issue of climate change. It is known that climate security is the need of the hour and many are working towards it. Yet at the same time there is the paradox of escalating consumption which is promoted as a means to accelerate economic growth. While all nations want to reduce their carbon footprint, at the same time they also have to respond to the political imperative of including more and more people into the consumer economy and of meeting the rising aspirations of all classes.

In fact, as with all the major issues of our times, things are not quite black or white. We are almost always dealing with paradoxes where linear problem-solving and straight forward solutions are likely to be short term, only leading to more problems in the long term. Hence, social transformation today needs young leaders who can understand these complexities and approach the paradoxes with critical thinking skills, systems-change understanding and the ability to draw out positive narratives and bring people together to take inspired collaborative actions for change. We need adaptive young leaders who can navigate these complex paradoxes of our times and move systemically with purpose with whatever is emerging and take along their communities.

Depth: At the heart of all of social problems lies the ‘self’ ,or, rather, the many ‘selves’ that perpetuate these log jams with their competing values, fears and limiting beliefs. Hence, youth leaders need

to be able to resolve these competing values by helping competing stakeholders reach points of agreement and harmony by tapping into their deeper urges and motivations. Without mindset shifts no systemic and sustainable change can be effected. The only way to begin to shift minds is to know how they got set in the first place. For this Gandhi's "Be the change you want to see" philosophy needs to guide the best youth leadership interventions in the country. Such insistence on coherence between words and actions or theory and practice is the best means to ensure social transformation initiatives do not remain only 'skin deep'. Any profound social transformation has to be accompanied by personal transformation efforts as part of that change. Young people are often urged to go out and do their bit for the nation or the world, to put their drop in the ocean in a manner of speaking. But how often are young people given a chance to dive inside of themselves? Do we really respect the fact that in every young person is an ocean waiting to be discovered and nourished? Inner development work is an important and indispensable component of social development.

Perhaps this is the reason why some leading institutions and organisations set up a parallel eco-system to promote what is called the Inner Development Goals to address what they felt was a gap in the Sustainable Development Goals (SDGs). While we acknowledge that the SDG development and programming has been a pathbreaking collective effort worldwide led by the United Nations and Member Nations, we believe that if building youth leadership could have been accepted as a key 'enabling goal' there would have been better results overall.

Leadership by Design

While the earlier section discusses the challenges of scale, depth and complexity in the context of developing youth leadership, this section elaborates on a few of the main ideas, principles and practices in the field drawn from the experience and impact of Pravah, ComMutiny — The Youth Collective and the VartaLeap Coalition.

Are Leaders Born or Made?

There is this story of an old lady, who walks bent-over with a small walking stick, into a doctor's office where, in the waiting room, there

are lots of people. She just walks through and nobody stops her as she enters the doctor's room. Three minutes later she walks out very straight, walking perfectly fine. As she is about to leave the doctor's office, one of the people who had been waiting asks her, "Hey, what happened to you? You went in all bent and now you are coming out almost transformed, straight up. What did the doctor do?" She said "Well, she did not do much. All she did was give me a longer walking stick!"

How we wish transformation could happen as easily as that but most times bringing about real change takes a lot of effort. Leadership is not like a magic wand that can be given to anybody; it has to be taken. In the early years of Pravah's existence, we would do these brilliant workshops on leadership capacity-building in schools and colleges. While all went well in the classrooms, as soon as the young people stepped out into the real world, they found it difficult to practice the attitudes, skills and competencies learned due to the hierarchical and patriarchal nature of society they were growing up in. Young people are often not heard and sometimes not even seen, let alone given opportunities to lead. The rules of most spaces they occupy are set by other older adults. In the family, it is the elders who set the rules; in schools or workplaces it is the teachers, supervisors, and bosses who have the final say. Even among friends there is a lot of peer pressure and the leisure and recreation spaces too are very much influenced by the media and the market and there is a pressure to follow and conform.

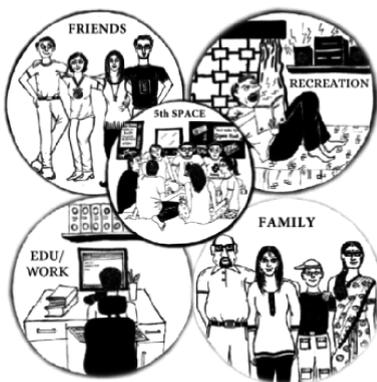
So, although we were doing a great job of organising 'training programs', we wondered if it was going to be enough. Were we only making 'paper leaders'? We began to explore what we needed to do differently with an inquiry "At what point in Indian history did we have inspirational and powerful leaders emerge in large numbers in the country?"

Our research led us back to the first half of the previous century. The Indian independence movement is possibly the most iconic movement which drew young people like never before to work together for a common cause. Not only were they participating in large numbers, young people were leading the movement from the front. Bhagat Singh and Chandrashekhar Azad are well known but there were thousands of others who were below 40 years of age who put in great

effort for gaining freedom for their country. The cause was large, and the inspiration of other freedom fighters and movement leaders was tremendous. We found another much-overlooked factor that enabled this large-scale engagement—there were many opportunities and spaces where young people were invited and inspired to co-create and take charge of the spaces in both small and big ways. They were finding a myriad ways of contributing to social change ranging from responsible citizenship, boycotting British cotton or wearing home-spun khadi, joining marches and study circles, writing and circulating pamphlets and posters, and creating and popularising movement songs. This space to express and exercise aspirations through personal and social actions was at the heart of the youth participation in the freedom movement.

With that insight, we figured out that there needs to be a space beyond the four legitimate spaces in which young people mainly interact, namely, the family, the friend circle, educational and professional spaces and the recreational space. There is a space beyond these four which young people co-create along with others, in which they explore and discover themselves and society through personal and social experiments and actions and where they develop their capacities for personal, professional and social leadership in the real world. We called this space the ‘5th Space’ (see Figure 1) and this then became our main differentiator from other youth leadership programs (Patel et al., 2013).

The 5th Space



An experiential Space....

- .. where young people step up and out to discover themselves and their relationship with the world around them
- .. co-created and co-led by young people with youth facilitators
- .. characterized by Self to Society, leadership and learning journeys of volunteering and civic engagement
- .. where Refl-action is practiced and feelings are honored
- .. that makes the other 4 Spaces count

Figure 1

We argue that the 5th Space must be repositioned as a space that focuses as much on the self-transformation of youth as it does on transforming society through them. It is a space that builds on the aspects of understanding the self, developing meaningful relationships and impacting society—all of which are critical to youth development. While impacting society, young people impact themselves and, if facilitated properly, these experiences lead to heightened self-awareness, enhanced leadership skills and informed stances and action on social issues.

So our answer to the question, ‘Are leaders born or made’ is that they are made in the crucible of the 5th Space, where compelling experiences are part and parcel of the journey that young people take from self to society. This also addresses the need mentioned earlier for 3 million facilitators to build youth leadership as the dynamic of peer learning and learning directly from experience is unleashed. It shifts the onus from facilitation to designing these 5th Spaces, almost like architects. Of course, facilitators are needed but a lot of the experiences can be self-facilitated if the space is designed with the correct principles which, in turn, would drastically reduce the number of adult facilitators needed.

Adopting a Common Story to Nourish a National-wide Youth Movement

With so much diverse youth action, the question arises of whether it can lead to vigilantism. Won't it lead to clashes among youth with different sets of ideologies? These were the next set of questions we had to deal with. And this is where the framework of the Indian Constitution came to our rescue. When we adopted the constitution as our mother design document, things began to fall into place. It became the guiding light, the harmoniser of all the 5th Space leadership experiences and actions that were being taken by diverse young people in different parts of the country.

Even while youthhood is recognised as a universal and natural stage of development (Patel, 2013) in the life of a person (and we have been discussing youth in a general sense here), we are aware that youth is not a homogenous category. Working on youth leadership requires us to be tuned into the many intersectional identities, given

and chosen, of young people—be they of caste, class, region, ethnicity, gender, ability, sexual orientation, or economic status. In this mix is also located the many different belief systems, ideological and psychological leanings that young people have. Organisations engaging with youth across the country reach this diverse cohort to address their different needs by offering a wide variety of interventions on life skills, social and emotional learning, employability and entrepreneurship, career counselling, sexual and reproductive health, mental health and wellbeing or interventions around issues such as gender-based violence, communalism, caste and ethnicity-based discrimination, democracy and governance, emergency response and climate change.

A youth leadership movement at scale requires that we weave together this rich diversity of youth identities and the approaches to youth leadership into a common compelling story. What can be more compelling than the unifying idea of India as declared by ‘We the People’ in the preamble of the constitution imbued with the values of justice, equality, liberty and fraternity. Imagine if this vision of India was part of our everyday conversations and not just embedded in boring textbook lessons which children, more often than not, learn by rote and then forget as they get older. In one of our early interventions, we did a survey on constitutional literacy in communities and we were surprised to learn that many people think the Constitution is a giant book sitting in the Parliament or the Supreme Court. How then, can ‘We the people’ of India, and in particular the young people even begin to make the constitution their own?

Our Constitution can serve as a call to every young person in India to be able to ‘see’ the shared vision of India, to ‘be’ the caring, compassionate and courageous citizen and, to ‘do’ what it takes to ensure that everyone has access to their rights and are willing and able to perform their duties in service to society because rights and duties are two sides of the same coin. In some contexts, young people may be exhorted by adults to do their duty to their families, to their teachers, to the school, or to the nation with no effort to enable them to be aware of, or to access, their own rights. In other contexts, young people may be called upon to fight for the rights of the people or their communities, without any importance given to the duties. This selective engagement leads to a skewed understanding of the constitution. The constitutional

rights and duties narrative can help young people navigate the complex problems and the embedded paradoxes in it with a more holistic and systemic perspective. Consider the issue of climate security. We learned in school that we have a duty to protect our environment, but so far there had not been much conversation about our rights in relation to the environment. The recent Supreme Court intervention has shed much needed light on the matter of our rights against adverse effects of climate change.

However, just making clarion calls are not good enough; they have to be backed up by compelling experiences and powerful interventions that inspire young people and engage them in a lifelong leadership and learning journey. Through ComMutiny—the Youth Collective and the VartaLeap Coalition representing many hundreds of youth-focussed organisations, lakhs of young people and youth facilitators across the country have been part of shaping the mission and the narrative ‘Every Youth a Jagrik, Every Space Nurturing Jagriks’ where the Jagrik is a self-awakened, proactive citizen who also awakens others through real world self and social actions based on fundamental rights and duties (VartaLeap Coalition, 2020). The coalition is expanding their understanding of the constitution as well as their circle of concern and influence.

What is the DNA of 5th Space Youth Leaders?

Having established the concept of the nurturing 5th Space and the need to have a common story that binds us together with a shared understanding of self and society through the Indian Constitution, let us examine what could be the DNA of the young leaders who we want to develop? We picked the metaphor of the DNA because of the intertwined triple helix that codifies the principles of the 5th Space leadership. Separately the strands are capacities, values and feelings but together they manifest youth leadership in collaborative actions that transform the world and themselves (see Figure 2).

J. Krishnamurthy’s famous quote “The self is a result of society” shines the light on the intricate relationship between the self and society. Since an ‘identity quest’ is intrinsic to the development of young people, any leadership journey might begin there and lead outwards through their close relationships and into the society around them. Having thus

travelled inside-out, starting from what young people know to what they don't know helps them to not only see how society shapes their selves, but it also gives them a visceral experience of society living in them and driving their thoughts and actions. It is only when they are able to live the complexity, scale and depth of social paradoxes that beset us today that they are catapulted into a position of influence and changemaking. Without one foot in social action, their self-quest is in danger of becoming self-absorbed and without self-knowledge they could turn into mere paper tigers.

The first DNA strand that the young leaders in the 5th Space develop are a set of core leadership capacities: (1) deep self-awareness (2) strong trusting relationships and (3) social awareness, action and advocacy.

These inside-out and outside-in leadership capacities are guided by the following foundational values: (1) Equality (2) Justice (3) Liberty and (4) Fraternity. Young leaders experience and live through their constitution-guided social actions in the framework of duties and rights. This forms the second strand.

And finally the third helix brings it all together in terms of feelings literacy that young people develop in the 5th Space. A high IQ is well-celebrated in our world whereas a high emotional quotient (EQ) is considered nice to have. This is like riding a bicycle with one eye shut. Feelings drive our behaviour and that of others. They are needed in the world for taking people along and working together. The 5th Space is designed to be imbued with the 5 feelings of love, growth,

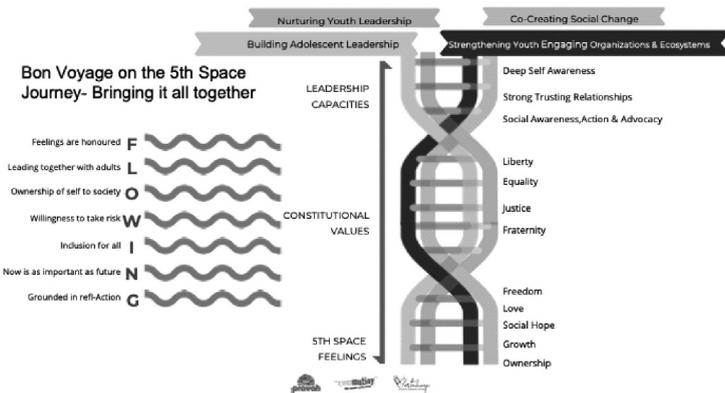


Figure 2

freedom, ownership and social hope. Young people get to not only experience these feelings, but also learn how to identify and neutralise their negative feelings, and switch them and inspire others towards these 5 positive feelings.

The Design and Facilitation Principles of the 5th Space

Since the 5th Space is an experience, and it needs to be co-created with young people at scale, it is important to develop a shared language plus design and facilitation principles to shape practice and bring us together as a community. We have called these the FLOWING Principles. These principles outlined below are grounded in the experiences of thousands of young people, associated with hundreds of youth-engaging organisations and facilitators who have been co-voyagers and co-designers with us in these journeys over the last 30 years in all sorts of different contexts in the country.

Flowing Design and Facilitation Principles

F - Feelings of youth must be honoured: Young people are roiling in feelings; that is the lens with which they make sense of the world. While applied reason is learnt, feelings are organic and innate and, as we know, feelings drive the world. Good decision-making skills require reason and feelings to work together. Unfortunately young people are often told to keep their feelings aside, and to suppress their negative feelings. We believe that not having space to share their feelings and be heard has not only lowered our feelings literacy but also compromised our wellbeing.² The 5th Space is not only a ‘safe space’ where young people experience love, growth, freedom, ownership and social hope but it also has to be a ‘brave space’ where negativity can be aired, called out and neutralised. The 5th Space honours all kinds of feelings and does not have them shoved under the carpet. The 5th Space enables young people to move from (1) interrupting and (2) labelling of the negative feelings to (3) acceptance and analysis and (4) switching and empathetic positive actions. In this way, they are able to let go of the negative cycle. The space should be able to surface the real feelings of individuals and should be so designed that it allows facilitators and members to (1) intervene (2) empathise (3) search (4) care-front, and co-heal. A 5th Space affirms the rights but also imbues members with

a sense of duty to contribute to the positive health of the space. All parties involved need to take complete responsibility for a conflict situation and inspire others to use the conflict positively to progress to the next level of collaboration (Hendricks & Hendricks, n.d.).

L-Leadership capacities must be built through intergenerational co-leadership of the space: Agency and decision making is at the heart of self and social transformation. Young people need spaces where they can safely demonstrate and experience democratic leadership. But they may not be ready to take charge of the space on their own. Hence co-leading with adults who embody the values of equality, justice, fraternity and liberty is a great learning.

O-Ownership of common spaces is seen as the self being interdependent with society: We believe the people who inhabit a space and make meaning out of it are its real owners. Psychological ownership can't be given; it has to be taken. In fact, this form of ownership seeps in slowly into people, as and when the structures and people who govern the space and its culture allow it to. Young people can tend to feel constricted with adult leadership and scatter at the first signs of being bossed around. They do welcome mentoring and light nudges in the right direction. It requires facilitators who can walk a thin line. They have to know when they should let things self-organise through peer conversations and know when to stir it up in case young participants seem to be avoiding confrontations. The space should also be encoded with the ability to infuse all the new people who come in with a will to take ownership and leadership of the space along with those who were there before.

Taking young people from what they know to what they don't is part of the design of every experience. Awareness of the self before moving on to their immediate neighbourhood and then larger social causes makes for a good design flow. Turning their gaze inwards first gives them the confidence and understanding of how their lives are connected to common spaces and this expands their leadership capacity. Exposure to social issues through camps, visits, stories, films, podcasts and meeting with diverse people is part of bringing this experience to young people. Opportunities for volunteering action with development organisations and movements is part of this exposure. Volunteering action in common spaces in families, friends circle, schools, colleges

and work places are also celebrated as important and valid and are part of the design.

W - Willingness to take entrepreneurial risks is fostered: The space can be designed as a Ladder of Risk-taking as risk can be learnt only by experiencing it in higher and higher stake situations. Moving from volunteering to social entrepreneurship is facilitated by inspiring young people to take up social change projects or setting up social change enterprises both in the short term and the long term. The 5th Space encourages young people to feel for social causes, dream and develop a courageous and inspiring vision for what they wish to change, to discover and develop how they wish to go about it, including inspiring others, teaming up with people and finally getting down to doing it and driving their mission in the world. A sand box of experimentation is supported with possible seed support, awards and recognitions. There is also hand-holding and mentoring along with a peer group that creates a holding community to overcome fear of failures and aim for audacious outcomes.

I - Inclusion of all youth across caste, class, gender and religion is ensured: A 5th Space should provide youth the opportunity of engaging in pluralism actively, where cross-border friendships or friendships beyond labels of caste, religion, sexual orientation, economic background and gender are encouraged. It is in this experience of understanding the 'other' that young people can begin to challenge themselves and each other and make efforts towards the breaking of stereotypes, addressing discriminations and preventing exclusions which are so critical to shifting social norms at scale. Also, young people in inclusive spaces get to experience a vast array of intersectionalities, and with multiple stories and viewpoints, they become wiser in a very short time period.

N- Now is seen as important as the future: The 5th space rides on the zeitgeist of the time even as it creates new trends. The space needs to be designed for balancing the long term with the current. Youth are not merely adults in the making. They are young adults who have arrived. They have emotions, needs, desires, and aspirations emanating from their immediate context in the here and now. Addressing the diverse social, cultural, psychological, economic, and ecological needs of young people is key. These needs include jobs, education, security,

peer-learning, self-esteem, peer-respect, as well as being part of an equal and just society.

G - Grounded in Reft-Action (Reflection and Action): Everyone talks about learning from experience but are young people allowed to make mistakes? Are they blamed and shamed when they make mistakes or are they nudged to take ownership of them, reflect on what their governing values were that led to the mistake, and thus improve. Buddha had said: “the foot feels the foot when it hits the ground”. Learning starts from the feet and travels upwards to the head rather than the other way round. The 5th Space needs to be designed with ample space for not only real on-ground action but also serious and deep reflection that prepares them for further action. Instead of blaming others and hiding mistakes, failures need to be celebrated in the 5th Space. Action without thinking first is like shooting an arrow without a target. And reflection without action is to look at a target without a bow and arrow at hand.

Bringing it all together, finally, we must remember it is young people and youth facilitators who are both co-voyagers and part of the design and facilitation of the journey and that every 5th Space comes alive and dies in the moment. It renews itself as people evolve. Some move on to co-create new 5th Spaces in their lives in other contexts. Specific, measurable, and realistic milestones and goals are particularly difficult to identify, since by its very nature this work has destinations that are difficult to frame in concrete outcomes and will have frequent set-backs. Yet, we need markers, if we are not to get lost in the journey. Indicators and journey markers are best framed in every 5th Space by the co-voyagers through consensus before they set off on their journey and then continuously reviewed and redrawn as they learn and travel together.

Making a Youth Leadership Movement at Scale with Soul

Nurturing 5th Spaces with these design and facilitation principles will strengthen the quality and quantity of our desired outcome and bring us closer to our mission. But for a country like India, one organisation cannot reach the millions of young people required. For any sustainable change to happen, it has to be happening everywhere at once, every time. And everywhere in our country is a tall order. No one

organisation or entity can make that happen effectively with depth, in view of this diversity and scale.

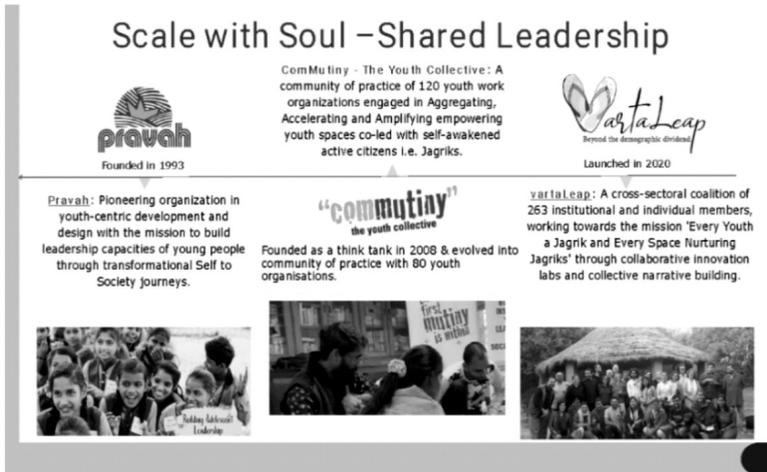


Figure 3

When we began as Pravah to do direct work with young people and to build capacities of youth facilitators and the young to design and develop 5th Spaces, we saw as a natural process the emergence of a large cohort of young leaders from across the country, with thousands of youth-led initiatives and start-ups being seeded as part of the Changelooms Learning and Leadership journey. These young leaders were engaged in their own change-making projects or setting up organisations to work with other young people on a wide variety of different social issues. They were offered seed grants and mentoring and were supported with well-designed development centers to enable them to sharpen their project ideas and organisation mission and align them better to their purpose and values. They got world-class training in design and facilitation and organisation development. Later, this program evolved further and now it is organised around the themes of *Climate Change, Gender, Wellbeing, Livelihoods & Entrepreneurship and Constitutional Literacy*. Many of these organisations became 5th Space architects designing and facilitating more and more such vibrant youth spaces in their contexts across many issues. From this cohort, the Youth Collective - ComMutiny emerged in 2008 first as a think-tank and then as a community of practice, learning and working together collectively across the country designing and running

powerful 5th Space public initiatives that brought us all together on common actions and inspirations.

We matured on this journey of collectivisation and recognised the need to make youth leadership a part of the larger narrative of society by building collaborations and synergies across sectors. The VartaLeap Coalition was born in 2019 with the mission ‘Every Youth a Jagrik and Every Space Nurtunig Jagriks’. The core strategic pillars of this coalition are (1) Amplify: Narrative building to shift norms on youth-centric development across sectors by creating a case for wider investment by influencing influencers and visibilising the impact of grassroots youth leadership; (2) Accelerate: Designing, piloting and scaling with soul and youth-centric experiences to address current psycho-social needs of young people. We do this by building capacities of youth-engaging organisations and youth workers and designing and developing cutting edge, co-created, youth-centric innovations to engage 1 million young people; (3) Aggregate: Bringing together and synergizing cross-sectoral stakeholders into a robust coalition with representation and active participation from media, donor, corporate, UN agencies, as well as civil society organisations.

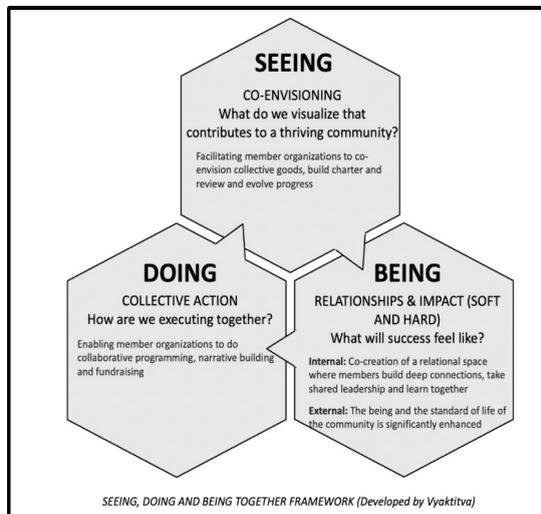


Figure 4

Here is where we have been having big learnings on what makes for a thriving collective in the youth leadership space. Bringing together

organisations to see a shared vision and develop a mission, and ‘seeing’ together is just a starting point in a collective. It is in the act of co-creating and ‘doing’ together and in the ‘relating’ with each other that members discover and develop their identities as collective members that is more than just being representatives of their respective organisations (see Figure 4). It is in this journey that member organisations find their true value in being intrinsic partners in the process and this movement from Me to We is the key to unleashing the power of not only the collective but also of the members themselves where everyone experiences immense learning and growth. Processes that enable members to connect to each other with empathy, confront each other with care and discover shared journeys while working together on the common goal enable members and the member organisations to become more supportive, more trusting with a realization that what they are doing together is bringing new gifts to themselves, to each other and the world and can have far greater impact than what they could do alone. This may be described as the real ‘being’ together of the collective. The labour of hard work and love bears fruit in creating tremendous solidarity—so much needed in society today, and certainly in building youth leadership at scale with soul.

End Note

In conclusion, the 5th Space is a transformative framework for nurturing youth leadership through intentional design and strategic collectivization. This innovative space transcends traditional environments, offering young people a platform to explore their identities, engage in self-discovery, and develop leadership skills through experiential learning. By fostering a culture of collaboration and innovation, the 5th Space empowers young leaders to tackle complex societal challenges with creativity, resilience and inclusivity across diverse identities. Leadership by design in the 5th Space is guided by FLOWING principles, honoring the feelings of youth, fostering intergenerational co-leadership, promoting ownership, entrepreneurship, inclusion and ‘refl-action’ with a focus on the now as much as the future. Moreover, 5th Spaces and their systemic impact can be best amplified for scale with soul through collectivization and coalition building of cross sectoral diverse stakeholders.

Social transformation begins with the recognition that ‘we do not have all the answers’. Young peoples’ ability to accept this and then explore, experiment, build cross-border friendships, breakthrough log jams of set notions to be the change they want to see shows us the way. It is hoped that this paper will inspire us all to keep flowing together and invest in and trust in these 5th Spaces. Ultimately, this framework serves as a catalyst for empowering the next generation of leaders to build a more just and equitable future, where young people are equipped to navigate the complexities of the modern world, and learn to thrive and lead social transformation to replenish and renew society for the better, just as the flowing river does to a parched field. It is this kind of power in flowing that is captured in the following words of Margaret Atwood:

Water does not resist. Water flows. When you plunge your hand into it, all you feel is a caress. Water is not a solid wall, it will not stop you. But water always goes where it wants to go, and nothing in the end can stand against it. Water is patient. Dripping water wears away a stone. (*Atwood, 2005, p. vii*)

NOTES

1. “As per the Report of Technical Group on Population Projections, constituted by Ministry of Health and Family Welfare, youth in the age group of 15-29 years comprise 27.2% of the population for the year 2021 which is expected to decrease to 22.7 % by 2036 but is still huge in absolute numbers of 345 million” (National Statistical Office, 2022, p. 8).
2. The by now well-known wellbeing challenge among young people needs us to squarely address the world of feelings.

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CHAPTER 9

Glory Days, Last Gasp or Somewhere in Between: Pastoralism in the North-Western Himalaya

Aniruddh Sheth and Vasant Saberwal

Introduction

This essay is an attempt to understand the current state of pastoralism in the Indian Himalaya, with a particular focus on Himachal Pradesh. At its core, it interrogates the long-standing notion that pastoralism is in decline—a normative trope that has persisted in mainstream discourse for decades (Bulgheroni, 2023; Christopher & Phillimore, 2023). Despite sustained opposition from the state (Saberwal, 1999) and enduring stereotypes about their way of life, pastoralists have demonstrated remarkable resilience, continuing to practice mobile livestock management while adapting to evolving economic, ecological, and social realities.

Drawing on primary research conducted in Kullu and Kangra three decades ago, supplemented by anecdotal insights from periodic visits to Kangra and extensive ongoing fieldwork across Himachal Pradesh, this essay examines the nature of change taking place within these communities. While Himachal Pradesh—and particularly its goat and sheep pastoralism—serves as the primary case study, the patterns described here are likely applicable to Uttarakhand and may also offer insights into future developments in Jammu & Kashmir. The Indian Himalayan region presents a distinct social, economic and political fabric that has helped support and sustain pastoralism through numerous turbulent albeit remunerative phases in both colonial (Bhasin 2011; Singh 2012) and post-colonial periods (Singh & Kerven 2023).

The material discussed in this essay is informed by extensive research and field engagement. Vasant Saberwal conducted his PhD research in the Kangra Valley, in the central part of Himachal Pradesh, during the 1990s, followed by work in the Kullu Valley in the early 2000s. Since then, there have been multiple opportunities for short visits to herding communities in Kangra. More recently, the Centre for Pastoralism, of which both authors are a part, has initiated fieldwork in Ladakh, Himachal Pradesh and Uttarakhand to map pastoral grazing routes and quantify the pastoral economy. Some of the analysis offered here remains speculative and should be viewed as hypotheses and potential avenues for further inquiry rather than as definitive conclusions.

Rather than viewing pastoralism as an institution in irreversible decline, we argue that it is undergoing a transition (Sheth & Saberwal, 2023), shaped by a combination of economic imperatives, policy interventions, and ecological shifts. Pastoralists are responding to new constraints and opportunities, adapting their herd sizes, modifying migration patterns (Sheth & Saberwal, 2023), and integrating livestock management with alternative livelihood strategies. Despite increasing restrictions on grazing resources due to agricultural expansion, conservation policies, and afforestation drives, pastoralism continues to hold economic significance.

Rather than a relic of the past, we offer the position that pastoralism is a dynamic and evolving livelihood. By examining its historical trajectory, economic drivers, and ecological impacts, we attempt to assess the state of pastoralism in Himachal Pradesh today, and to anticipate the directions it might move in, in the coming years and decades.

Patterns of Alpine Pastoralism

At its core, pastoral mobility is an adaptive response to environmental variability, particularly seasonal fluctuations in vegetation availability (Fernandez-Gimenez & Le Febre, 2006). As in other parts of the world, Indian mountain systems have long supported a distinct form of pastoralism, characterised by mobile animal husbandry that accesses vegetation along an altitudinal gradient (Chakravarty-Kaul, 1998; Mcveigh, 2004; Montero et al., 2009). Shepherds spend the summer and monsoon grazing the highly nutritious pastures at high

elevation, the winter grazing scrub forests in the Siwalik mountains, and the spring and autumn migrating between the two (Bhasin, 2011; Saberwal, 1996; Tucker, 1986).

The summer pastures are extensive, stretching across the Himalayas, from Kashmir in the west through Himachal Pradesh, Uttarakhand, Nepal, and into Arunachal Pradesh in the northeast. Thousands of square kilometres remain uninhabitable due to heavy winter snowfall, precluding agriculture and industrial use and limiting competition for these lands (Singh et al., 1996). Pastoralists typically spend up to four months in these high-altitude pastures, a time of plenty, with relatively low labour requirements to manage the herds (Sheth & Saberwal, 2023). Due to the brevity of the growing season—typically no more than six to seven months, when these pastures are free of snow—these landscapes exhibit an unusually high concentration of nitrogen compared to natural vegetation at lower elevations (Körner, 1989). This elevated nitrogen content makes alpine pastures exceptionally productive for animal husbandry. Their primary challenge in these months is the risk of predator attacks on their flocks, particularly from leopards and bears. The establishment of protected areas in the alpine zone is perhaps the biggest factor impeding herder access to summer/monsoon pastures (Chhatre & Saberwal, 2006).

Access to winter grazing is more complicated. Historically, herders were welcomed into these wintering areas by resident cultivating communities (Malhotra et al., 2021). Goat and sheep droppings were valued as manure, and pastoralists were invited to pen their animals on agricultural fallows. In the distant past, herders were paid for the service and provided food and water. Close ties often connected a herder family with a cultivating family, with the same herder returning each year to the cultivator families' fields. By the 1990s, the terms of this relationship were shifting, and while herders were still invited to pen their animals on fallow land, they were no longer being paid to do so (Saberwal, 1999). More recently, Malhotra et al. (2021) suggest that on account of growing agricultural intensification, with less and less land left fallow, such penning is becoming increasingly uncommon.

All in all, obtaining access to forage in the wintering areas is harder than it used to be. These are densely settled areas, inhabited by agricultural communities that also maintain some livestock. Both

shepherd and agricultural communities graze their animals on the village commons and scrub forests that typify the landscape. Industrial demands on some of these lands are increasing and Forest Department plantations serve to further reduce lands available for grazing (Ramprasad et al., 2020; Tucker, 1986;). These growing difficulties of accessing forage in the winter stands in sharp contrast with the open and largely uncontested access to forage in the summering areas.

Migration between winter and summer pastures adds another layer of complexity to pastoral movements. Herders spend up to a month each in the spring and autumn grazing their animals at intermediate altitudes—typically between 6,000 and 7,000 feet—just above their home villages. These mid-altitude forests provide adequate fodder, but their significance extends beyond grazing. In Himachal Pradesh and Uttarakhand (though not in Kashmir), many shepherd communities own land at these elevations (Chakravarty-Kaul, 1998). The time spent here allows them to participate in agricultural activities, assisting in field preparation for the monsoon crop in May and early June and in its harvest during October and November.

The shifting dynamics of grazing access not only reflect broader changes in agricultural land use but also signal a deeper transformation in the socio-political landscape that governs pastoral mobility. These shifts are not merely contemporary challenges but are embedded in a longer historical trajectory of fluctuating relationships between pastoralists, agrarian communities, and the state. To understand how pastoralists have navigated these evolving constraints, the following section provides an examination of historical governance structures that once facilitated their movements. The regulation of pastoral mobility, particularly through taxation and negotiated access, played a crucial role in shaping the viability of transhumant livelihoods. Tracing these historical arrangements provides critical context for understanding the more rigid and exclusionary frameworks that emerged during the colonial period, marking the beginnings of a more contentious relationship between pastoralists and the state.

Long-Term Hostility

In pre-colonial India, pastoralism was deeply embedded within regional governance and economic structures. States in the western Himalaya,

for instance, recognised pastoralism as a means of monetising landscapes that yielded little agricultural revenue. Unlike settled agricultural communities, which contributed to state revenues primarily through land taxes, pastoralists were taxed on their livestock and the products they generated, including wool, dairy, and hides. The movement of herds across seasonal pastures provided opportunities for rulers to impose grazing levies, transit duties, and market taxes, ensuring a steady flow of income (Singh, 2009; Tucker, 1986). These economic arrangements made pastoralism a valuable asset to pre-colonial polities, particularly in high-altitude regions where direct state intervention in land management was limited.

While pastoralists were often subject to taxation and tribute, they were not viewed as inherently disruptive to agrarian economies. Rather, pre-colonial governance structures accommodated their mobility by integrating them into systems of customary rights and negotiated access (Bhattacharya, 2019; Singh, 2009). Grazing rights, for example, were frequently governed by local agreements between herders and settled cultivators, often facilitated by regional rulers who sought to balance competing claims over land use (see Sheth (2021) and Ibrahim (2020) for an account of such governance in Kutch). This fluid and transactional approach contrasts with later colonial policies, which introduced rigid legal frameworks that prioritised individual property ownership over shared resource access.

The arrival of British colonial rule marked a significant departure from this earlier accommodation of pastoralism. Unlike their pre-colonial predecessors, colonial administrators viewed settled agriculture as the more productive and 'civilised' form of land use (Bhattacharya, 2019; Kavoori, 2005; Rao, 2002; Singh, 2009). As a result, considerable effort was devoted to transforming communal grazing lands into revenue-generating agricultural plots. This shift was particularly evident in Punjab, where the expansion of canal irrigation allowed the state to convert extensive pasturelands into privately-owned farmland (Bhattacharya, 2019). In the higher-altitude Himalayan regions, where large-scale agriculture was impractical, pastoralists faced a different but equally restrictive challenge—the increasing dominance of the Forest Department (FD) over land-use policies (Bhasin, 2011; Hoon, 1996; Saberwal, 1999).

Colonial forestry officials began to argue that pastoralist livestock were responsible for large-scale ecological degradation. Over time, this environmental critique evolved, drawing upon global narratives that framed grazing as inherently destructive. Pastoralism was blamed for deforestation, soil erosion, and disruptions to hydrological cycles—concerns that were rarely supported by empirical data specific to India (Saberwal, 1999; Tucker, 1986). Instead, the exclusion of pastoralists from forested landscapes was largely driven by the colonial state's desire to maximise timber revenues, with conservation concerns serving as a justification for their removal. These policies laid the groundwork for contemporary conservation and management efforts that continue to attempt to restrict pastoralist access to grazing lands. Between 1950 and 2005, the Indian government afforested an area equivalent to 10 percent of the country's land. Initially driven by timber production and conservation efforts, afforestation is now increasingly linked to climate change mitigation goals. Protected Areas (PAs) add another layer of complexity, as their establishment has fragmented grazing routes, even where limited grazing is still permitted.¹

In Himachal Pradesh, the Great Himalayan National Park (GHNP) serves as a striking example of the potential impacts of conservation efforts on pastoral livelihoods. Once integral to pastoral migration (Chhatre & Saberwal 2006), the herder presence in the park gradually reduced, with herders moving to alternative grazing lands. Historical data from the Outer Seraj region in Mandi district indicates that herders were once highly dependent on the GHNP's grasslands. Although changes in pastoral practices in the Outer Seraj cannot be solely attributed to the park, its establishment illustrates broader tensions between conservation policies and pastoral livelihoods.

The historical trajectory of pastoralist exclusion in India—from pre-colonial monetisation to colonial displacement and contemporary conservation restrictions—suggests that hostility toward mobile pastoralists has rarely been based on objective ecological assessments. Instead, shifting narratives about land use, productivity, and environmental protection have served as justifications for policies that have systematically reduced pastoralists' access to grazing resources.

The Politics of Access

Access to forage in both summer and winter grazing locations has been shaped by property regimes that evolved through a combination of customary use and formal allocations made by the pre-colonial state. These rights were later codified by the colonial administration through the issuance of grazing permits, which became the primary mechanism governing access (Singh, 2012). However, the issuance of new permits ceased in the 1970s, creating a closed system in which access is mediated through existing permit holders. A growing concern today is the rise of absentee herd owners who retain these permits and rent them out to individuals who own livestock but lack grazing rights. While this has led to friction among active pastoralists, who often view the arrangement as an unfair constraint, it has not fundamentally altered historical access patterns. The practice has persisted for nearly five decades, and herders have long factored the cost of renting access into their livelihood strategies.

In Himachal Pradesh, herders in both summer and winter grazing areas hold established rights to specific tracts of land—referred to as *dhars* in the summer pastures and *bans* in the winter grazing zones. These rights, historically inherited from father to son, have provided continuity and predictability in grazing access. However, access to forage is not rigidly fixed to land tenure alone. Instead, pastoralists have long relied on a flexible system that allows them to adjust to changing herd sizes and resource availability. Herds are frequently merged or split, with herders strategically aligning with others who hold complementary grazing rights. For example, a herder without access to a *dhar* may be accommodated by one who does, while the same principle applies in winter grazing areas.

This fluidity extends beyond herd management to the continued value placed on grazing permits, even among families that no longer maintain viable herds. These permits are renewed year after year and leased to those who lack official access but need grazing land. While this practice has sparked debate, particularly among herders who would prefer direct control over *dhars* and *bans*, it has not fundamentally disrupted access arrangements. Instead, it underscores the adaptability of pastoralists, where grazing access remains negotiable as long as connections to rights holders are maintained. This flexibility is central

to the persistence of pastoralism and its evolving relationship with land use and resource governance.

Pastoralism in Transition

Conversations with pastoralists over the past thirty years reveal a persistent desire to leave herding. In the 1990s, a herder spoke of how “*main bartan manjhwa loonga apne ladke se, lekin yeh kaam nahin karwaoonga*” (I’ll have my son wash the dishes, but I won’t make him do this work). He would prefer his son suffering the indignity of washing dishes in a restaurant to being a herder. A herder we spoke to more recently said he wanted to give up herding. When we asked why, considering the potential for wealth creation, he asked what he would do with money, if the quality of his life was so compromised. He contrasted his life with that of his neighbour: “*Meri chaubees ghante ki duty hai. Mera pados, sarkari naukri se ghar aata hai, aur woh aur us ki biwi, poori shaam television dekhte hain.*” (I have a 24-hour duty. My neighbour comes home from his government job, and he and his wife spend the entire evening watching television). A life of constant vigil and hard work, contrasted with one of leisure.

There is also quantifiable evidence of a decline in herding. Young men are now largely absent from herder camps. In the village of Bara Bangahal where one of us did field work in the 1990s, there are perhaps half as many households invested in herding. In Mandher and Karnathu villages on the southern flanks of the Dhauladhar, the number of still-herding families is half of what they were in the 1990s while herd sizes have dramatically reduced (A. Jasrotia, personal communication, 2025).

Relationships with settled farming communities, which once provided pastoralists with winter grazing opportunities, have also weakened. Previously, these relationships were cemented through fictive kinship, where herders and farmers referred to each other as brothers (*bhaitu*) and sisters (*behani*), sometimes even performing ritual acts such as tying rakhis. Recent research by Malhotra (2021) suggests that such relationships have significantly eroded, paralleling a broader decline in farmer dependence on pastoralists for manure. This shift is tied to intensified agriculture, driven by borewells that enable double or triple cropping and the increasing use of chemical fertilizers.

Another marker of change is the evolving nature of labour contracts in herding. In the 1990s, a *puhal* (hired labour) would receive 40 animals for a four-year contract, with all offspring retained by the *puhal*. Over a four-year period, and barring losses to disease or weather-related events, a *puhal* could build a herd of over 100 animals; the equivalent of a landless labourer owning a mid-sized farm. Such upward mobility was not, of course, guaranteed given that disease could wipe out a herd. But the arrangement does point to the fact that *puhals* had a long-term investment in herding, with the intent of building up their own herds. Today, labourers prefer short-term contracts, opting for monthly, seasonal, or annual wages in cash rather than investing in herd-building. This, perhaps, is the clearest sign of declining long-term commitment to herding as a livelihood.

Yet, pastoralism is not disappearing—it is transforming. Between 2023 and 2024, we conducted a survey across areas in the districts of Chamba, Kullu and Kinnaur with the intention of understanding the magnitude and landscape specificity of pastoralist transitions. Out of the three districts, Kullu's Great Himalayan National Park (GHNP), established in 1984 has the most profound patterns of change. Envisioned as a sanctuary for the region's diverse flora and fauna, spanning 754.4 square kilometres, the park encompasses the river valleys of Sainj, Tirthan, Jiwanal, and Parbati. A five-kilometre-wide eco-zone to the west houses 122 villages, communities that for generations had woven the park's landscapes into their livelihoods, relying on its pastures for grazing and its forests for foraging and trade.

The final notification of GHNP in 1999, issued by the Himachal Pradesh government, formalized the establishment of the park under the Wildlife Protection Act 1972, while also settling recognised traditional rights of local people (including pastoralists) in the area. This profoundly altered the relationship between pastoralists and the landscape. With grazing rights revoked and access to key resources severed, pastoralists who had long moved with the rhythms of the land found themselves locked out of a landscape they had stewarded for centuries (Chhatre & Saberwal, 2006). The consequences of this exclusion unfolded over the next two decades, reshaping patterns of pastoralism and compelling herders to reconfigure their relationship with mobility and livestock management.

A survey of 16 villages in the Tirthan Valley sheds light on these transformations. Where once herders traversed six migratory routes, each with between 25 and 35 halt points, the present-day picture is starkly different. With access to the park's alpine meadows restricted, pastoralists are now confined to the periphery, their flocks competing for limited fodder. Over the past two decades, the total number of sheep and goats in the valley has plummeted from 6,783 to 2,931—a 60 percent decline. The number of households involved in herding has also dropped, but much less precipitously—from 81 percent of households to 71 percent—a 12 percent decrease. The average herd size per household has similarly dropped from 52 to 19, marking a 68 percent reduction. However, a closer look reveals a more nuanced shift: while large herd ownership has dwindled, there has been a *rise* in the number of smaller herds. Households managing fewer than 50 animals have *increased* in number, from 22 percent to 50 percent. Indeed, the proportion of households involved in herding has dropped only marginally, from 81 percent to 71 percent. Pastoralism endures, albeit in a more fragmented and constrained form. The closure of access to the park has clearly played a role in the reductions in animals managed in the region, but these numbers are broadly similar to those reported from other districts.

The practice of maintaining smaller herds has also altered practices of herd management. The practice of hiring contract herders has gained traction, with villages pooling animals and employing specialised herders, or *puhals*, to manage collective flocks in the summer pastures. This allows households to sustain a connection to commercial sheep- and goat-rearing while diversifying their economic activities. The changing nature of pastoralism in the Tirthan Valley is not a simple story of decline; rather, it is one of adaptation, where practices are reshaped to fit within an increasingly regulated and resource-scarce landscape.

Similar transitions are evident in Chamba and Kinnaur districts, where smaller herds continue to exploit summer grazing grounds but are increasingly managed locally in winter. In other words, the practice of taking herds down to the wintering grazing areas in Sirmour is becoming increasingly rare. In Kinnaur, the shift from large-scale migratory pastoralism to more localised management has

been driven by multiple factors, including road expansion, economic diversification, and shifting labour dynamics. Three to four decades ago, the emergence of apple cultivation, hydropower projects and road and infrastructure development projects altered the district's economic fabric, reducing reliance on pastoralist livelihoods. While larger herds still migrate across the landscape, many households now manage smaller flocks at home, sustaining them through the winter with stall feeding. This shift mirrors broader transformations in pastoral economies, where historical migratory systems are being reshaped by access to infrastructure, alternative income opportunities, and changing generational aspirations.²

The transition to such herding amongst Kumaon shepherds in Uttarakhand appears to have taken place two to three decades earlier (Theophilus, personal communication, 2025). There, households own smaller herds, which are sent up to the alpine pastures with a professional herder. Upon descending in summer, these small herds are returned to their owners, with only a small minority of herders continuing to winter pastures.

A broader comparison with buffalo-herding Gujjar pastoralists in Chamba (Axelby, personal communication, 2025) and Uttarakhand, who are shifting their migration patterns in response to changing conditions, further highlights the adaptability of pastoral communities. In contrast to the declining use of high-altitude pastures among sheep and goat herders, emerging data from Centre for Pastoralism's mapping data in Uttarakhand shows that out of 320 Van Gujjars surveyed, 34 are now opting to spend summers in lower-lying areas, drawn by the accessibility of milk markets in the plains. Unlike sheep and goat herders, who primarily earn their income by selling animals after descending from alpine pastures in October or November, Van Gujjars depend on daily access to milk markets, an economic incentive for maximizing time in the plains. This divergence in economic priorities illustrates how pastoral livelihoods are not simply in decline but as Nori (2021) describes, they begin to "respond" to shifting economic and environmental pressures.

The Economics of Pastoralism

This desire to retain a toe-hold in pastoralism warrants enquiry and the most straight-forward explanation seems to stem from the economic

returns associated with shepherding. Understanding the economics of pastoralism is a first step towards establishing what is likely to be the strongest reason that pastoralism will continue to transform in response to push and pull forces rather than give way to settled systems of production. Building these insights on pastoralism allows for a discussion of its relationship with markets. In the Himalaya, for example, pastoralists are deeply embedded in commodity economies. Whether they raise sheep, or other livestock, they engage in the sale of milk, wool, and meat. The rationale for pastoralism to persist lies in the economics of animal husbandry. Contrary to the common perception of pastoralism as a subsistence-based livelihood, it is, at its core, a commercial enterprise driven by market logic. While pastoralists do consume portions of their produce—such as wool, milk, and occasionally meat—herding is primarily geared towards maximising returns. Shepherding in Himachal Pradesh operates on a substantial scale, particularly in districts like Chamba, Kangra, Kullu, and Kinnaur, where livestock rearing remains a dominant livelihood. Shepherds earn the majority of their income through sales to butchers and intermediaries in the meat value chain. Historically, wool was a significant source of revenue, but its prices have stagnated, leading to a decline in its economic importance. Goat products are rarely sold in the market—goat milk is typically consumed by herders in the form of milk, buttermilk, or butter, while goat hair is occasionally used domestically for making ropes or blankets.

Pastoral households adopt a range of livelihood strategies, often marked by a division of labour. Among agro-pastoral communities,

Table 1: Composition of Representative Herd of 50 sheep and 50 Goats over a Year

<i>Herd size over one year</i>	<i>Count</i>
Initial herd size	100
Lamb & kids born	60
Sale of adult males	0
Sale of adult females	15
Sale of sub-adult males	30
Sale of sub-adult females	0
Herd mortality	12
New total herd size	103

one family member typically manages the herd while others engage in agriculture or horticulture. Additionally, household members may take up wage labour, salaried employment, or even shopkeeping. This diversification provides economic stability, ensuring multiple revenue streams while sustaining the collective effort required to maintain pastoral livelihoods.

Table 2: Revenue and Expenses of a Representative Herd Over a Year

Herd income and expense over one year	
Expense	Amount
Food, fodder & other misc. expenses	60,000
Permit & tenure	30
Shearing	1,300
Revenue	
Live animal revenue	2,70,000
Wool revenue	4,500
Total profit	2,13,200

The above modelling exercise examines the economic viability of migratory herding by analysing herd composition, reproductive rates, revenue streams, and associated costs. A representative herd of 100 animals—comprising 50 sheep and 50 goats—produces approximately 60 young annually. Of these, 30 young males are typically sold, while 30 young females are retained to sustain the flock. Additionally, around 15 ageing animals are culled and sold each year, and natural attrition due to disease, predation, natural disasters, and theft results in an estimated loss of 12 animals annually. Revenue is primarily derived from livestock sales, with mature sheep and goats fetching an average market price of ₹10,000 per animal, while younger lambs and kids (under six months) are sold for approximately ₹4,000 each. Wool production serves as a secondary income source, with a conservative estimate of 1.8 kg per sheep per year. Seasonal price variations result in an average wool price of ₹50 per kg, generating ₹90 per sheep annually, though shearing costs of ₹13 per season slightly reduce net earnings.

Despite its relatively low-input nature, migratory herding entails recurrent expenses, including grazing levies, fodder, salt, and general upkeep, amounting to approximately ₹60,000 per year. Permit holders benefit from reduced grazing taxes, at ₹0.20 per sheep and ₹0.40 per

goat, though larger herds may require additional labour, increasing operational costs. Given these financial parameters, such a herd is estimated to yield an annual profit of approximately ₹2,00,000. This calculation highlights the economic rationale for pastoral livelihoods while also underscoring the vulnerabilities associated with fluctuating market conditions, environmental uncertainties, and labour constraints, all of which shape the long-term sustainability of migratory herding.

Over the past three decades, pastoralism has continually adapted to market opportunities, particularly in the meat trade, while navigating various challenges. Profitability calculations from twenty years ago indicate that pastoralism was financially viable then, as it remains today. Table 3 illustrates how income derived from a herd of 100 animals has shifted over time.

Table 3: Comparative Figures of Income and Expenses from Sample Herd in 1993 and 2023

Economics in a Sample Herd of 100 Animals – 30 Years Ago and Today						
	Commodity	Units	Price in 1993	Price in 2023	1993	2023
Revenue	Wool	90 kg	50 per kg	50 per kg	4,500	4,500
	Sub-adults	30 Lamb	400 per head	4,000 per head	12,000	1,20,000
	Adults	15 Adults	700 per head	10,000 per head	10,500	1,50,000
Total Revenue					27,000	2,74,500
Expenses	Fodder, herder expense and grazing costs				10,030	61,300
Total expenses					16,970	2,13,200

Thirty years ago, wool, honey, and ghee were sold at roughly the same price—₹90-100 per kilo. Today, while ghee and honey command prices in the hundreds, wool fetches barely fifty rupees per kilo, reflecting its diminished economic significance. However, market fluctuations, declining wool prices, and shifts in land use policies continue to affect its economic sustainability and viability. While pastoralism engages extensively with markets, it does so on its own terms, maintaining internal regulations on herd reproduction, breeding practices, and mobility. These processes illustrate how pastoralists actively negotiate economic transitions rather than passively conforming to external pressures.

Somewhere in Between

To return to the title of this essay – Glory days, last gasp or somewhere in between – pastoralism in the Indian Himalaya is almost certainly at a point of inflection. There is a clear and noticeable decline in the numbers of animals being herded by pastoralists, as can be seen in the Kullu data. But there is also evidence of a growing number of households with a stake in pastoralism, albeit a much smaller stake than historically associated with pastoralism.

And so, rather than representing pastoralism as being in outright decline, we see the changes it is undergoing as better understood in terms of a transition (Sheth & Saberwal, 2023)—one shaped by a continued interest in mobile animal husbandry among both pastoralists and non-pastoralists. This interest is primarily driven by the economic opportunities that pastoralism continues to offer. Across the country, these opportunities remain substantial, whether in the management of goats and sheep for meat, the herding of buffaloes for milk, or the rearing of cattle in Tamil Nadu for dung. In the Deccan, shepherds derive significant income from the dung economy, further underscoring the economic viability of pastoralism. As Peter Phillimore’s 1982 PhD thesis puts it “a flock is undoubtedly the most productive form of capital”, referencing specifically the income and value it can generate (Phillimore, 1982). Phillimore speaks of a flock’s “liquidity” especially in comparison to major assets like cultivated land. Access and ownership of capital of this kind, in combination with the mobility (a resilience mechanism that adapts and responds to variability in climatic conditions as well as availability of fodder sources) required to keep these animals, presents a livelihood with greater resilience compared to those without animals. The desire to retain a toehold in pastoralism is therefore illustrative of the longer-term economic reality that livestock will always remain a more resilient asset, likely to have sustained demand in the years and decades to come. This transition is also visible at a local scale in the Himalaya, where economic incentives continue to support mobile herding even as pastoralist families diversify into other occupations. In Kinnaur, for instance, Bihari labourers have increasingly been employed in herding, filling the gaps left by local pastoralists moving into horticulture and other income sources. In Kullu, *puhals* who previously worked in agriculture are

turning to sheep and goat herding, drawn by high meat prices and the relative economic stability it offers. Similarly, in Chamba, an increasing number of non-pastoral households are entering herding, capitalising on the demand for livestock and the availability of grazing resources in summer pastures.

While large migratory herds are becoming less common, small-scale mobile pastoralism is likely to persist. Instead of long-distance migration to winter grazing grounds, many herding families are opting for shorter seasonal movements, ensuring that livestock still benefit from high-altitude summer pastures while minimising labour and logistical challenges. This shift reflects broader trends in pastoralism—where the practice remains viable but adapts to changing socio-economic and ecological conditions.

Ultimately, pastoralism in the Himalaya is not disappearing but evolving. The continued demand for meat, combined with the availability of hired labour and alternative forms of herd management, ensures that mobile livestock rearing will remain a component of the region's agrarian economy. While the scale and structure of herding may differ from the past, the fundamental logic that has sustained pastoralism for centuries—its economic viability and adaptability—remains intact.

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NOTES

1. See Saberwal (1996) and Chhatre and Saberwal (2006) for accounts that suggest the limited success of these efforts at restricting herder access to grazing lands, at least within Himachal Pradesh.

2. Our data shows that while many pastoral households in Chamba and Kinnaur have reduced herd sizes and adjusted migration strategies, Chitkul in Kinnaur remains an exception, with 81 percent of households still engaged in pastoralism. In Chamba, local factors shape adaptation, highlighting that these shifts reflect a dynamic reconfiguration rather than a uniform decline.

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CHAPTER 10

Crafts, Clusters and Institutional Innovation: Thoughts for Policy

Keshab Das

Introduction

Crafts, it so appears, has not been a sector about which much is really known or discussed, especially, as an area of rigorous academic engagement. Despite this, it seems to be a very familiar subject. In our times, where neoliberal policy makers and economists are obsessed with high-speed growth backed by advanced technology of the 21st century, bringing back concerns of the craft sector as a policy question might appear redundant. However, there are strong grounds for examining the potential of, and challenges facing, the craft sector within a largely agrarian economy such as India. Given that the agriculture sector has not been performing impressively—by never having crossed an annual 4 per cent growth rate—income and employment from the non-farm activities assume high significance for the rural population, a large proportion of whom do not possess any land or are marginal farmers with little to expect from the small and often degraded or unirrigated patches. With landless households accounting for a staggering 38 per cent of all rural households and the marginal and small farmers accounting for 85 per cent of cultivators, much of the burden of providing rural income and employment rests on the so-called non-farm sector.

As data from both the National Sample Survey (NSS) and Periodic Labour Force Survey (PLFS) suggests, since 1977 there has been a steady decline of rural male employment in the agriculture sector (Gupta, 2019). While the decline is less sharp in case of rural female workers it only suggests that they are more tied to farm work (non-remunerative) than men who have moved outside their villages

for work. The non-farm activities in rural areas were largely confined to the tertiary sector (mostly in the form of construction labour) and hardly related to manufacturing—within which crafts could be considered. The most disturbing trend, however, has been the steady rise of marginal and small farmers and a high incidence of landless agricultural workers. The employment options from agriculture have been limited and declining as well.

The basic concern being raised here is over the employment-income question for a large number of people (usually, rural) who are enmeshed in an agrarian economy that is active may be for four or five months in a year, and is usually neither diversified nor bountiful. Hence, oftentimes, when the rural youth, particularly, look for employment opportunities in local places they, typically, choose the other desperate option of moving out to unwelcome urban areas within their own state or in other states where often they work in the informal sector and are paid very little. As umpteen media reports presented during the COVID-19 pandemic indicated, the plight of thousands of workers was palpable as they walked back to their villages without any state or employer support.

Given the limited scope for employment in agriculture, one of the key areas of the non-farm economy has been the craft sector that typically uses local resources or raw materials, local skills or knowledge and operates within local markets. In the Indian context, both handlooms and handicrafts account for the craft-artisanal enterprises. Some estimates suggest the existence of around 3000 handloom clusters and another 3000 handicraft clusters spread across the geography of India. It needs to be mentioned here that there have been several crafts which have been languishing, with very little hope for these crafts to move forward.

Neglect of Rural Industrialization and Crafts

Notwithstanding the policy recognition early on (as in the First Five Year Plan, for instance) of the potential of the craft sector in contributing to boosting the rural economy through large scale job creation, the process of planning at least since the Second Five Year Plan had crassly sidelined the craft sector or rural industries. A close review of state policies on industrialization at the national level suggests that

rural industrialization was never considered a vital area that needed comprehensive attention (Das, 2023). Even while the Industrial Policy Resolution of 1956 recognized cottage and small scale industries as being capable of generating huge employment opportunities in rural India and facilitating the narrowing of regional income gaps and the utilization of available capital and skill (Das, 2023, p. 8; Raj, 1956), the sector was assigned a secondary role—that of supporting the large enterprises as their appendages. The policy vision was constricted in that it failed to appreciate the distinctive role rural industries had to play in economic regeneration. That the apathy persisted over the decades is a sad commentary on the urban and industrial bias in development strategies designed at the highest policy level. Despite the evocation during the early years of planning in India that the country’s economic progress would be based on a planned strategy of “walking on two legs” (Chakravarty, 1987, p. 16) the rural micro and small enterprises, particularly, craft-based enterprises were left clamoring for attention from the state and remained deprived of support in the form of credit, power, technology and other business services. It seemed like policy attention to rural enterprises was being construed as akin to a slightly improved version of the then rural poverty eradication programme. For instance, a contemporary expert, Dagli (1976) had observed:

We consider village industries as something primitive which the urban power elite neglect through ridicule. An enterprising land speculator will easily get a credit of Rs. 10 crores to build a luxury hotel, but no bank will give even Rs. 10 lakhs for Ambar Charkhas which stand between semi-starvation and two modest meals a day. (p. ix)

Within rural industries, craft and artisanal enterprise clusters, in particular, have been severely undermined. The typical approach to address this sector has been to announce certain financial loan provisions for them through banks. A large number of these enterprises are tiny and often fall in the domain of the informal sector. Thus, they are either ineligible for such loans or a lack of interest prevents these enterprises from accessing these loans that might be available to them. But the larger issue, in the case of craft clusters, relates to infrastructure or what is also described as ‘real services’ in the cluster literature. These relate to certain kinds of business-centric and/or cluster-centric

infrastructure linked to the higher stages of innovation systems and wider markets. Such services cannot be accessed through piecemeal loan offers or awards to a few craftspersons. Such spatial or locational deficiencies can potentially derail the growth of a crafts business. While crafts may be a matter of people's pride as an expression of their tradition and heritage, for those who are engaged in them as a business, it is a livelihood option. Hence, crafts have to be seen and treated as any other business with the essential requirement of investment in business infrastructure.

In fact, notwithstanding claims to render rural enterprises competitive and infuse them with technological dynamism, the steady decline in the share of funds allocated to the so-called village and small industries in each plan since the 1980s is disturbing. The proportion of village industries in gross bank credit has plummeted since 1995. As shown in Figure 1, the data from the Reserve Bank of India (RBI) for 1995 to 2013 (essentially, during the post-reforms period) shows a major drop in the share of village industries as part of the gross bank credit. It indicates that village industries in general and, within them craft-based enterprises, have been deprived of adequate financial resources from the formal banking sources which is the minimum level of support that policymakers could have ensured for this segment of the rural economy.

Another dimension of policy apathy relates to the exclusion of several craft forms and activities from the ambit of policymaking due to the ambiguous and limited definition of crafts in policy frameworks which fails to identify many activities as crafts. Take for instance the following conceptualization of the Development Commissioner (Handicrafts), Ministry of Textiles of the Government of India: "Handicrafts are mostly defined as items made by hand, often with the use of simple tools, and are generally artistic and/or traditional in nature. They are also objects of utility and objects of decoration" (Development Commissioner (Handicrafts), n.d., para. 1). However, there are several *non-traditional* craft products which may be included as artisanal products as well. Some examples from Gujarat include kite making, *rakhi* making, emboss paintings and rogan art. These and many other such products are thus left out of whatever little state support the crafts sector receives due to the ambiguity in how crafts are defined in policy documents.

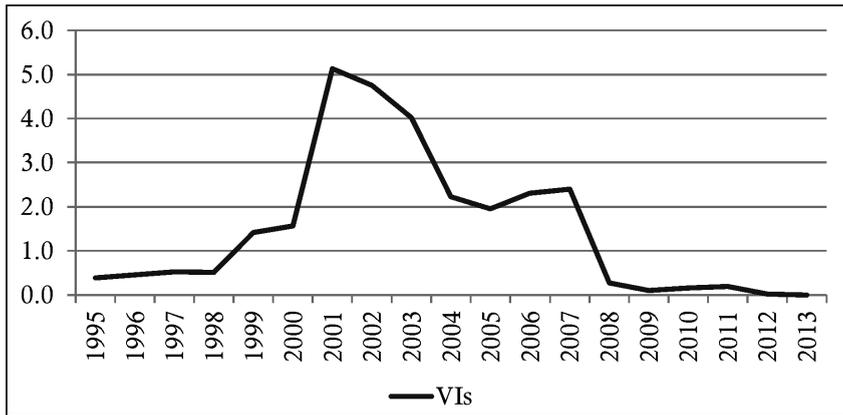


Figure 1: Share of Village Industries in Gross Bank Credit, 1995-2013

Source: Reserve Bank of India (n.d.)

Persistent policy neglect over the decades coupled with certain characteristics intrinsic to the nature of the craft sector per se have subjected this sector to a variety of exclusions. As shown in Table 1, these have been classified as 5 Ss-- spatial, sectoral, systemic, seasonal and statistical exclusion.

Table 1: Forms of Exclusion in the Rural Craft Sector

<i>Form</i>	<i>Challenge</i>	<i>Manifestations</i>
Spatial	Conditioned by Geography	Poor natural endowments Long distances to the market Inadequate/ poor quality infrastructure
Sectoral	Disadvantaged by Specialization	Products/ services/ skills no longer in demand Low earnings Dwindling raw material sources (mainly, natural) Absence of innovation
Systemic	Marginalised by institutions	Dysfunctional/discriminating agencies, policies, practices and norms of the state and/ or society (formal or informal)
Seasonal	Constrained by occasion/ periodicity	Seasonal availability of raw material (mainly, farm or forest produce) Demand linked to occasions/ events/ festivals
Statistical	Neglect of collecting and sharing comprehensive official statistics	Non-existence or non-availability of data/ information on the sector

Source: Das (2020, p. 36).

While the table is self-explanatory, it is important to emphasize the implications of the last one—statistical exclusion, i.e., suggesting a complete neglect of efforts to collect data on this sector and also making the collected data public. And this statistical exclusion that the sector faces (apart from several others, viz., sectoral, seasonal, systemic and spatial), it is, arguably, one of the key issues that needs added attention from a policy angle. A huge sector of the economy about which comprehensive information on basic variables are not available poses a dangerous question on policy initiatives. For instance, little or nothing is known about the number of crafts, how many are engaged in various tasks of the sector, what kind of market is accessed, whether or where products are exported, what types of energy are used, what level of technology is currently operational in the firms, what are the sources of finance and several other aspects. We, in fact, do not know anything about these and variety of issues plaguing this diverse, dispersed and yet significant sector because official statistics covering this sector simply does not exist.

It is important to note that in post-independence India, the only occasion when a handicrafts census was done was in 1995-96—three decades ago!¹ In order to arrive at a reasonably likely figure of even a basic variable such as the ‘number of craftspersons’ in India there exists no agreeable statistics from credible state or non-state sources. For instance, as Table 2 indicates, such data around a given year (or thereabouts) show distinctly different numbers. While the Census figure stays way above that of the NSSO, even using the same source (NSSO: 2004-05) a wide variety of estimates have been made (National Sample Survey Organisation, 2006).

Table 2: Crafts Population Based on Different Definitions in Thousands (NSSO: 2004-05 and Census of India: 2001)

<i>Source</i>	<i>CCI-census</i>	<i>CCI-NSSO</i>	<i>DC-H-NSSO</i>	<i>LR-NSSO</i>
All India	31098.72	16794.73	9186.13	11518.58

Notes: CCI – Crafts Council of India; NSSO – National Sample Survey Office; DC-H – Development Commissioner, Handicrafts; and LR – Liebl and Roy (2004).

Similarly, a compilation of hugely conflicting data on the number of artisans in India has been presented in Table 3. In the Economic

Census in 2013, for the first time, two questions were added to elicit information on the number of artisans: (i) those engaged in the craft for the last 180 days or more; and (ii) those who are directly responsible for sales and product. However, such data still is not very reliable and is limited in scope. Even in the pre-independence period the censuses, as for instance, the Census of India for the decadal years 1911, 1921 and 1931, also largely and significantly missed out on the contribution of women artisans in this huge sector (Das, 2017). Moreover, there have been several crafts based on wood, metal, stone, paper, cane, and bamboo which have not been covered in many of these censuses. That such pathetic data anomalies impairs policy making needs no underscoring. Hence, this is a sector that needs, on a priority basis, detailed censuses of both the handlooms and handicrafts and many new and relevant variables must be included in the data collection instruments. Mere estimates on the number of artisans would serve little policy purpose; it is essential to know about the workers, technology, financing, markets and a wide range of business-related information.

Table 3: Estimates of Artisans by Different Sources

<i>Source</i>	<i>Artisans (Millions)</i>
NCAER (1995-96)	4.8
Artisan identity cards provided by the Development Commissioners of Handicrafts and Handlooms	6.5
Census 2011 (of which 55% are women)	6.8
SRUTI Status Report on India's artisans 1995, based on 8 crafts	7.5–12.5
National Sample Survey	8
'Craft workers' or 15% of manufacturing workforce & 8% of GDP (World Bank)	9-10
Official estimate, Ministry of Textiles (3.5M weavers, 7M other artisans)	10-11
Sixth Economic Census 2013	12-16
D N Saraf (1982)	15
By 2012: 11th Five-Year Plan forecast	15
Madras School of Economics (2011, extracted from Census 2001)	31
Attributed on-line to Yojana (2019)	70
Indian Institute of Foreign Trade (2009)	73
Planning Commission Task Force (2005)	145-178
Crafts Council of India/MSE, 2011	200
Ravi Venkatesan (former Chairman, Microsoft 2015)	250

Source: Chatterjee (2020, p. 18).

Craft Clusters on the Ground: Some Insights for Policy

The spaces of artisanal production and related activities provide a deeper insight into a range of issues concerning their functional dynamics, advantages and constraints. In the absence of useful and comprehensive empirical information about crafts as well as the respective clusters it is extremely helpful to have a field-level understanding of the various discrete processes or stages of production; raw material procurement, storage and use; organization of production; and aspects of distribution, pricing and marketing – locally, nationally or globally.

Based on my own intensive field survey experiences, examples of four diverse craft clusters will be presented here to gauge some of the opportunities and challenges of this sector and to consider, based on empirical evidence, whether policy had played any helpful role.

It may be held that, the about 400-year-old Terracotta cluster of Molela village in Rajasthan would exude dynamism as the products here have been accredited with the Geographic Indication (GI) certification. The key raw material used in the terracotta objects (figurines, wall/roof-hangings, lampshades, perforated decorative potteries and so on) made here in the houses of villagers is clay (that has some unique binding properties) procured from the local river bank. These products, produced almost entirely by hand, are brittle and also often heavy. Little bank support is available to the artisans who are neither formally-organized into any association or collective body nor supported by any civil society organization to address challenges facing cluster-centric non-competitive issues, including procuring loans from the formal banking system, wider market reach, and even access to local clay. While the nature of these products limits substantive innovation (painting with varnish, for example, is rarely attempted), improvements in production processes—such as using electric table fans instead of palm-leaf pankhas for firing bhattis and drying, or introducing modern wrapping and packaging—would only raise costs, making the products uncompetitive in a fully informal production cluster (Das, 2020). In the absence of any such business support, artisans sell their products in the open on the dusty streets around the famous Shrinathaji temple not far from the cluster.

Further, even as the terracotta craft has been certified with the Geographical Indication (GI) tag, enquiries revealed that no follow-up

action was taken by the GI Registry to promote the marketing of products here. In fact, during the field survey a few copies of the GI training material were found strewn in the village common waste dumps (*ukardas*). However, the larger and more serious issue has been the loss of access to clay by the local artisans, as land and real-estate dealers had taken control of the open-access land. This challenge is echoed across numerous craft clusters that depend on specific natural resources available in certain locations. Once those sources resources—forests, land, waterbodies, and the like—are lost or out of bounds for the artisans, the concerned crafts would begin to decline and may eventually collapse.

The Barpeta bamboo cluster in Assam specializes in super-fine bamboo craft producing high grade intricate decorative and utility items. The superior skill level of local artisans and abundant supply of bamboo would have made this cluster a source of highly-valued craft production and business. Despite some state government intervention in promoting the cluster there is hardly any marketing support that the mostly home-based enterprises receive. Towards enhancing the productivity of the craftspersons there is a need to introduce certain basic technological inputs without compromising on the ethnic quality. This would enhance the productivity of the workers, particularly, by introducing a basic machine which would cut much more uniform slivers from bamboo at a faster rate than what is done manually. That this intervention would hinge upon receiving a bank loan to purchase the machine cannot be overstated. On a different occasion, a brief discussion with a master craftsperson from Tripura (winner of President's Gold Medal for his artefacts) revealed that there was very little support for bringing in certain kinds of basic mechanical or electrical gadgets which would improve their business through an increase in productivity.

This brings into focus the role played by certain dedicated state interventions such as the Scheme of Fund for Regeneration of Traditional Industries (SFURTI) created solely to provide for what are known as the common facility centers (CFCs) or small facilities like a workshop where craftspersons get trained in various craft processes, usage of appliances and so on. As the field survey showed, at the SFURTI centre located at the Barpeta bamboo craft cluster, there was

very little use made of this CFC as most machineries and instruments kept for training purposes were not used by local craftspersons, who preferred old/traditional tools for fine bamboo work. This experience suggested that it is not enough to have a scheme unless one ensures training facilities actually benefitted the local crafts persons. If the cluster traditionally never used modern, electricity-run tools/machines/motors then the CFC needs to equip itself in keeping with local knowledge and practices.

The Sujani quilt cluster in Bharuch, Gujarat has been around since the 1860s and largely consists of local Muslim artisans. The specialized manual looms produced colourful coarse quilts that had good demand within the state and beyond, including some that were exported for a period. During our survey, it was difficult to locate even a single Sujani craftsperson. However, as some locals informed us, around 418 artisans were engaged in this cluster which now has a SFURTI CFC set up by the Ministry of MSMEs at a cost of about Rs. 247 lakh. The CFC had just one worn-out and somewhat junked machine that was originally used to make Sujani quilts. And there were another 26-27 modern high-end power looms that rolled out hundreds of meters of white sarees meant for a particular large women-centric organization in Rajasthan. This is a CFC that has hardly any concern for or activities related to the Sujani quilt making. It calls for additional provisions in policy beyond sanctioning a CFC for a rural cluster. It calls for regular inspection to ensure the craft training has been imparted to local artisans and the facility is being utilized for the purpose for which it has been established.

In yet another craft cluster, over a century old and located at the small village town of Athani and its neighbouring villages on the border of Maharashtra and Karnataka, craftspersons have been engaged in tanning leather and making Kolhapuri *chappals* or sandals. These craftspersons belong to the socially-marginalized Samagara community. This distinctive footwear with its natural, airy, rugged and attractive features is not just popular in the aforesaid two states but has also been preferred by users in other states and even international tourists. As traders from these states and far beyond purchased these products often at very low prices, little attention was paid to the promotion of this product. At this cluster almost four decades ago a huge workshop

had been set up by the Central Leather Research Institute (CLRI) of the central government which practically has remained unused as the entire facility has training provision for making leather boots in a cluster known for its signature product—Kolhapuri *chappals*. Hence, hardly any local entrepreneur or worker enters its premises.

However, in the same cluster a non-governmental organization (NGO), namely, ASCENT, intervened very differently by establishing a training college there, familiarizing local workers in using certain machinery meant for specific processes of the Kolhapuri *chappal* making, imparting soft skills such as managing finance, keeping track of stocks and imparting knowledge on procedures for exporting. All these were done without manipulating or discarding the local traditional practices or techniques of tanning and footwear making. The group of tanners and craftspersons formed at the cluster at the behest of the NGO helped promote the craft as a collective endeavor. Craftspersons in this cluster were made conscious of the global demand for sandals in various countries through the participation of some of their representatives in global trade fairs. New designs, different dimensions (length and width, in particular) and choice of colours were noted for adoption at the cluster with the active support and handholding of the NGO. The products were assigned a brand name ToeHold and substantial innovations were made in both product designs and in the processes followed, keeping in view diverse demand patterns coming from different countries where these sandals were exported. As many as over 600 new designs were introduced by the local workers using the same local resources—skills and materials. The bold step towards diversification by responding to the variety of customer preferences opened up a new and huge market for the *chappals* in the global market.

These case studies (though only four of them are briefly discussed here) suggest that it is eminently feasible to have a complete rethink of the kind of intervention that may be planned across clusters and products. Hence, policy efforts cannot stop at provision of working capital loans or creating CFCs. It must include an understanding of the various characteristics of the market—domestic and beyond—which is essential to devise supportive policy mechanisms. As argued in Das (2015):

It is important, hence, to assess the gravity of regional and institutional infirmities while planning for rural clusters to

progress. The larger challenge that still remains, and not quite comprehensively addressed in policy and academic engagements, is that of the nature and extent of informality, which impinges upon the possibility of rural enterprises/clusters availing formal support and also acts as a definite disincentive to innovate by firms. (p. 151)

Crafts, beyond their cultural and aesthetic attributes, must be treated as a business and as a source of livelihood. If the state is to effectively promote them then deeper thought must be given (and action, in terms of both soft skills and infrastructure support) to the kind of markets that are being targeted and the kind of raw materials and other inputs (including skills and auxiliary technologies) that are required by the practitioners (Das, 2011). Further, if a GI tag has been assigned, monitoring its use by artisans is necessary to see if the persons engaged in these activities actually have benefitted due to this intervention.

What Can be Done? Clues for Policy

Clearly, detailed data on the craft sector as could only be collected through a well-planned census is the *sine qua non* of any policy thought and action for this sector. No amount of conceit derived from the sporadic information about the remarkable performance in exports of certain crafts (in certain regions) or of certain bank loans provided to some would compensate for the need to make available comprehensive social statistics on this sector. For the handicrafts, especially, we hardly know anything about that sector because there is no such information available. Even if, for a comparison, one considers data on the number of clusters, while the SFURTI site pegs it at 359, the Ambedkar Hastshilp Vikas Yojana (AHVY) data points to covering about 744 clusters in which just about a little more than two lakh artisans are engaged. However, there could be something like 6,000 clusters—that was an estimate made some years back (Das et al., 2007). So the worrying point is that even today, we have not quite covered or formally-recognised all the craft clusters in the country and we have not paid discrete attention in terms of the varieties of incentives that could be offered to artisans or clusters or, to improve their access, to different markets. Beyond data, policy attention must be geared towards strengthening demand-side factors as well. Some of the finest examples in institutional innovations in promoting the

demand for crafts may be gleaned from the fascinating experiences as seen through the One Village One Product (OVOP) initiative of Japan and, somewhat in similar lines (but much better thought-through steps) in the case of One Tambon One Product (OTOP) of Thailand. A close look at the finer details of policy ingenuity in these two notable approaches offers important insights for the Indian craft sector (Table 4). It needs to be underscored that although the recent initiative by the Indian government—One District One Product (ODOP)—attempts to emulate the aforesaid two approaches, it lacks the substantive components of the both.

Tables 4: A Comparison of Major OVOP and OTOP Features

<i>OVOP</i>	<i>OTOP</i>
Basic Approach (Self-reliance and Creativity)	
<p>'Intrinsic' (Community revitalization through leadership formation, not just product upgrading).</p> <p>Close interaction with local community regarding labour use, material use and conservation, design and marketing.</p>	<p>'Extrinsic' (Promotion of local entrepreneurship through product upgrading).</p> <p>Broad consultation with both local community and outsiders regarding labour use, material procurement, design/ processes and marketing.</p>
Markets and Product Promotion	
<p>Focuses on 'Only One' product (local treasure).</p> <p>Caters mostly to local, regional and national markets.</p> <p>Promotes products through participation in product fairs and by selling through widespread retail network (OVOP Co. Ltd., antenna shops, Tokiwa departmental stores and other local shops across the province and the district.</p>	<p>Highlights 'Number One' product (branded OPC – OTOP Product Champion) and also obtains government certification. Targets urban and foreign markets.</p> <p>Promotes products through a variety of channels, e.g., Thai Airways, Thailand Post, Lemon Farm, Lotus, and BigC. It also organizes product fairs and has opened several OTOP stores across the country.</p>
Policy / Administrative Aspects	
<p>Local, prefecture level policies guide activities, which are coordinated by the OVOP Promotion Council; there is no national level 'overseeing' body.</p> <p>Funding is raised through various sources, including government schemes, local companies, cooperatives, etc. However, private sources dominate.</p>	<p>Forms part of the national policy (driven by poll promises) and is highly hierarchical and centralized. It has administrative and sub-committees at various tiers of government.</p> <p>Financial support is mainly through national government sources (including royal projects) and sub-national level organisations and private sources.</p>

Networking and Inter-dependence	
Prefecture government plays a complementary, supportive role, only when required. Private sector remains an active partner in most spheres. Community performs an effective networking role between the prefecture government and the producers.	Central government conducts the primary and detailed activities, including contacting the producers. Private sector's involvement is partial or dissipated. Community has limited 'sectoral' role, mostly sidelined.

Source: Based upon Kabuta (2007).

It may be pertinent to bring in initiatives that may utilize advances in digital technology (information and communication technologies or ICTs) to harness the marketing potential of craft products. The Chinese initiative of Taobao villages is based on connecting far flung artisans/craftspersons to the markets (including global) through state-provided highspeed internet connectivity in a cluster of villages where craft products could be sold through safe and simple e-commerce market platforms (Chu et al., 2023). Similarly, the South Korean experiment in using ICTs to popularize and vend (through digital devices) folk music is useful to pay attention to from a policy perspective.

Concluding Observations

What kind of craft policy mechanisms would reflect institutional innovations to advance the interests of the neglected artisans, their products and basic requirements in business as raw material, access to markets and real services? The policy must necessarily focus on building the capabilities of artisans to access resources, technology, markets and state support. “The challenge therefore is not one of market threat but rather fostering the capacity of artisans to negotiate effectively with the market, and effectively protect their own interests within a situation of constant change and unrelenting competition” (Chatterjee, 2014, p. 17). For instance, if electricity has to be provided to hasten or to improvise certain kinds of processes, then that needs to be done; if roads have to be provided to link production clusters with market spaces then that has to be done. Crafts in the Indian conditions require at least three kinds of initiatives. One, the provision of raw material (particularly, natural resource-based) that could be ensured through creation of raw material banks and also preserving rights of indigenous communities to source natural resources as raw materials

for their craft production. Second, expanding the scope for accessing markets, including international ones, would in many instances involve product diversification and even process modifications. Equally important is placing greater emphasis on building soft skills and enhancing opportunities for artisans to network directly with business service providers and customers. Three, policy needs to address the issue of overwhelming informality in the sector that manifests in a variety of ways. These include in production and labour processes, in their conforming to regulations (including, in certain cases, product and process standards) and in even rendering enterprises ineligible to receive potential benefits the state might be offering.

There are compelling grounds to rethink crafts as a sustainable livelihood option. This is not to be understood merely as a poverty eradication programme; rather, it involves enterprise, business and sustainable livelihood issues given that the skill, knowledge and ideas embedded in their products have an intrinsic value as emblems of a certain culture, heritage and aesthetics. Crafts, in several instances, exemplify what I describe as *subsistence industrialisation*. The craft sector does not look forward to succor; rather it needs recognition, active promotion, protection against unscrupulous rivalry/competition, and substantive business infrastructural provision. In order to achieve these ends and to include them in mainstream development initiatives, innovations in their products, processes and institutions are essential. While we continue to take pride in a craft for its inherent heritage-value, for the craft to survive craftspersons must have the opportunity to be bestowed with dignity and earn a reasonable income. Policy has to be responsive to both.

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NOTE

1. Of course, we have more censuses done for the handlooms (1987-88, 1995-96, 2009-10 and 2019-20).

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Communitarian Ecosystem Restoration: A Timeless Gift from Nature- Worshipping Bhil Adivasis

Rahul Banerjee

Introduction

Modern development since independence has devastated the habitats and livelihoods of the Bhil Adivasis of Alirajpur district in Madhya Pradesh and reduced them to being thieves in their own backyard primarily because of the depredations of the Forest Department (Banerjee, 2008a). The Indian Forest Act, the Indian Penal Code, the Criminal Procedure Code and other British-era laws were indiscriminately used to dispossess the Adivasis in total violation of the provisions of the Fifth and Sixth Schedules of the Constitution of India, which provide for Scheduled Tribes to manage their habitats and plan their own development in accordance with their traditional, eco-friendly customs.

Then in 1983 a few activists from outside the district teamed up with Bhil activists of Alirajpur to form the mass organization Khedut Mazdoor Chetna Sangath (KMCS) to fight for the rights of the Adivasis to the forests and for self-governance (Banerjee, 2008b). Not only did the KMCS re-establish the rights of the Bhils over their forests but, what is more important, it also leveraged their traditional customs of communitarian ecosystem preservation and restoration (which had fallen into disuse) to rejuvenate their forests, soil and streams. The effectiveness of the Bhil Adivasis' traditional modes of collective action for the management of common pool resources is now well established (Ostrom, 1990). This is very important in the current context because

of the benefits in terms of the mitigation of climate change that can accrue from such communitarian natural resource management (International Institute for Sustainable Development et al., 2003).

This paper first sets out the traditional characteristics of Bhil society followed by a detailing of the serious ecological challenges faced by humanity currently and then describes the traditional communitarian ecosystem preservation and restoration measures of the Bhil Adivasis which have been so well deployed by the KMCS. This is followed by a discussion of the principles of development that need to be implemented so as to mainstream the Bhil Adivasis' ecosystem restoration skills. Towards the end, a framework for a socio-economically equitable and ecologically-sustainable rural development based on these principles is set forth.

Traditional Bhil Society

The Bhil Adivasis in Western India are the most populous Scheduled Tribe who have traditionally had a communitarian culture based on a subsistence livelihood pattern that ensured sustainable use of their natural resource bases (Deliege, 1985). They reside in the hilly and forested areas of Southern Rajasthan, Eastern Gujarat, Western Madhya Pradesh and Northern Maharashtra. The important characteristics of traditional Bhil society are as follows:

1. Habitations of small communities linked together by strong kinship ties
2. A subsistence-based non-accumulative and non-monetary economy dependent heavily on customs of voluntary labour pooling in all social and economic activities
3. System of interest-free loans in cash and kind
4. Minimal interaction with the external centralised trade-based economy
5. High dependence on forests for daily as well as agricultural needs
6. Social customs that ensured the redistribution of the surplus of individual families among the community and as a thanksgiving to nature.
7. Fierce defenders of their habitats which was crucial to their existence. There is historical evidence of the Bhils having

defied the might of the Gupta emperors on the strength of their superb archery skills and retained their independence (Kosambi, 1956).

There was thus a minimal role in Bhil society for accumulation, trade and monetary profits and so it continued for ages at a low-level resource use equilibrium. A very important custom in this respect is the celebration of *Indal*. Every household has to celebrate this festival every five years or so in which it gives a feast to the whole community from the accumulated surpluses from farming and other activities. In this way, this is not only a thanksgiving to nature and the community which make the household's living possible but also, by distributing the surplus to the whole community, it ensures egalitarianism and non-accumulation. This is very important in the present context of severe ecological problems arising from excessive accumulation in the mainstream economy.

However, as mentioned earlier, with the coming of independence, the modern Indian State and corporations made inroads into the Bhil homeland for extracting resources and this led to their socio-economic marginalization. As a consequence, poverty has become endemic and most households are not able to celebrate *Indal* as they do not have surpluses to distribute any more. This was countered from the decade of the 1990s by the formation of a forum of Bhil mass organisations in Western India named Adivasi Ekta Parishad (AEP). The AEP, while upholding the positive points of traditional Bhil culture, not only critiques those aspects of it that are detrimental like patriarchy and witch-hunting but also favours synthesizing it with modern education and skills so that the Bhils can fight to maintain their identity in the modern polity and economy as a distinct community and also provide leadership to humanity in facing the challenges of sustainable development (Banerjee, 2014).

Current Ecological Problems

India faces serious ecological problems currently in the three crucial sectors of water availability, agriculture and energy:

- *Water*: The Falkenmark indicators for water availability at the national level, which are eponymous with the Norwegian hydrologist who proposed them, are less than 1700 m³/year/

person is considered stressed whereas less than 1000 m³/year/person is scarce (European Environment Agency, 2011). The water availability in India on the whole is 1400 m³/year/person and so the country is water-stressed. Further, seventy percent of the country, apart from the Indus-Ganga-Brahmaputra and Mahanadi basins and the Western Ghats, is naturally water scarce not only because of less rainfall but also because of the underlying basaltic rock structure. Over-extraction of water mainly for agriculture but also for other uses has led to water scarcity in most parts of the country.

- *Agriculture:* Heavy use of diesel-powered agricultural machinery, loss of soil fertility and consequently loss of their ability to act as carbon sinks, and use of synthetic fertilizers has led to agriculture being one of the most important sources of emissions of greenhouse gases (GHG). Overuse of nitrogenous fertilisers which are not absorbed by plants results in the release of huge amounts of N₂O (nitrous oxide) into the atmosphere which has two hundred times more warming potential than carbon dioxide. Monocultures of hybrid rice, wheat, soyabean, sugarcane and cotton varieties have resulted in huge loss of agri-biodiversity that threatens the food security of the nation (CGIAR Consortium of International Agricultural Research Centres, 2020).
- *Energy:* The annual per capita consumption of electricity in India is only 700 units whereas it is as high as 16000 units in the United States of America. Even so, the electric power industry is running huge financial losses and is heavily dependent on coal, some of which has to be imported. Crude oil imports too are high constituting 18 percent of the total import bill. Thus, higher consumption of fossil fuel-based energy will not only be economically costly but also lead to far higher GHG emissions than at present. This is a growing challenge given that power consumption in the country is going up by nearly 10 percent year-on-year.
- *Global warming:* The emissions of GHGs has resulted in a 1°C increase in ambient temperature since 1945 and it is still increasing at the rate of 0.2°C/decade. The 21st United Nations

Conference of the Parties (COP 21) organized in Paris in 2015 had called for the limiting of the ambient temperature rise to 1.5°C as beyond this the negative impact of climate change would be very serious. Currently, the total annual GHG emissions are 55 billion tonnes of CO₂e (Carbon Dioxide Equivalent) and the total amount of sequestration mainly through forestry is only 2 billion tonnes of CO₂e. Therefore, there is an urgent need to transition away from fossil fuels to renewable energy and also increase sequestration through various carbon removal methodologies, the main one being afforestation.

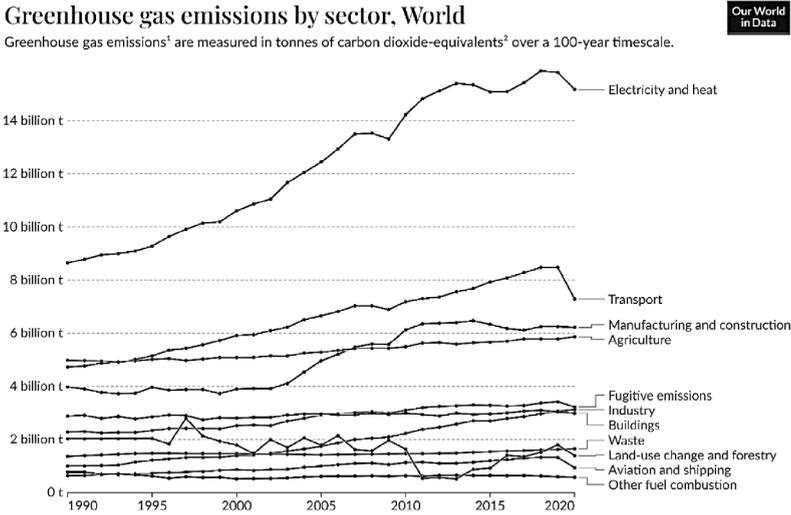


Figure 1: Global Distribution of Emissions across Sectors

Source: (Ritchie et al., 2024)

Electricity and heat generation are the biggest contributors by far followed by transport, manufacturing and construction and chemical agriculture (see Figure 1).

Communitarian Ecosystem Restoration

The Bhil Adivasi members of the KMCS are contributing immensely towards mitigating climate change through their communitarian modes of ecosystem preservation and restoration both by reducing

emissions through their frugal lifestyle and sequestering carbon through afforestation and soil and water conservation. These are discussed in detail below.

- **The Dhas custom of labour pooling:** This is the most important aspect of Bhili society as this allows them to do considerable work by coming together. One member from each household contributes their labour to some activity of another household or of the community. In this way, no wages have to be paid and everyone benefits from labour pooling. The absence of money also results in lesser consumption which also reduces emissions. These two characteristics of communitarian cooperation and frugal living are the key to the Bhil Adivasis' work in ecosystem restoration.
- **Protection and regeneration of forests:** The Bhils rightly believe that it is better to protect and regenerate forests instead of planting saplings from nurseries. In the high summer heat of the Narmada valley where they reside, small saplings mostly die due to the heat and lack of water for their tender roots. However, shoots coming out from the deep roots of existing trees are far hardier and easily survive. So, the members of the KMCS first began protecting forests through collective action in the mid-1980s in the villages of Attha and Gendra. Women took the lead in this work forming protective groups. Grazing was prevented and the grass grown was harvested in winter for the livestock. The forests were sustainably harvested and the wood used for construction purposes. In this way there was a growing forest which is the best way to sequester carbon. Later this communitarian practice was adopted by other villages and so currently there are seventy villages where such regeneration efforts have led to thirteen thousand hectares of forest land with one village Amba on the banks of the River Narmada having as much as 60 percent of its total land under forests.
- **Bunding and gully-plugging:** The Bhils use their labour pooling customs very effectively to do soil and water conservation work on their hilly farms and surrounding hill

sides. They mainly use stones to do bunding work on their farms and for plugging the gullies that border their farms. They have done this on thousands of hectares of land. Once the Mahatma Gandhi National Rural Employment Guarantee Scheme was launched, the KMCS encouraged its members to file demands for soil and water conservation work and once these were sanctioned they were implemented over large areas in a number of villages further augmenting their own labour pooling customs.

- **Sustainable agriculture:** The Bhil Adivasis are default organic farmers as traditionally they have used only manure and their own vast cornucopia of heirloom seeds in their farming. Indeed their main goddess is *Kansari* who is symbolized by the cereal sorghum. Their creation myth has it that God, after creating the lifeless human form, asked it to suckle at the breasts of *Kansari* to get life. That is why traditionally sorghum is very important to the Bhils and is not only a staple food but also a much-worshipped god.

Research has shown that organic arable production is about 35 percent more energy efficient, and organic dairy production about 74 percent more efficient per unit of output than non-organic production (Smith et al., 2015). Organic farming, by definition, prohibits the use of synthetic fertilizer, using instead a limited amount per hectare of organic matter identified and used through knowledge of soil biology. Since the pH of the soil is not disrupted by organic farming techniques, the use of energy-intensive lime is also minimal or non-existent resulting in lower CH₄ (methane) and CO₂ emissions compared to modern farming techniques that rely on external inputs. The use of organic matter also increases carbon content in the soil, storing up to 75 kg of carbon per hectare per year. Organic farming uses nitrogen-fixing plants as cover crops and during crop rotation, which helps to fix nitrogen in the soil rather than releasing it into the atmosphere. Moreover, through the setting up of bio-gas plants, methane, which has 80 times the global warming potential of carbon dioxide, and which is generated in the

process of organic farming, can be channelized for cooking and the generation of electricity instead of being released into the environment. Finally, organic farming techniques maintain soil micro-organisms which helps with oxidizing atmospheric methane.

The combined effect of all the different benefits of organic farming results in a Global Warming Potential that is only 36 percent that of modern external-input chemical farming. The main constraint to organic farming is the availability of adequate amounts of manure as the cow dung produced is usually inadequate for the fertilization of all the agricultural area. This can be addressed through the composting of animal manure with a mixture of agricultural and forest biomass waste, along with the preparation of microbial cultures from cow dung—both of which are labour-intensive processes. There are several effective techniques for composting and creating bio-enzyme rich microbial cultures (Tamil Nadu Agricultural University, 2023). Learning to bring together modern practices of organic farming with the Bhils' traditional agricultural practices and knowledge base in an effective and context-appropriate manner is an area of great promise for the pursuit of sustainable agriculture.

Organic agriculture with indigenous seeds is, moreover, less water intensive. Thus, the virtual water embedded in these crops is less (Hoekstra & Chapagain, 2007). Consequently, this kind of agriculture also greatly reduces water use and relieves water stress which is very important in the Indian context where 80 percent of the total water demand is from agriculture.

With India being a water stressed country on the whole, there is an urgent need for improving water availability through water conservation measures. The extensive bunding and gully-plugging work done by the Bhils have conserved both soil and water and considerably improved water availability in the aquifers. Thus, the Bhils by combining appropriate soil and water conservation measures beginning with the uppermost ridges of river valleys and working down to the drainage lines

with their organic agriculture, are ably mitigating climate change.

- **Gravity-based irrigation:** The Bhil Adivasis have traditionally had robust local water use systems which are still extant despite the spread of diesel- and electricity-powered irrigation systems (Rahul, 1996). The sustainable water use practices in Bhil Adivasi areas in the present context of achieving overall sustainability of water and energy use are described here. In the remote villages of western Madhya Pradesh, a water use system is in place that at first glance appears to make water scale steep hills to irrigate fields. This seeming defiance of the law of gravity is a system devised by Bhil Adivasis which takes advantage of the peculiarities of the hilly terrain to divert water from swiftly flowing hilly streams into channels called *paats*.

The *paats* work on the principle of differential gradient. The stream itself from which the water is drawn has a steeper slope while the *paat* channel has a lower slope and that is why gradually over a distance of a few kilometers the channel flows at a height above the stream and reaches the farms to irrigate them. While the stream bed itself has a steep gradient, it is bunded with stones and mud at an upstream point well above the farms in the village to construct a diversion weir. The *paat* channel that branches off from the weir along the side of the stream has a much lower gradient and so gradually it gains in elevation with respect to the stream bed as the stream progresses downstream. The crucial knowledge input here is to decide the exact point upstream from the farms where to build the diversion weir and draw the channel so that it reaches the farms. The Adivasis pinpoint this location without the use of any measuring instruments and that is their great achievement. The *paat* system is schematically shown in figure 2.

Within a period of four decades, the Bhils have developed and refined the *paat* system which provides a practical and ecologically-sound method of water management. The development of this technique could be seen as the Bhil

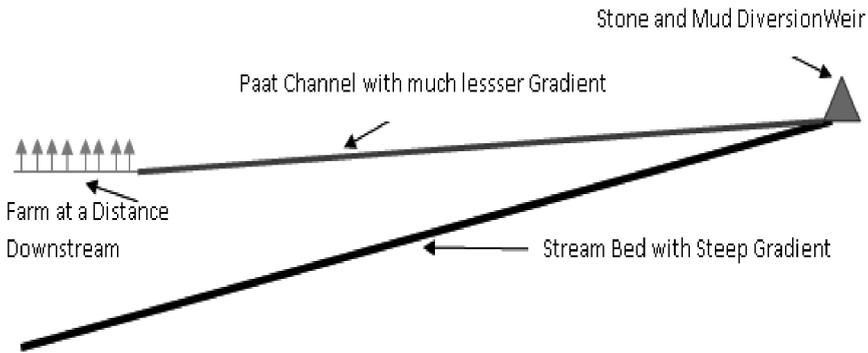


Figure 2: Schematic Diagram of Paat System

Adivasi retort to the State's destructive practices which have ravaged the region's environment. The people of Bhitada village in Alirajpur district (located at the confluence of Kari, a stream, and the river Narmada), have developed this unique system to possibly its best form. Even though the bed of the Kari, at its confluence with the Narmada is positioned about 20 meters below the farms on its banks, the fields are lush green with maize and gram, grown with water brought by a four km-long *paat* from a point upstream whose elevation is higher than that of the fields.

After harvesting the kharif crop of bajra (millet) and maize, one member from each family is spared to join others in the repair of the water channel and construction of the diversion bund. The process is quite laborious. The diversion bund across the stream is constructed by piling up stones and then lining them with teak leaves and mud, to make them leak-proof. The *paat* channel has to steer through the *nullahs* (deep ditches) that join the stream, before reaching the fields. Stone aqueducts are built to span these nullahs in a manner similar to the diversion bunds. Particularly skilful is the manner in which the narrow channels have been cut in the face of the sheer stone cliffs. The channel requires constant maintenance and it is the duty of the family irrigating its fields on a certain day, to take care of the *paat* for that day. It takes about two weeks to get the *paat* flowing and the winter crop is sown in early November. Thus, this is a communitarian effort

that binds the whole village together while at the same time conserving the environment.

The United Nations has declared the ten-year period from 2021 to 2030 as the decade of ecosystem restoration (United Nations Organisation, 2023). However, the Bhils have been practising ecosystem preservation and restoration since time immemorial and in the case of the members of the KMCS in Alirajpur district, they have successfully revived their traditional customs to effectively improve both the ecosystem and their livelihoods (Rahul, 1997).

Principles of Equitable Development

The larger problem is that of mainstreaming the ecological and social wisdom of the Bhil Adivasis to the rest of the Indian population so that there is a wider impact. The population of the Bhils is between 5 and 6 million only and the exact number will only be known once the much delayed census is conducted. Within that, the members of the KMCS number only a few lakh which is a miniscule proportion of the total population of India of 1400 million. Thus the conservation ethic of the members of the KMCS limited to a very small population and so it cannot have widespread impact. Therefore, the Bhil ethic of equitable and sustainable development needs to be popularised among the rest of the population in India for large-scale impact in terms of addressing the three ecological crises described earlier. This will require, among other things, that the two important principles of governance and development listed below are followed.

(i) Subsidiarity: The principle of subsidiarity, which was originally formulated by Luigi Taparelli in the mid-nineteenth century (Behr, 2019), calls for local self-governance on issues that can only be properly planned and executed at the community level. Mahatma Gandhi was the first person in India to formally conceptualise this principle in the form of "Gram Swaraj" or the promotion of grassroots democracy through the establishment of autonomous village republics called Panchayats (Gandhi, 2009). Unfortunately, Panchayati Raj was included in the Directive Principles of State Policy in the first Indian Constitution that was adopted in 1949 and was made non-justiciable (unlike the fundamental rights, the provisions of the Directives Principles of the Constitution could not be enforced through the courts). Basic rights like

that to free education, health and nutrition services and the means to a dignified livelihood too were included in this non-justiciable chapter. Moreover, the Fifth and Sixth Schedules of the Indian Constitution which have provisions for the Scheduled Tribe Population to carry out self-governance and appropriate grassroots development in accordance with their communitarian and nature-friendly customs too have not been implemented.

Thus, provisions that could have created an aware, healthy and articulate Adivasi population and provided them with an institutional structure for implementing their development according to their own genius were ignored totally by the governments both at the centre and the states after independence, paving the way for the persistence of a form of internal colonialism and feudalism and the suppression of their nature-friendly and communitarian world view.

The KMCS along with other Adivasi mass organisations was part of a long-drawn nationwide campaign that resulted in the enactment of the Panchayat Provisions Extension to Scheduled Areas Act 1996 (PESA) which made the Gram Sabha or village councils of the Adivasis the paramount decision-making body in Fifth Schedule areas. Later other people-friendly acts such as the Mahatma Gandhi National Rural Employment Guarantee Act and the Scheduled Tribes and Other Traditional Forest dwellers (Recognition of Rights) Act were enacted that gave further strength to the implementation of the subsidiarity principle. The KMCS took advantage of these powerful legislations to further augment the grassroots processes of communitarian ecosystem restoration.

(ii) ***Trickle-up Investment:*** Government investments in ecosystem restoration, renewable energy, education and health must be made at the grassroots level through Panchayati Raj Institutions which will trickle up providing demand-led dynamism to the whole economy.

The presence of articulate Adivasi leaders like Abdul Ghaffar Khan and Jaipal Singh resulted in the debates in the Constituent Assembly reverberating with eulogies for the inherently democratic and non-exploitative nature of Adivasi communities and the expression of concern about enabling them to negotiate the process of integration into the modern economy to their advantage (Government of India,

1954). Consequently, extensive provisions were made in the Fifth and Sixth Schedules of the Constitution and many laws were enacted for the protection and betterment of the Adivasis and to ensure that bottom-up development took place in these Scheduled Areas. Nevertheless, the imperatives of modern industrial development enunciated in the centralised trickle-down planning process initiated from the early 1950s and the powerlessness of the Adivasis in the face of the State authorities resulted in a policy of even greater intrusion into Adivasi areas than in colonial times to exploit the vast natural resources that Adivasis held. The devastating experience of this trickle-down development process, which is conceptually flawed because investment will never be allowed to trickle down by those who are powerful, has convinced the members of the Adivasi Ekta Parishad that this is totally inappropriate. Instead, a trickle up development process needs to be implemented. Investments made at the bottom of the pyramid always trickle up because those at the bottom mostly lead a hand-to-mouth existence and do not have surpluses that they can accumulate. Therefore, investments made at the grassroots will help them to consume more initially and so the money will move up the economy. This is especially so in the case of the Bhil Adivasis whose culture is a non-accumulative one.

Moreover, in the case of the restoration of the ecology which is a public good, it is the responsibility of the Government to invest to make it possible. A public good is a commodity or service that is made available to all members of society. The two main criteria that distinguish a public good are that it must be non-rivalrous and non-excludable—non-rivalrous means that the goods do not dwindle in supply as more people consume them and non-excludability means that the good is available to all citizens (Heal, 2000). Usually, these are services provided by governments and paid for through taxation because private providers will not be able to provide these because of their non-rivalrous and non-excludable character. Examples of public goods include law enforcement, national defense, and the administration of justice.

Public goods, in the case of the environment, are access to clean air, soil and water. Air, soil and water are polluted differentially by different people and so the “polluter pays” principle has been arrived at for garnering the resources to clean them. Thus, the Government has

to either charge those who pollute through taxes or create an artificial market where the cleaning costs are bought by the polluters to offset their pollution. However, the problem is that these cleaning costs are very high and are increasing with time as the newer technologies have higher pollution levels. Thus, unless all governments globally, strictly implement the polluter pays principle either by taxation or by creating artificial markets for cleaning costs, the companies operating in countries that do this will become uncompetitive compared to those operating in countries that do not do this. This is the main reason that not much progress is being made in pollution abatement, especially in the mitigation of climate change where the costs involved are huge as the main solution is to transition from fossil fuels to renewable energy that does not emit GHGs. The governments of developed countries, which have historically been the biggest polluters of both air and water and continue to be so, are reluctant to enforce the polluter pays principle and are trying to obfuscate the issue by claiming falsely that markets will take care of this problem. Consequently, ecosystem restoration, which is a *sine qua non* for mitigation of the various ecological crises that humanity is facing and which has to be funded by the government through taxes, is not being done on the scale that it should be.

Thus, the tragedy of post-independence Indian development is that both these above important principles have been violated and so India languishes at the bottom of the global rankings in human development. Therefore, the way forward must be to ensure that these principles inform governance and development in this country.

Framework for Socio-economically Equitable and Ecologically Sustainable Development

Clearly, sustainable internal-input agriculture (all the inputs coming from the farm itself) is more energy, water and nutrient efficient and results in lower greenhouse gas emissions than modern external-input chemical agriculture per unit of crop produced. Combined with forest, soil and water conservation, it revitalises the local economy. This has to be complemented by ecosystem restoration and distributed renewable energy generation¹ for a comprehensive attack on both poverty and climate change. What is required is collective action by communities

at the grassroots as individual farmers alone cannot bring about this radical change. Last but not the least, this opens up huge possibilities for women to play a decisive role in society and the economy. This framework of sustainable intervention is schematically shown in figure 3.

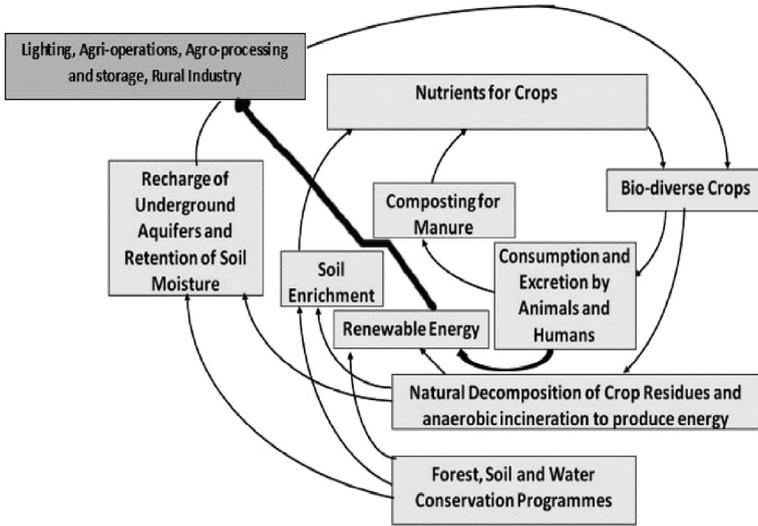


Figure 3: Framework of Sustainable Intervention

Conclusions

The traditional Bhil Adivasi lifestyle and culture are respectful of nature as opposed to the modern state system and the market economy which are increasingly proving to be detrimental to both nature and human survival. Thus, the wisdom of the Adivasis has a lot to offer to those in the field of development. The Panchayat Extension to Scheduled Areas (PESA) Act is a potent legislation for preserving and promoting the nature-friendly and egalitarian worldview of the Adivasis, thus ensuring a saner world involving more sustainable resource use and equitable inter-personal relations than the one we are living in. The Mahatma Gandhi National Rural Employment Guarantee Act, the Right to Information Act and the Scheduled Tribes and Other Forest Dwellers (Recognition of Rights) Act, which came later, can, combined with the PESA Act, provide a comprehensive legal framework for implementing an equitable and sustainable approach to governance and development

at the grassroots. There are now many instances throughout the country of small mass organisations in Fifth Schedule Areas, like the KMCS, taking advantage of these laws and using them to fulfil the promise of equitable and sustainable development.

The problem is that these Adivasi mass organisations are scattered and do not have an extensive mass base that can enable them to win seats in legislatures and the parliament and so influence government policy. In fact, they are not even able to influence the work being done in the Panchayats where due to directions from the Union and State Governments, the villagers have little say in deciding development plans (Rahul, 1992). Therefore, it is imperative that mainstream political parties are influenced into implementing the subsidiarity and the trickle up principles of governance and development. However, given the present system of first past the post (FPTP) elections it is unlikely that this will happen.

Ideally the Indian electoral system should be based on proportional representation to accommodate the vast diversity in the socio-economic characteristics of the population. In this system political parties are allotted seats in the legislature and parliament in proportion to the votes that they get and so even small local parties who can get votes higher than a specified threshold can find representation in the legislature and parliament. A threshold voting percentage, as low as 3 per cent of the total valid votes polled, is required to prevent frivolous legislative participation and too much fragmentation. Those parties reaching this threshold vote are also recompensed by the Government up to a defined limit (in proportion of the votes gained) for the election campaign expenses on the production of proper bills. There is thus scope in this system for a thousand schools of thought to contend and bring to fruition a much more vibrant and diverse democratic culture in India than has obtained so far.

Instead, the FPTP system is followed in India in which the candidate getting the most of the valid votes cast in a constituency is declared elected. The adoption of the FPTP election system is only a short step to letting the influence of money power and unethical political practice dominate the electoral strategies of parties. It does not require much perspicacity to see that given this corrupt milieu it is next to impossible to win elections at levels higher than that of the

panchayats, and, even there with much difficulty, while remaining true to ethical canons and principles of equity and sustainability.

Therefore, there is a dire need for a switch from the FPTP system to the proportional representation system supported by state funding of elections which will considerably increase the chances of people's movements being able to enter the legislatures and parliament. Even if these movements have small bases in diverse disjointed locations, cumulatively a federation of these organisations can garner enough votes across the country or a state to cross the minimum threshold of votes. Since the members of these organisations and also other voters will know that their votes will not go waste, they will vote in larger numbers for their candidates. This is how the Green Parties in some of the European countries, which have proportional representation, have succeeded in electing law makers. A similar electoral transformation is necessary in India if the promise of equitable and sustainable development that the Adivasi worldview holds is to be actualised at the country level.

NOTE

1. Distributed generation is the term used when electricity is generated from sources, often renewable energy sources, near the point of use instead of centralized generation sources from power plants.

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CHAPTER 12

Can We Feed 10+ Billion People Sustainably?

Paul Hanley

In 2020, amid the global pandemic, I moved to the island of Molokai, one of the Hawaiian Islands. Molokai is small, about 673 km², with a population of 7500 (about 11 people per km²). Although there is a growing farming movement on the island, I learned that 80-90 percent of its food is imported from the mainland, more than 3500 kilometers away. Long supply chain mean food supplies are somewhat precarious; with the global pandemic, concerns about the island's food security only deepened.

I also learned that Molokai's current lack of food security contrasts with its status as a prolific food producer prior to European contact in the 18th century.

The population of the Hawaiian Islands at the time of the first European encounter in 1778 is subject to speculation. Estimates range from a low of 100,000 to a high of 1,500,000. In 1789, James King, a royal navy officer who joined Captain Cook on his last visit to Hawaii, "guesstimated" the population of the island chain at 400,000 and Molokai's population at 36,000. More recent estimates using better metrics favor the higher population estimates. Molokai's population may have been as high as 44,500 (Stannard, 1989) or 66 people/k², (which incidentally is average global population density today.) Although it had a population as many as six times current levels, Molokai was not only food self-sufficient, but it was also known to export food to neighboring islands.

How is it, I wondered, that Molokai could sustain a large population and even export food, using only stone-age tools and human power, but cannot feed itself today given current technologies? The answer

offers lessons for global efforts to feed a growing world population, and especially for high population nations such as India.

Reading Reality

If an isolated stone-age society could produce surplus food on a sustainable basis, what could stop our technologically-advanced society from providing ample food for all—and for the 10.4 billion population expected by century’s end (United Nations [UN], n.d.)? Before answering that question, let us reflect on the current state of the global food and agriculture system.

There is good news and bad. The good news: farmers are producing more than enough food to feed everyone in the world. That is an enormous achievement considering Earth’s population has quadrupled over the last 70 years.

As to the bad news, speaking to the World Food Summit +2 UN Secretary-General António Guterres summed it up this way:

Global food systems are broken—and billions of people are paying the price. More than 780 million people are going hungry while nearly one-third of all food produced is lost or wasted. More than three billion cannot afford healthy diets. (UN, 2023, para. 5)

Despite high productivity, the global food system does not deliver sufficient healthy, nutritious, and affordable food to a large segment of humanity (Food and Agriculture Organization of the United Nations [FAO], 2023; Mlaba, 2023; Mojumdar 2023; Weimers et al., 2023).

- About 29.6 percent of the global population—2.4 billion people—were moderately or severely food insecure in 2022, meaning they are unable to consistently access or afford adequate food.
- 43 countries experienced serious (34) or alarming (9) levels of hunger, and another 37 countries experience moderate levels of hunger.
- Significantly, of the 780 million who are going hungry, 70 percent are living in conflict-ridden areas.
- After decades of improvement in supplying adequate amounts of food, the situation is again deteriorating. Little progress has been made in reducing hunger on a global scale since 2015 and since 2017 undernourishment has been on the rise.

- More than 3.1 billion people—42 percent—were unable to afford a healthy diet in 2021.
- Meanwhile, some 39 percent of adults aged 18 years and over are overweight and 13 percent are obese. Worldwide, obesity has nearly tripled since 1975. Most of the world's population live in countries where overweight and obesity kills more people than underweight (World Health Organization, 2024).
- In general, food quality is deteriorating due to the greater availability of cheap prepared and fast foods, contributing to malnutrition; insufficient availability of vegetables and fruits to meet the daily requirements of healthy diets; and declining soil quality.
- 25 percent of the population—whether underfed or overfed—are micronutrient deficient.

Real Costs

The failure of the food system to meet the nutritional needs of a large portion of humanity is an enormous problem. Added to this are the huge hidden costs imposed on our health and the environment by the way we produce and manage food. These costs are equivalent to at least \$10 trillion a year—almost 10 percent of global GDP—according to an analysis covering 154 countries by the Food and Agriculture Organization of the United Nations (FAO) (Mojumdar, 2023).

According to the 2023 edition of *The State of Food and Agriculture (SOFA)*, the biggest hidden costs (more than 70 percent) are driven by unhealthy diets, contributing to obesity and non-communicable diseases, and causing labor productivity losses, particularly high in high- and upper-middle-income countries.

Ultimately, even more worrisome are the environmental impacts of the agri-food system. While these represent 20 percent of the hidden costs, the long-term implications for the global food supply and the life-sustaining ecosphere constitute an existential threat. The system is unsustainable because it depletes non-renewable mineral resources and groundwater reserves, and results in excessive soil loss (Holden et al., 2018). The global food system is also responsible for 30 percent of

the world's CO² emissions and in turn is deeply impacted by extreme weather exacerbated by climate change (Slavin, 2023).

These obscure costs affect all countries and according to the FAO the scale is probably underestimated due to data limitations. Low-income countries are proportionately the hardest hit by hidden costs since agrifood systems represent more than a quarter of their GDP, as opposed to less than 12 percent in middle-income countries and less than 8 percent in high-income countries. For India, 18 percent of GDP comes from agriculture.

Some costs are not so obscure for farmers, who are increasingly impacted by factors like climate change and financial stress. Farmers are directly affected by the loss of natural capital due to urban expansion and factors such as erosion. Is it any wonder then that the average age of farmers is increasing, and many young people consider farming an occupation of last resort?

Commenting on the agrifood system, FAO Director-General Qu Dongyu said:

In the face of escalating global challenges: food availability, food accessibility and food affordability; climate crisis; biodiversity loss; economic slowdowns and downturns; worsening poverty; and other overlapping crises, the future of our agrifood systems hinges on our willingness to appreciate all food producers, big or small, to acknowledge these true costs, and understand how we all contribute to them, and what actions we need to take. I hope that this report [SOFA] will serve as a call to action for all partners—from policymakers and private-sector actors to researchers and consumers—and inspire a collective commitment to transform our agrifood systems for the betterment of all. (Mojumdar, 2023, para. 8)

Significantly, the word “transform” is used increasingly to describe the level of change needed to address agrifood system issues. At the 2023 COP28 climate summit, for example, the Declaration on Sustainable Agriculture, Resilient Food Systems, and Climate Action concluded by affirming “that agriculture and food systems must urgently adapt and transform in order to respond to the imperatives of climate change” (COP28UAE, 2023, para. 10).

It is becoming clear that achieving an equitable and sustainable food system requires *transformative* thinking and action, and not just

in agricultural methods. What is needed is a wider transformation at the levels of culture, ethics, the economy, governance, and global order.

The *Abupua'a* System

Molokai and the Hawaiian Islands offer a clear illustration of the wider *social* causes of food system failures. The Hawaiian Archipelago is one of the most isolated landmasses in the world. Before Western contact, Hawaii had to be completely food self-reliant and sustainable. As one *kūpuna* (elder) quipped, “it’s not like we could run next door to get something if we run out.” By necessity, Hawaiians developed a productive agrifood system with a remarkably small ecological footprint.

Food was produced using an ingenious approach known as the *moku* or *abupua'a system*. Described by Hawaiians as extending from *mauka* (mountains) to *makai* (ocean), each *abupua'a* had its narrow starting point high in the inland volcanic peaks, where rain was plentiful, and then widened, like a pie slice, to include a stretch of shore and the fishing grounds up to a mile out to sea. Channels diverted stream water to irrigate *lo'i kalo* (lowland taro fields), which were engineered to circulate water from pond to pond and prevent stagnation. The result was per-acre yields five times that of dryland farming (Haiken, 2022).

Where the freshwater streams met the ocean, elaborate rock-walled fishponds mixed the nutrient-rich water from the taro ponds with tidal flow, creating ideal conditions for fattening fish captured through sluice gates.

According to Stannard (1989) of the University of Hawaii,

Molokai which, with only 4 percent of the all-island land mass, was heavily cultivated on its windward side and, on its southern coast, contained at least 16 percent of all the islands’ hundreds of huge, man-made fish ponds, from which millions of pounds of specially grown fish were harvested each years—millions of pounds of fish that were produced by ingenious and unique aquacultural techniques that multiplied by 100 times the natural food chain efficiency of protein production. (p. 23)

“With these intensively managed farming and fishing systems,” said Sam 'Olu Gon, senior scientist at the Biocultural Initiative of the

Pacific, “Hawaiians were able to maintain a remarkably small ecological footprint, using less than 15 percent of their terrestrial ecosystem, while supporting several hundreds of thousands of people with no external inputs” (Haiken, 2022, para. 12).

Scientists have used spatial distribution models of these *ahupua'a* to calculate their potential past production and distribution capacities, then evaluated their future potential factoring in contemporary land use and a range of future climate scenarios. They found that those production levels could meet the food demand of Hawaii’s current population of 1.4 million.

It was the skillful, intensive use of land and sea resources that kept the Hawaiian footprint so small, hand in hand with a worldview that considered the wild uplands as the *wao akua*—the intensely sacred home of the ancestral gods that cared for all people—so long as the people cared for them. The uplands were *kapu* (off limits) to all but those with knowledge of forest stewardship, which safeguarded water resources and prevented erosion.

'Ohu Gon contends that the indigenous Hawaiian land management system “could model a way to feed and provide for the Earth's rapidly growing population in the face of climate change.”

Precontact Hawaii demonstrated that an expanding human population does not necessarily mean that biomes crucial to our survival, such as forests, shrink or even disappear. Hawaii is an example of how ecosystems and large human populations can coexist, and of how cultural diversity and biological diversity can not only flourish together but should be codependent.

Importantly, says Kevin Chang, director of the non-profit organization *Kuāina Ulu Auamo*, which links grassroots indigenous and local natural-resource management initiatives throughout the islands, “the management of natural resources is more effective when local power is given to the people who directly rely on and understand the resource” (Haiken, 2022, para. 19).

What Went Wrong?

One may ask, if Indigenous food systems practiced in places like Hawaii were so effective, why did they disappear? Answering this question helps us to understand the social genesis of global agrifood system failures.

Hawaii, like many other societies, suffered a massive population loss following European contact. It is thought that the population declined by 84 percent between 1778 and 1840 due largely to infectious diseases introduced by foreigners. However, Hawaii recovered from the population collapse and emerged on the global stage as an independent kingdom, with global recognition of its independent status and legations and consulates in some 90 countries (Hawaiian Kingdom, n.d.; Hawaiian Kingdom Blog, 2013). Among other achievements the Hawaiian Kingdom had the highest literacy rate in the world, in the Hawaiian language.

In the 19th century, land was provided to *haole* (white immigrant) businesses to expand the economy. On Molokai, sandalwood forests were cleared, and the lumber was exported to Asia. Large scale production of cattle, sugar, and pineapple began, supplanting Indigenous farming systems.

At the end of the 19th century, the *haole* business elite engaged in subversion to illegally overthrow the Hawaiian monarchy and forcibly seize control of government. In the all too familiar story of colonization, the racist regime used the educational system to undermine local culture and language, supplanted the communal subsistence economy with private ownership by large landowners, and introduced invasive species which devastated the unique ecosystems of the islands. The result was ecological collapse, species loss, and massive soil erosion that destroyed the ahupua'a and the fishponds.

Molokai became the largest producer of pineapples in the world. Eventually, farms managed by companies like Dole and Del Monte were abandoned, the jobs disappeared, and without mitigation the land reverted to invasive scrub vegetation.

This scenario that was repeated around the world, including India. Colonization of whole continents destroyed Indigenous systems established over centuries, entrenching poverty and hunger.

TEK/Agroecology/Regenerative Farming

In retrospect, we understand the profound losses inflicted by the imposition of a colonial mentality, which persists today. Today, the value of Traditional Ecological Knowledge (TEK), such as that demonstrated in Hawaii, is coming to the fore as the world seeks transformative wisdom.

There are 476 million Indigenous people around the world, spread across more than 90 countries. They belong to more than 5,000 Indigenous peoples and speak more than 4,000 languages. While they comprise only five percent of the world's population, they live on almost a quarter of the world's land surface and manage 11 percent of its forests. "In doing so, they maintain 80 percent of the planet's biodiversity in, or adjacent to, 85 percent of the world's protected areas," writes Gleb Raygorodetsky... author of *The Archipelago of Hope: Wisdom and Resilience from the Edge of Climate Change* (as cited in Robbins, 2018, para. 7).

Around the globe, researchers are turning to TEK to expand their understanding of the natural world. TEK is deep knowledge of a place that has been painstakingly discovered by those who have adapted to it over thousands of years.

Researchers 'Olu Gon and Winter (2019) express the rationale for these efforts in their study:

If we choose to live in a world where indigenous cultures not only survive but thrive, and their perspectives on resource management are honored and embraced, we can couple that with the best that Western science can offer, reestablish caring reciprocal relationships between people and nature, and remain hopeful for the future of our grandchildren's grandchildren. (para. 47)

TEK is consistent with the principles of agroecology, which the FAO has identified as a promising approach, especially for smallholder farmers. Agroecology has been described as an integrated approach that simultaneously applies ecological and social concepts and principles to the design and management of food and agricultural systems. It seeks to optimize the interactions between plants, animals, humans, and the environment while taking into consideration the social aspects that need to be addressed to achieve a sustainable and fair food system (FAO, n.d.; FAO, n.d.; FAO 2018a; FAO 2018b; FAO, 2021).

Agroecology is fundamentally different from other approaches to development. It is based on bottom-up and location-based processes, helping to deliver contextualized solutions to local problems. Agroecological innovations are based on the co-creation of knowledge, combining science with the traditional, practical, and local knowledge of producers. By acknowledging their autonomy and adaptive capacity,

agroecology empowers producers and communities as key agents of change.

Rather than tweaking the practices of fundamentally inequitable and unsustainable systems, agroecology seeks to transform systems, addressing the root causes of problems in an integrated way and providing holistic, long-term solutions. This includes an explicit focus on social and economic dimensions of food systems.

Agroecology also emphasizes human and social values, such as dignity, equity, inclusion, and justice. It puts the aspirations and needs of those who produce, distribute, and consume food at the heart of food systems. By building autonomy and adaptive capacities to manage their agro-ecosystems, agroecological approaches empower people and communities to overcome poverty, hunger, and malnutrition, while promoting human rights such as the right to food and the right to a healthy environment so that future generations can enjoy prosperity.

Agroecology places a strong focus on the rights of women, youth, and Indigenous peoples.

Rural youth, for instance, face a crisis of employment. Knowledge- and labor-intensive agroecology provides a promising source of meaningful jobs.

FAO has developed a *10 Elements of Agroecology* framework (FAO, 2018a) to assist countries in fostering transformative change: diversity, synergies, efficiency, resilience, recycling, co-creation and sharing of knowledge, human and social values, culture and food traditions, responsible governance, and a circular and solidarity economy.

The elements are interlinked and interdependent and represent a simplified yet holistic way to think about reality. They describe essential components, key interactions, emergent properties, and desirable enabling conditions in transitions towards sustainable agriculture and food systems. The elements are a useful analytical tool to facilitate decision-making by practitioners and other stakeholders when planning, implementing, managing, and evaluating agroecological transitions.

Agroecology methods have a strong track record in improving food production and incomes in low-income countries. Because soils in many of these areas are seriously depleted, and yields are severely depressed, any effort to renew soils through the addition of soil organic

carbon can have dramatic results. According to one report, “Yields went up 214 percent in 44 projects in 20 countries in sub-Saharan Africa using agroecological farming techniques over a period of 3 to 10 years...far more than any GM [genetically modified] crop has ever done” (Leahy, 2011, para. 3) Other assessments have shown that small farmers in 57 countries obtained average yield increases of 80 percent, with average increases of 116 percent in Africa.

Crop yields on farms that used sustainable methods increased an average of 79 percent over a four-year start up period, according to a major review of 286 farm projects involving 9 million farms on nearly 30 million hectares in 57 countries. The study concluded that sustainable agriculture protects ecosystems while substantially improving the lives of farmers who adopt the resource-conserving practices (American Chemical Society, 2006). Working with colleagues in Thailand, China, Sri Lanka, and Mexico, Jules Pretty of the University of Essex found nearly all the farm projects increased yields, and harvests of some crops increased as much as 100 percent.

Using more enlightened values and practices, as embodied in agroecology and TEK, the potential to support a larger human population with a lower ecological footprint is evident. Of course, the emphasis on small scale grassroots orientation of agroecology does not preclude large scale action. In fact, the two approaches can dovetail. World Food Prize recipient Rattan Lal’s research, for example, shows how collaboration with the world’s smallholder farmers could offer a way to address hunger, poverty, and climate change.

Lal’s research diverged from the conventional 1970s soil fertility strategy of heavy reliance on commercial fertilizers and pesticides. His research led to a better understanding of how no-till farming, cover crops, crop residues, mulching, and agroforestry can restore degraded soils and increase organic matter by sequestering atmospheric carbon in the soil, thus helping to mitigate rising carbon dioxide levels (American Chemical Society, 2006; “Rattan Lal,” 2024).¹

Lal puts the technical potential of a range of measures to increase carbon sequestration in the terrestrial biosphere at approximately 3.8 billion tonnes, greater than the net annual increase in atmospheric carbon (see Table 1).

Table 1: Technical Potential of Carbon (c) Sequestration on Land

<i>Activity</i>	<i>Technical Potential Billions of tonnes C/year</i>
Afforestation, forest succession, agroforestry, peat land	1.2-1.4
Forest plantations	0.2-0.5
Savanna/grassland ecosystems	0.3-0.5
Cropland management	0.4-1.2
Restoration of salt-affected soils	0.3-0.7
Desertification control	0.2-0.7
Total technical potential	2.55-4.96 (3.8)

Note: The table has been adapted from Lal. (2010, p. 718).

Most (84 percent) of the world's 570 million farms are smallholdings less than two hectares in size, including some 125 million in India. Assuming family size of 5-6 persons, there are about 2.5 billion people on small farms, close to a third of the world's population. Smallholder farms use 24 percent of agricultural land to supply about one third of the world's food, and farms of 10 hectares or less supply over half of all food (Ritchie, 2021). Paradoxically, smallholder farmers are the segment of population most likely to live in poverty and experience hunger.

Lal's proposal to pay these farmers for climate services could be transformative. If small holder farmers were compensated for carbon sequestration in soils and biomass at the rate equivalent to the typical cost of carbon capture and storage, Lal reasons, the payment for ecosystem services, even at the modest rate of soil carbon sequestration of 250 kg/ha/yr, would cost about US\$90/ha/yr. However, Lal believes most farmers would adopt the required farming methods at about one-quarter the cost of CCS, i.e., US\$25/ha/yr, as this would represent a significant boost to their modest cash incomes. Thus, payments to sequester carbon in agricultural soils would be an important strategy to alleviate poverty and advance regional and global food security.

Given that small farmers manage about 1 billion hectares, a universal rollout of best practices would cost \$25 billion a year, about \$50 for the average small farm. This is a small amount relative to estimates of global *subsidies* for fossil fuels, which range from \$523 billion (International Energy Agency) to over \$1.9 trillion (International Monetary Fund.)

Again, this does not preclude measures to improve the performance of large-scale industrial agrifood systems. In 1994, the eminent environmental scientist Vacliv Smil answered the question *How Many People Can the Earth Feed?* in a journal article by that name and the subsequent book *Feeding the World* (Smil, 1994; Smil, 2000). Smil concluded there are no insurmountable obstacles to feeding at least 10 billion people *without increasing agricultural inputs*. By far the most important outcome of his research was the identification of substantial inefficiencies throughout the food production and consumption chain. He concluded that a combination of improved agronomic practices (above all, more efficient use of fertilizer and water), lowered post-harvest waste, and healthier eating (such as a plant-slant diet) could produce adequate nutrition for at least an additional 3 billion people *without any increase in existing farm inputs*. Furthermore, he estimated that realistic mobilization of new productive inputs could secure enough food for another 2 billion people (Smil, 2000).

The Agrifood Crisis Is a Social Crisis

We can no longer look at the agrifood system in isolation: its success or failure is dependent on many factors not directly related to agricultural production. As Qu Dongyu pointed out, overlapping crises are already pushing some countries into food shortages, the most immediately apparent crises being multiple violent conflicts, including the Russia-Ukraine war (Bryant, 2023) and civil war in Sudan.

Can we any longer afford to dissipate our energies on war when we are dealing with existential threats to civilization? Is peace not a minimum requirement for the continued progress of humankind?

Can we afford to continue an economic system in which wealth increasingly accumulates in the hands of fewer and fewer people while the share of the masses decreases? Can we not devise a system in which wealth is more equitably shared?

Can we, witnessing the inability of our increasingly polarized and paralyzed—and often corrupt—governments to deal effectively with the big issues, afford to continue with the partisan political model of selecting leaders? Can we not devise a more effective approach to governance?

Can we afford to continue a system of unbridled nationalism, when the main issues we face are global in nature, affecting humanity

regardless of borders? Can we not devise some form of global governance that also respects a reasonable degree of national sovereignty?

Are the moribund systems that control our lives the best we can do? Are conflicts simply the norm? Is poverty unavoidable? Will people always be hungry?

The UN Secretary-General António Guterres responds:

Broken food systems are not inevitable. They are the result of choices we have made. There is more than enough food in the world to go around. More than enough money to fund efficient and sustainable food systems to feed the world, while supporting decent work for those who grow the food we eat. (UN, 2023, para. 6)

Guterres' comments underline a critical point: the food and agricultural crisis is a *social* crisis. If there is “more than enough food in the world to go around” and “more than enough money to fund efficient and sustainable food systems” and yet people are hungry and systems are unsustainable, then the problem is not primarily a *supply* or *production* problem. This is not to suggest that productivity is not also important. With population set to increase by 30 percent by 2100, it is important, but it is not the main issue.

The solution is not simply a matter of technical fixes, like applying more fertilizers or better seeds. It is primarily a social problem; that is, hunger, malnourishment, and unsustainable methods are the result of disunity, the inability of people—divided by nationalism, racism, classism, and bankrupt ideologies—to work together for a common cause.

Unity as an Operating Principle

As we step back to consider what stands in the way of implementing these proven solutions, we may ask what it is that stops us from working effectively together for the common good? When there is plenty of wealth, why do we allow poverty to continue? And why do we sit by as the ecosphere faces collapse?

Behind the failure to act is a litany of what can best be described as *moral* failings: corruption, self-interest, greed, extremism, partisanship, competition, ego, ignorance (and willful ignorance), apathy, moral vacuity, racism, colonialism, and nationalism.

The bankrupt moral order that led to the destruction of Hawaii's sustainable food system, and the disruption of the social-ecological order of colonized continents and nations, continues today. Witness, for example, how the imperialistic adventure in Ukraine caused a substantial disruption of world food trade, resulting in impacts that are

...widespread and devastating—feeding a hike in global prices, deepening hunger in countries as far flung as Lebanon, Sudan and Venezuela, and pushing the most precarious, like Somalia and Yemen—grappling with conflicts of their own—one step closer to a hunger catastrophe. (Bryant, 2023, para. 6)

Such follies affect the whole world, because the world is one.

The root cause of the present *problematique* might be summed up in one word: disunity. The key to resolving these problems can also be summed up in one word: unity. The ultimate solution lies in the recognition of the fundamental unity of humankind. Achieving unity—of vision, thought, and action—at the local, regional, national, and international levels will be the strong base upon which the solutions needed to sustain productive agricultural systems and equitable food systems can be implemented.

Achieving higher levels of unity opens the door to transformative, systemic change, but it is equally the case that successful efforts to bring about positive change can provide avenues for successful collaborations that build higher levels of unity.

Transformation Is Inevitable

Unity as a fundamental operating principle must be implemented at all levels of society to facilitate the transformation necessary to meet the extraordinary challenges facing civilization, particularly the ultimate existential challenge, humanity's environmental impact. Without transformation we face ecological—and, consequently, civilizational—collapse.

Although there are many hopeful signs that constructive changes are happening, there is little indication that this is happening fast enough and on a scale required to avoid collapse. Consequently, many experience despair.

There is, however, a way of viewing this threat which offers a bright ray of hope.

Panarchy theory developed by the ecologists Buzz Holling and Lance Gunderson helps us understand how complex systems of all kinds, from organisms to ecosystems to social systems, evolve, adapt, and sometimes experience sudden transformation. The term *panarchy* describes evolving hierarchical systems with multiple interrelated elements. Panarchy is the structure in which systems, including ecosystems and human institutions, as well as combined social-ecological systems, are interlinked in a continual four-stage adaptive cycles of growth, accumulation, restructuring, and renewal (Hanley, 2014).²

One might think of a forest ecosystem, wherein growth and accumulation of biomass eventually creates conditions conducive to a crisis, such as a wildfire, which releases the natural capital accumulated in the biomass. While the crisis may be a disaster, in that the *existing* order is destroyed, the ultimate impact may be positive, as the forest is renewed.

Holling proposes that the adaptive cycle applies to all complex systems, and that human systems such as government, the economy, or culture are included with ecological systems in a stack of nested cycles that influence each other.

Although it is theoretically possible to manage the transformative process by accepting that it exists, understanding it, and making proactive changes, it is impossible to achieve change when there is no unity, especially unity in action. We see this impasse in processes to recognize and address climate change, where the science is clarified and even meaningful steps to mitigate the problem are agreed to at the international level, yet the inertia of the system and limited self-interest on the part of vested interests—and simply the difficulty in making massive changes to something as ponderous as the global energy system—result in actions desperately short of what is needed.

This terrible inertia makes Holling think that civilization is reaching a stage of vulnerability that could trigger a rare and major pulse of transformation on the scale of the agricultural, industrial, and technological revolutions of the past.

“The immense destruction that a new pulse signals is both frightening and creative,” says Holling (2004, para. 39). “The only way to approach such a period, in which uncertainty is very large and

one cannot predict what the future holds, is not to predict, but to experiment and act inventively and exuberantly via diverse adventures in living.” (Holling, 2004, para. 39)

Diverse Adventures in Living

A constructive approach available to us is to engage in these adventures primarily at the local level, taking a humble posture of learning. These experiments are seeds and the seeds we plant now, during the growth and conservation stage of the planet’s adaptive cycle, may find a niche in the release and reorganization stages that are coming. Naturally, it is important that this “soil” is seeded with constructive ideas likely to contribute to building an ever-advancing civilization.

Fortunately, there are innumerable initiatives underway around the world that offer frameworks, patterns, and models for how civilization can be reorganized, and many of these are focused on building more sustainable food and agriculture systems.

A notable example can be found in Farmer Managed Natural Regeneration (FMNR), a low-cost land restoration technique used to combat poverty and hunger amongst poor subsistence farmers (“Agroforestry: Farmer-Managed Natural Regeneration”, 2024). Over 30 years, FMNR has changed the farming landscape in some of the poorest countries in the world, including parts of Niger, Burkina Faso, Mali, and Senegal, providing subsistence farmers with the methods necessary to become more food secure and resilient against severe weather events. FMNR has been recognized as a cost-effective and scalable approach to agroforestry and has been supported by several organizations and governments, including the Indian government.

In practice, FMNR involves the systematic regrowth and management of trees and shrubs from felled tree stumps, sprouting root systems, or seeds. The regrown trees and shrubs—integrated into crops and grazing pastures—help restore soil structure and fertility, inhibit erosion and soil moisture evaporation, rehabilitate springs and the water table, and increase biodiversity. Some tree species also impart nutrients such as nitrogen into the soil.

As a result, FMNR can double crop yields, provide timber and firewood, fodder and shade for livestock, wild foods for nutrition and

medication, and increase incomes and living standards for farming families and their communities.

Starting in the 1980s, FMNR was being practiced on over five million hectares or 50 percent of Niger's farmland by 2004, with an average reforestation rate of 250,000 hectares per year. "This transformation prompted a Senior Fellow of the World Resources Institute, Chris Reij, to state that FMNR is probably the largest positive environmental transformation in the Sahel and perhaps all of Africa" ("Agroforestry: Farmer-Managed Natural Regeneration", 2024, para. 119).

Building Vibrant Villages

Another factor conducive to building a better agrifood system is efforts to enhance quality of life in rural communities. There are an estimated three million villages worldwide, and over 650,000 in India. Enhancing village life is of critical importance to retaining the rural population, reinforcing cultural vibrancy, the ability to provide services like education and healthcare, and attracting young people to farming.

From 2005-2015, the Millennium Villages project (Millennium Promise Alliance, n.d.) offered an innovative model for helping rural African communities lift themselves out of extreme poverty. It promoted an integrated approach to rural development, using evidence-based technologies and research-based strategies in each sector, with sufficient investment over a sufficient period. This approach also combined critical cost-sharing, partnerships with local and national governments, while focusing on holistic capacity building and community empowerment.

Another important emergent global effort underway to learn about transformative processes at the village and neighborhood level is being undertaken by Bahá'í communities throughout the world (Hanley, 2019). In thousands of geographic clusters, at various stages of developments, Bahá'ís are engaging in a process of participatory planning, action, and reflection aiming at supporting individual development and capacity for service, building vibrant communities, and developing institutional capacity, with the overall goal of releasing the society-building powers of their faith. In those clusters where significant numbers are involved, a new culture of service and unified action is emerging.

Bahá'í interest in agricultural and village development is as old as the religion itself, which was founded in 1844. Bahá'u'lláh (1817-1892), its founder, identified agriculture as foremost among the principles involved in the administration of human affairs. In his early life, he managed several agricultural estates. Later, he encouraged the development of farming villages in his native Iran and in Palestine, where he was exiled in 1868.

At the same time as the corporate takeover of the Hawaiian Islands, Bahá'í development principles were being put into practice in villages in Iran, including Máhfarújak, Ivel, and Saysán. Their successes were repeated as far afield as Daidanaw in Burma. These villages became prosperous and were noted for progressive developments in agriculture, education, and culture (Hanley, 2024).

Most notable was the village of 'Adasíyyih in Jordan, which demonstrated how a farming community can quickly develop capacities required to transform agrifood systems. Established in 1908, the residents of 'Adasíyyih applied a set of principles, elements, and actions remarkably like those recommended today by the FAO. 'Adasíyyih provides a strong example of innovation in farming practices, marketing, community development, and governance. Unique in the region, it overcame many obstacles to be seen as a model village for the nation.

The farmers of 'Adasíyyih were faced with a significantly degraded landscape at the beginning of their project. Over time, the community was able to establish a diverse agroecosystem that included some 60 plant and animal species. Common regenerative practices included crop rotation with multiple legume species, continuous cropping, green manuring, animal manuring, rotational grazing, and the use of perennial crops and tree farming. As a result, off-farm inputs were minimal.

Together, these measures improved soil fertility and quality, increasing microbial life and organic carbon content. Together, the farming practices at 'Adasíyyih, particularly tree cropping, also resulted in a favorable microclimate for people, animals, and plants, increasing the resilience of the farm.

An innovative governance framework set the stage for the formation of effective resident committees to guide the various aspects of farm and community operations, and ultimately the formation of a

Local Spiritual Assembly, an elected governing council for ‘Adasíyyih, in 1924. This non-partisan form of governance facilitated development of a social safety net for community members and neighbors.

Using this approach sufficient wealth was generated to finance intensification of farm activities, the provision of services like education, and eventually modernization. By 1918, less than a decade into operations, the farm was sufficiently productive that it could make a substantial contribution to the reduction of famine in the Haifa-‘Akká area during WW1.

Unusual for the time, girls and women, along with boys and men, were engaged in study, ranging from primary and secondary education to adult literacy classes. Significantly, education aimed to foster both material and spiritual knowledge. Children were instructed in moral values; their two-fold purpose was to develop their capacities and to use these in service to others.

A healthy lifestyle, involving a natural ‘plant-slant’ diet of locally-produced, nutrient-dense foods and an active life, contributed to optimum well-being.

Spiritual and moral values permeated the mundane task of conducting the farming enterprise at ‘Adasíyyih. The residents held devotional gatherings, after which they would consult about their affairs. They endeavored to treat their customers and neighbors with a high degree of integrity and observe honor, courtesy, and fairness in their daily lives.

As the Universal House of Justice, the international governing council of the Bahá’í Faith observed, “...there is an inherent moral dimension to the generation, distribution, and utilization of wealth and resources” (The Universal House of Justice, 2017, para. 2).

Evidence from Bahá’í communities around the world, including India, suggests that the role of spirituality in building unity and purpose in villages and neighborhoods should be considered a critical element in the process of transforming agriculture.

Releasing the Power to Build Society

To achieve a truly equitable and sustainable system, a fundamental transformation involving efforts to restructure communities at the level of culture, including systems of social organization, is required.

The importance of this level of change is acknowledged in Sustainable Development Goal 16: “Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable, and inclusive institutions at all levels” (Department of Economic and Social Affairs, 2023, para. 1) and this goal is elaborated in these targets:

- Substantially reduce corruption and bribery in all their forms.
- Develop effective, accountable, and transparent institutions at all levels.
- Ensure responsive, inclusive, participatory, and representative decision-making at all levels.
- Broaden and strengthen the participation of developing countries in the institutions of global governance.

Transformative action will involve the engagement of three protagonists in the process, individuals, communities, and institutions.

- **Individuals:** It is said that “you can’t create a system so good that the people in it don’t have to *be* good.” The objective then is to awaken the individual to their moral purpose. While material well-being for self and immediate family is a continuous concern, the adoption of higher ideals allows the individual to balance material requirements with the development of the inner world of the mind, heart, and soul. For the individual, the highest level of attainment becomes development of self with the aim of service to the community. Educational programs for children and youth, and ongoing study for adults, should support this pursuit.
- **For the community,** creating an environment that fosters the material and spiritual development of its citizens becomes paramount. In addition to promoting equitable access to basic material requirements, the community creates spaces that facilitate education, consultation, action, and reflection, with sustainability—the understanding that future citizens are equal members of the community—being a key consideration in its discourse. Creating spaces for collective devotion facilitates this process.

- Institutions foster and channel individual and collective capacities to efficiently and fairly organize material and human resources. They facilitate public discourse and consultation and support ongoing education for all ages and segments of the community, aiming to promote the goals of enlightenment and sustainability. To advance the development process, institutions at all levels will have to adhere to principles of quality governance, which involve the adoption of non-partisan means of selecting leaders motivated by an ethic of service.

Quality governance is of critical importance at the global level, given that

...virtually all of the major global catastrophic risks we face today are linked, in some form or other, to the inability of the human institutions that were created against the background of the chaos and destruction of World War II to adapt to the demands of a rapidly changing and increasingly complex world. (Lopez Claros, 2023, para. 2)

A daunting but unavoidable task is building a just and equitable world order built on a system of democratic global governance appropriate to an interdependent highly-connected world.

In summary, broad systemic transformation, involving all elements of society as protagonists in their own development, is the sole means of creating a just, equitable, and sustainable food and agriculture system that forms the foundation of a unified and prosperous global civilization.

NOTES

1. For a fuller discussion of Lal's research see Hanley, P. (2014). *Eleven*. FriesenPress, pp. 166-169.
2. For a fuller discussion of the panarchy model see Hanley, P. (2014). *Eleven*. FriesenPress, pp. 127-130.

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CHAPTER 13

Anthropogenic Expansion of Biodiversity and its Erosion by Agricultural Development

Debal Deb

A popular position on the loss of biodiversity espoused in articles and documentaries by people such as Sir David Attenborough, is to hold the human species as a whole responsible for ecocidal activities, i.e., the killing of ecosystems and the loss of biodiversity. The assumption is that only if we eliminate all human involvement with nature can the planet's biodiversity be saved. A corollary of this view is the assumption that it is those people who live in the forests and who derive their livelihoods from it, such as hunter-gatherers, who are the destroyers of forest biodiversity.¹

I argue here that while there is no doubt that there are anthropogenic reasons for biodiversity loss, ecosystem destruction and habitat loss, yet humans have also played another role in the course of evolution, which is much-neglected in conservation literature—as agents fostering and increasing the range of biodiversity. Strategies for addressing the ecological crisis we face will have to thus be as much about recognizing and fostering humanity's role in preserving and fostering biodiversity as it must be about containing and reversing anthropogenic excesses.

Levels of Biodiversity

At the outset, some clarification is in order about the concept of biodiversity as a biologist views it. When we talk of biodiversity, we have to be aware that it exists at different levels. At one level there are entire ecosystems which are part of this diversity such as marine ecosystems, forest ecosystems, desert ecosystems and agro-ecosystems. Then there is diversity at the taxon levels, which means there is immense biological

diversity at each of the taxic levels such as class, orders, families, genera, species and sub-species. Further, within each species or sub-species there is immense genetic diversity. Although dogs belong to one species, for example, we have thousands of breeds of dogs. Similarly, rice is one species—*Oryza sativa*—within which we have a great range of varieties such as *Gobindabhog*, *Basmati* and *Navara* expressing this genetic diversity. These varieties or breeds make up the genetic diversity within the species. Thus, when we talk of the loss of biodiversity, it could be that a species is extinct which would be at the taxic level, or it could be that varieties or breeds within a species or sub-species have become extinct which is a loss at the genetic level (although the species itself may not be extinct) or it could be that a whole habitat is lost, like a sacred grove or a forest, which would be a loss at the ecosystem level.

The Wilderness Myth

To understand the origins of the assumption that humans are the main cause of ecocide, it becomes necessary to revisit the classical Euro-centric myth of the wilderness. The myth of the wilderness was actually created in the early 18th century, if not before, and it has been severely critiqued by ecologists and biodiversity experts from the twentieth century onwards. The essential myth is that the wilderness is separate from, and below, human civilization. Civilization was considered to be definitely distinct from, and above, the wilderness. This way of conceiving of the wilderness in stark contrast to human civilization has informed popular conceptions of nature conservation where it is assumed that *we* conserve nature that is out there and that we are separate from nature with the power and authority to conserve it or to destroy it. This kind of epistemological distancing of humans from nature and the hierarchization of humans and nature is the foundation of the concept of the wilderness. Such conceptions of humans in relation to nature mirrored prevalent racial and patriarchal assumptions of 19th century Europe. Nature was always called ‘she’. Wild nature was like the non-European world which needed to be civilized or conquered for human benefit. Therefore, it was the civilized man’s task—his divinely ordained task—to conquer nature, to tame it and to subjugate it.

The conception of the wilderness as being devoid of civilization and of refined human characteristics was extended to apply to those

who lived in or around the forest, who were considered to be savages or barbarian people. Whether they were Africans, Meso-American tribes or Indians, they were considered uncivilized because they belonged to non-European groups. This orientalist mindset continues to prevail and to influence ecological thinking, which has in turn contributed to the formulation of unsound environmental policies.

Another erroneous assumption informed by this same way of thinking is that in the Pleistocene, which is the period when humans as a species arose in the course of evolution, many mammals like mammoths were pushed to extinction by overhunting and many forests and grasslands disappeared because of human-induced overgrazing. Over the last twenty years, evidence has accumulated to dismantle this hypothesis of extinction caused by overkilling or overgrazing. Rather, recent publications indicate that most of these extinctions were due to climatic factors—glaciation or the ice age and desertification—and not because of humans (Mace, 1991; Yaworsky et al., 2023). Geological climatic changes have been found to have eroded forests. Similarly, forest fires were not merely caused by humans; they were the outcome of natural cycles (Mace, 1991). To quote from a recent paper, “all the current evidence is consistent with climate-driven animal habitat shifts impacting the natural abundances of high-ranking prey species on the landscape rather than human-induced resource depletion” (Yaworsky et al., 2023, para. 1).

Hunting for Livelihoods vs Game Hunting

There is evidence that over the past 5,000 years, there was no extinction of animals or plants, until the late nineteenth century, which roughly coincides with the period of the advent of modern technology and the Industrial Revolution. There have been umpteen number of archaeological and paleo-anthropological studies, which confirm this conclusion. As one study put it, “all Asian environmental ills are either caused by Western technology or aggravated by it” (Callicott & Ames, 1989). Burke (2001) recorded that when the European trade for fur and animals began in the Americas, this trade replaced the practice of group hunting for subsistence by the Native Americans who were the indigenous inhabitants of the land. Instead of group hunting, the indigenous people resorted to individual hunting for trade. They

were empowered for this purpose by European traders with rifles and steel traps, and that led to the extermination of game animals. This happened only after contact with Europeans. Until this time, none of their animals went extinct. A similar study was carried out by Jackson et al. (2001) about Pacific marine animals. Twenty three marine animals were studied, and they discovered that the timing of the enormous losses of marine diversity, both in terms of the number of species and the number of animals per species in the Americas and the Pacific, in most cases closely coincides with the period of European colonization and exploitation. It was not a consequence of native hunting or native fishery practices.

Actualities such as these dismantle the myths of a pristine wilderness destroyed by humans. If at all any section of humanity is to be held responsible for the destruction of nature, it would have to be those societies where the Industrial Revolution emerged and took root, and that, in the process, colonized the earth and capitalized its natural resources. When reference is made to native hunting systems, it must be remembered that hunting-gathering societies would hunt for food or earn a basic livelihood and not beyond that. Pleasure hunting—hunting as a ‘sport’ or as a form of leisure which often involved gratuitous killing—was not part of these societies. Such wanton or large-scale killing of animals became visible with the advent of the imperial hunting system. In India, for example, hunting became an initiation ceremony for British men as an expression of valour. The term used was ‘game’ hunting, where hunting was a sport and the rifle used to kill animals was called a ‘sporting’ rifle. The semiotic usage of ‘game’ and ‘sport’, was a European invention. None of the tribals that I have been working with—over 16 tribes in India, America, and China—call hunting a game or a sport. Beinart (1990) gives an example of South Africa where six hundred heads of large game alone were shot in one day by imperial hunters. Similarly, in India, in 1916, during the viceregal visit of Lord Chelmsford to the Bharatpur bird sanctuary, 4,206 birds were killed in one single day. And again, in 1938, 4,273 birds were killed in a single-day shoot in the same sanctuary to celebrate the viceregal visit of Lord Linlithgow. Folklore of indigenous grazers in Bharatpur still reminisce that incident where after that single-day shoot, for the following fifteen days, people could not enter that

wetland because of the stench of thousands of birds rotting there. All these thousands of rotting birds were not called ‘destruction’ because it was a civilized, regal game, and on the other hand, the hunting of one or two birds by the native people would be considered the ‘savage’ extermination of animals.

Industrial Development and the Idea of Efficiency

Industrial development brought with it efficient technologies and efficiency often meant expeditious and exhaustive depletion of a resource stock. For example, an efficient fishing craft would be one that would enhance the catch per unit time or per unit effort. A traditional fisher might be catching, say, 200 fish per day. But today’s trawlers or purse seine technology can catch 20,000 fish in one effort and therefore it is considered more efficient. This technological efficiency is in total opposition to ecological efficiency because it does not take into consideration the need to recover or sustain the resource. It is geared to exhaust the resource as fast as possible and at the expense of the exhaustion of the resource-base.

This techno-industrial development that has caused the massive loss of biodiversity is not unique to capitalist societies alone. Soviet socialism and Chinese socialism followed a similar path of ecological destruction as part of their pursuit of industrial development. Examples of the ecological devastation in such societies includes the shrinking of the *Amu Darya* and *Syr Darya* rivers in the Soviet Union and the drying up of two-thirds of the Aral Sea. Similarly, China is the world’s largest user of pesticides and has among the most extensive levels of deforestation on the planet.

False Narratives in Agriculture

Another area where a false narrative about the role of early humans in contributing to biodiversity loss persists is agriculture. It is maintained, without evidence, that early humans caused biodiversity loss through the conversion of forests into agricultural land.

The agricultural revolution is said to have taken place between ten thousand to twelve thousand years ago with the onset of the domestication of crops and animals and the use of methods of controlled food production in place of wild food gathering and hunting.

Yet it must be remembered that the earliest agricultural production systems were not replacements to hunting-gathering but rather were forms of ecological agro-forestry which evolved alongside hunting and gathering within the forest itself. The remnants of these systems can be seen in the shifting cultivation that is practiced in forested areas, and that serves as a prime example of a multiple cropping systems. Within these traditional cropping systems as many as 200 species of crop and non-crop plants are grown together. I myself have recorded home gardens in Meghalaya, Kerala, Mizoram, Nagaland and southern Odisha where from 30 to 220 different crop species are grown on the same crop land or farm land in the same year. The plants grown are not just food species; they could be medicinal plants, fodder species, structural species like bamboo and those species which are companion crops to foster cultivation. These systems were called agro-forestry systems because they existed inside the forest, where a patch is cleared by a process of burning and charring creating black earth or *Terra Preta* as it is called in Amazonia.

The Amazonian rainforests which, in previous centuries were considered an example of 'virgin' or 'pristine' forests, were in reality never pristine. Rather, they are the result of ten thousand years of agro-forestry practiced by Inca and Mayan agro-foresters. The forests were the outcome of people consciously planting hundreds of trees and, in time, different kinds of animals inhabited these growing forests. As a result, after ten thousand years we now see what is called a pristine forest. The evidence for this was discovered in the 1970s when it was found that the topsoil of the rainforests, up to about two meters deep, consisted of bio-char or 'black earth' which was generated out of ten thousand years of practicing agro-forestry. Bio-char fertilizes the soil and it is the reason for the high soil fertility of these rainforests. Today, bio-char is one of the most important components of agro-ecology.

Another example illustrating how early humans did not initiate agriculture at the expense of destroying forests and depleting biodiversity, can be found in the Guinea Republic in Africa which has a mosaic landscape of forests and savanna. For 200 years, the forest department's literature, ecological studies, and school curricula taught that this particular landscape resulted out of the destruction of pristine forests at the hands of the native peoples who were claimed to have recklessly

overused it. Only 30 years ago the evidence from a multidisciplinary investigation revealed the process to have been exactly the opposite. The landscape was originally a desert some 5,000 years ago and the native Guinea people consciously planted multiple species of trees in this setting. As a result, after many centuries we see the savanna-forest complex.

Fostering Food Security

Mixed cropping systems, have included not only multi-species agro-forestry, composed of trees, herbs, grasses, shrubs, and climbers but also, in cases of farms with a wetland patch, aquatic flora and fauna as part of the farm produce. Modern agroecological research has established that polycrop systems in indigenous home gardens and agro-forestry farms are substantially more productive than monocultures of the same crops. Complex aqua-agro- ecosystems of Kerala in India, Bangladesh and China include not just many species of terrestrial crops but also aquatic food species including deepwater rice, water chestnut, fish, duck, crabs and shellfish. Such aqua-agroecosystems provide an excellent model of sustainability of food production, which ensures that in the event of any kind of disaster at least one source of food would be available from both the aquatic and the terrestrial systems.

The Impact of the Green Revolution

With the industrialization of agriculture epitomized in the so-called Green Revolution—the advent of which was in the late 1960s—this traditional agro-forestry, and more generally the practice of multiple-cropping systems, were all replaced with mono-culture. With the Green Revolution, acres and acres of rice and wheat were brought under intensive monoculture cultivation that was boosted with synthetic pesticides, herbicides and fertilizers to maximize the yield. As a result of the impact of the vast quantities of toxic chemicals used in this process and their calamitous effect on soil organisms, the entire ecosystem was killed. The composition of the agroecosystem was completely changed and crop diversity drastically reduced with the introduction of monoculture in place of multiple cropping systems.

This constituted a loss of biodiversity at the taxic level and the genetic level. Instead of multiple varieties of a species such as the multiple

varieties of rice, corn, or millets that are grown in farms even today in many states in India, the Green Revolution model of agricultural industrialization promoted the cultivation of one variety (such as the IR 36, IR 72 or PT 20 varieties of corn) which causes homogenization of genetic diversity. In this way, through policies of the Green Revolution, biodiversity at the genetic level is severely truncated through the drastic reduction in the complexity of agro-ecosystems. In addition to this, these policies have also caused the chemical elimination of species.

Custodians and Creators of Biodiversity

Humans have historically played the role of being custodians of biodiversity by maintaining these agroecosystems, by fostering different kinds of food production systems like shifting cultivation and agro-forestry and instituting stringent cultural norms on hunting and gathering such as the norm that prohibited overkilling or that did not allow the killing of a pregnant doe. Further, as the example of the Amazon rainforests and the Guinean savanna-forest mosaic indicates, humans played a role in creating new ecosystems that did not exist before, thereby enhancing biodiversity at the ecosystem level.

Humans also created new species that were not created by God or natural selection but rather through a process that Darwin called artificial selection. First among them was the dog that was selected from *Canis lupus* which is the Eurasian wolf. From this species, over thousands of years by experimentation, selection and careful breeding, humans created a new species altogether—*Cannis familiaris*—which is the dog. The fact that when dogs become feral, they do not look or behave like the wolf is a testament to it becoming a new species.² The dingo in Australia, once considered a kind of feral dog, is now known to be a lineage in the process of dog domestication from the ancestral wolf. They are neither wolf nor dog, but belong to an independent canine species. Similarly, the horse—*Equus caballus*—was selected and bred from at least three progenitor species. *Equus caballus*, the horse that we know today, never existed until about 9,000 years ago. Cultivated rice is yet another example. The progenitor species of rice was *Oryza rufipogon* in China, but now the rice cultivated today (*Oryza sativa*) is a completely new species which never existed in the wild before. Even today, it does not exist in the wild; it is always cultivated.

These cultivated species and domesticated animals are all new species created by humans. In this way, humans have extended the range of biodiversity by creating these new species.

Humans have also created new sub-species. The domesticated donkey for example, *Equus africanus asinus*, is a sub-species of the African wild ass *Equus africanus*. Chicken is another example of a new sub-species. All the chicken (*Gallus gallus domesticus*) of the world today is a domesticated sub-species of the Indian red junglefowl *Gallus gallus*. In the plant kingdom, emmer wheat and tea are sub-species of the original parental species. As sub-species they are not just a sub-section of the population of the original species, but rather a result of the creation of many kinds of gene combinations which were not found in the original progenitor species which led to the creation of a sub-species. Table 1 shows the vast range of species and sub-species that are part of our everyday world which were created human intervention.

Table 1: An Illustrative List of Domesticated Animals and Plants, and their Domestication Histories

<i>Species</i>	<i>Progenitor Species</i>	<i>Centre of Domestication</i>	<i>Approximate Domestication Period (YBP)</i>
Dog (<i>Canis familiaris</i> L.)	Extinct common ancestor of <i>C. familiaris</i> and <i>C. lupus</i>	Near East	14000
Cow (<i>Bos indicus</i> L.)	<i>Bos gaurus</i> Smith	Indus Valley	5000
Goat (<i>Capra hircus</i> L.)	Bezoar (<i>C. aegagrus Erxleben</i>)	Western Eurasia	11000
Donkey (<i>Equus asinus asinus</i>)	African wild ass (<i>E. asinus africanus</i>)	Eastern Africa	4800
Bactrian Camel (<i>Camelus bactrianus</i>)	<i>Camelus bactrianus ferus</i>	Central Asia	5000-6000
Horse (<i>Equus caballus</i>)	Western Eurasian domesticate from <i>Equus ferus</i> (extinct)	Lower Volga-Don region	4200
Llama (<i>Lama glama</i>)	<i>Lama guanicoe</i>	Andean Valley	6000-7000
Chicken (<i>Gallus gallus domesticus</i>)	Red jungle fowl (<i>Gallus gallus</i>)	East Asia, South Asia	4000-10000
Silk Moth (<i>Bombyx mori</i>)	Extinct common ancestor of <i>B. mori</i> and <i>B. mandarina</i>	China	4100

<i>Species</i>	<i>Progenitor Species</i>	<i>Centre of Domestication</i>	<i>Approximate Domestication Period (YBP)</i>
Rice (<i>Oryza sativa</i> ssp. <i>japonica</i> L.)	<i>Oryza rufipogon</i> Griff.	China	8000
Rice (<i>Oryza sativa</i> ssp. <i>indica</i>)	<i>Oryza sativa</i> + <i>O. nivara</i> Sharma and Shastry	India	4000
Einkorn Wheat (<i>Triticum monococcum</i> ssp. <i>monococcum</i> L.)	<i>T. monococcum</i> ssp. <i>Aegilopoides</i> (Link) Thell.	Georgia	10000
Common Bread Wheat (<i>Triticum aestivum</i> ssp. <i>aestivum</i> L.)	<i>Aegilops tauschii</i> Coss. + <i>T. turgidum</i> L.	Iraq	8000
Emmer Wheat (<i>Triticum turgidum</i> spp. <i>Dicoccum</i> (Schrank) schübl)	<i>T. turgidum</i> ssp. <i>Dicoccooides</i> (Körn.) Thell	Turkey	9500
Corn (<i>Zea mays</i>)	Teosinte (<i>Zea mays</i> ssp. <i>parviglumis</i> Iltis & Doebley)	Mexico	8000
Barley	<i>Hoedeum spontaneum</i> C. Koch.	Israel-Jordon, Tibet	12000
Sorghum/Guinea corn (<i>Sorghum bicolor</i>)	<i>Sorghum arundinaceum</i> (Desv.) Stapf	Sudan	5500
Pearl millet (<i>Pennisetum glaucum</i>)	<i>Pennisetum violaceum</i> (Lam.) Rich	Mali	4000

Such artificial selection can also be witnessed with olives, apples, grapes and coconuts. In the states of Tamil Nadu and Kerala, there are a range of coconut genetic diversity—some are particularly important for their meat, others contain a lot of water while yet others are distinguished for their fibre content which is important for coir and rope-making.

Rice Landraces

One of the plant species with astonishingly large number of landraces that were developed by means of artificial selection is rice. I have been growing 1,440 varieties of rice every year on my farm. Figure 3 provides a snapshot of the diversity of colour, size, and shape among different varieties of rice grains. There is also a rich diversity in the range of rice aroma, taste and cooking time.



Figure 1: Coconut Genetic Diversity (Source: Bourdeix et al., 2011)



Figure 2: Sorghum Genetic Diversity. (Source: Sanjay Patil 2020)

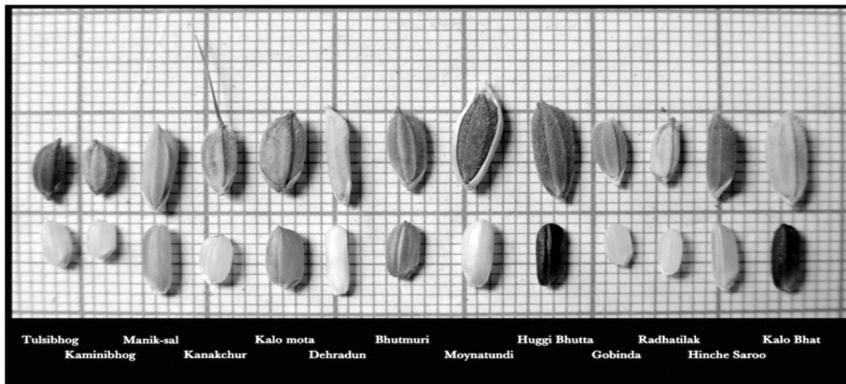


Figure 3: A Snapshot of Grain Morphology of Diverse Rice Landraces
[Source: author]

On the top row in Figure 3 is the hulled rice and the bottom row is the kernel which is cooked after the rice is milled. Then there are different colours of rice—white, yellow, ivory-coloured, light-brown, dark-brown, brown-furrows, purple, purple-furrows and black among others. On the upper row (Figure 3), the eighth from the left is a unique variety with an external sterile lemma the length of which exceeds the length of the rice grain itself. This is a unique property of this variety. The farmer who grows this variety in Chhattisgarh does so not for any obvious agronomic benefit or taste but for its aesthetic value.

In the course of my fieldwork, I also discovered a variety of rice, the only one of its kind in the world, that contains 15.7 ppm of silver in its grains. We discovered silver in this variety serendipitously while screening for minerals like iron and zinc. This variety was known in Bengal as a medicinal rice that can cure gastro-enteric diseases like diarrhea, dysentery and giardiasis. Its medicinal properties, we now surmise, comes from the fact that the silver nano-particles in its grains eradicate the pathogens in the gut (Deb et al., 2015).

Yet another unique variety of rice contains three grains within its husk. It is called 'sateen' in West Bengal which literally means 'co-wives', with the 'husband' grain in the middle, flanked by two wives, all living happily in the same room. Beyond the dream of genetic engineers to create three kernels in the same spikelet, an unknown farmer-scientist developed this variety about a century ago.

There are further varieties of rice that are conserved for amazing agronomic properties: some are salt-tolerant, some are drought-tolerant, others are flood-tolerant, while yet others are pest-resistant or disease-resistant.

Developmentality and Ecocides

The examples quoted above illustrate how humans have created and added to biodiversity on different levels—the ecosystem level, the genetic level, the species level and the sub-species level. At the same time, the second episode of taxic and genetic bottleneck took place with the industrialized agriculture, ushered into South and South East Asia by the Green Revolution, as has already been discussed. This process of mass-scale ecological destruction, caused by ‘development’ which began at the beginning of the twentieth century, has only accelerated over the decades and spread throughout the world.

The general acceptance of the industrial growth model as both the reference and the normative goal of social and economic development is what I call 'developmentality' (Deb, 2009), which is the root cause of all the ecocidal economic activities of the Anthropocene. This expansion of developmentality in all spheres of human economy, spanning forests, wildlife and domesticated biodiversity, has resulted in the erosion of biodiversity and cultural diversity, including local food cultures and knowledge systems (Deb, 2022).

Despite the existence of international treaties stipulating the urgent need to reduce carbon dioxide emission and increase carbon dioxide sequestration as the major measure to mitigate climate change, deforestation continues in South America (Figure 4), South and South East Asia, in pursuance of industrial growth. Preliminary data from national space agency Inpe showed that 5,153 sq km of the Amazonian forest was cleared in 2023, down from 10,278 sq km in 2022 (BBC News, 2024).

It is deforestation on this scale the world over that is causing levels of carbon dioxide emissions which have never before been recorded on earth. Similarly, deforestation of rain forests in Indonesia for oil palm cultivation, and deforestation of 172,000 ha of a dense forest in Chhattisgarh, India for industrial growth, are instances of the ecocidal impact of industrial growth.



Figure 4: Amazonian Rainforest Cleared for Industry and Commerce.
[Source: Internet]

Another well-known example of anthropogenic ecocide for economic development is the devastating impact of plastics on the environment. An average Indian generates around 11 kgs of plastic each year. According to one study, the amount of plastic use in India is growing by 10 percent each year and of the 3.4 million tonnes of plastic waste generated each year only 30 percent gets recycled (Indian Institute of Science & Praxis Global Alliance, 2022). The ecocidal effects of all the plastic waste that is dumped on the environment every day can be seen with the millions of animals that die each day from consuming plastic in various forms including microplastics.

The current extinction rate of species is 1000 species per million per year which is already 1000 times higher than the background rate of extinction, which is the average species extinction rate on earth excluding major extinction events. In the recent past, biologists and ecologists have predicted that this rate is going to rise in the coming years to 10,000 times higher than the background rate of extinction. This is going to be a mass extinction episode that will be only next to the Cambrian-Ordovician extinction that happened in the geological past.

The signs of this massive erosion of biodiversity is not confined to wild species alone, but extends to the genetic level of domesticated biodiversity as well. India had an estimated 110,000 rice varieties until 1970. Owing in large measure to the imposition of monoculture with

the Green Revolution, today from these 110,000 rice varieties we are left with no more than 6,000 landraces (Deb, 2019). The Food and Agriculture Organization of the United Nations (FAO) has estimated that 159 cattle breeds all over the world have gone extinct over the last 50 years; 107 pure breeds of sheep have gone extinct; 101 breeds of horses and 70 breeds of pigs have gone extinct. The report concludes stating that “some breeds may have become extinct without being ever documented.” (Commission on Genetic Resources for Food and Agriculture, 2022, p. 12).

People's Conservation in Anthropocene

Cause for hope comes from the various efforts humans are making the world over to address this challenge. Among them are the indigenous people who live with and within local ecosystems, use the ecosystem for their livelihoods every day, observe customary restraints on resource-use to maintain and preserve species of plants and animals. Indigenous people observe some customary limits to harvesting mushrooms and tubers from the forest (Deb & Malhotra, 2001). They consider a range of species, groves and ponds to be sacred. There are, for example, groves of heronry, where storks and herons are allowed to nest and breed without disturbance. Even in cases of hunter-gatherer villages where birds are hunted, there are prohibitions to never disturb the birds during their breeding period in order to sustain the resource species for posterity. A survey revealed that resident birds tend to favour sacred groves as the preferred habitats for nesting and breeding, rather than native forest patches and home gardens, due to the cultural protection around the sacred groves (Deb et al., 1997). The revival of traditional seasonal restriction of lobster fishing resulted in the successful recovery of the Monhegan island fishery off the coast of Maine, USA. Similarly, the revival of the institution of sacred groves in the name of ‘safety forests’ in Mizoram resulted in the increased availability of forest resources (Deb, 2009).

The traditions of resource conservation are not merely utilitarian in value. They can be understood in the context of an entire worldview that profoundly recognizes the interconnectedness of nature with humans and that fosters biophilia. Such traditions recognize the non-use value of species. Sacred species and habitats signify the existence value of



Figure 5: Rehabilitation of Injured Birds. (Source: author)

biodiversity. Many sacred species have no direct economic uses. Figure 5 shows hunter-gatherer people rescuing and rehabilitating birds that are injured or that have fallen from trees. This is an expression of their love and respect for nature which is inherent to indigenous cultures. Even when animals are hunted for food, they are not killed gratuitously.

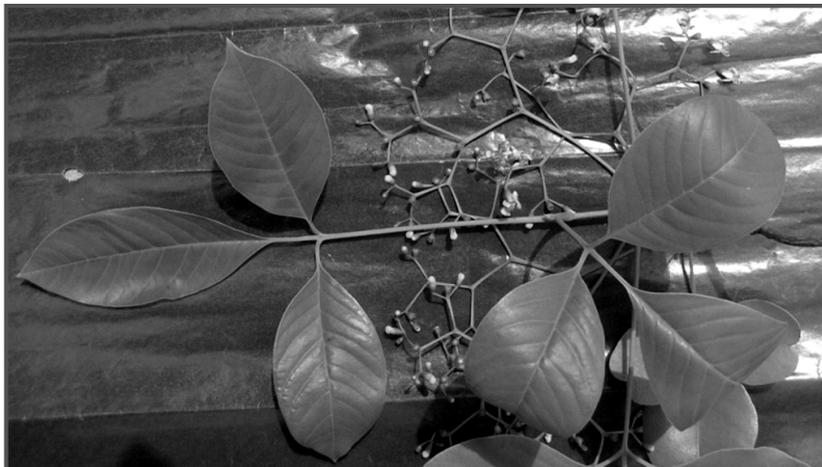


Figure 6: Vitex Glabrata, a Critically-Endangered Tree that was Rescued by Using Tissue Culture at Basudha. (Source: author)

In the course of a survey of sacred groves in eastern India, we identified many endemic trees and animals, including the last

populations of certain endemic flora and fauna that exist only in sacred groves. In one example, I rescued from extinction a critically endangered tree, *Vitex glabrata* in eastern India (see Figure 6), from a sacred grove that was later destroyed to make way to development. Similarly, an endemic species of frog, *Leptolalax khasiana*, not found elsewhere in the world, was discovered in a sacred grove in Mawphlang in Meghalaya.

In yet another example, the last population in mainland India of the black turtle *Nilsonia nigricans* is still surviving in Baneswar sacred pond in Coach Behar district of West Bengal and in a sacred pond in Meghalaya. These two ponds, apart from a third sacred pond in Chittagong, Bangladesh, are the last habitats of this species. These examples illustrate the value of sacred ponds and groves maintained by indigenous people, in conserving biodiversity. The cultural protection of the plants and animals in these habitats is a result of *biophilia*—love and respect for life (Deb and Malhotra, 2001).

The Path Forward

Addressing the challenges of ecocide on such a massive scale requires not just recognizing and valuing the knowledge, practices and beliefs of indigenous peoples and cultures but also valuing the potential of ordinary people who closely interact with nature to foster biodiversity through the desire to add to biodiversity through careful and innovative breeding.

On a broader level, the fundamental question we humans face is whether we can continue this pattern of industrial development while at the same time preserving biodiversity. Clearly, we cannot continue this model of techno-urban development while at the same time hoping for nature to flourish. There is a need for a fundamental change to the present techno-urban civilization. Although such a change is not easy to achieve, it is possible to move towards it if we can conceptualize an alternative path of development and seriously commit to following it. In six countries in Europe, for example, a silent revolution is underway where cities called ‘Transition Towns’ have completely stopped or significantly reduced the use of fossil fuels. They import bicycles and cycle rickshaws for transportation, use zero chemical agricultural production and they do not import any food from outside. This is

a testament to what can be achieved if we set our minds to find a different path toward collective prosperity and sustainability.

A major obstacle we face in achieving positive change is a mindset that maintains that there is no alternative to the current path of development which will eventually doom us to extinction. Our challenge then is to work together in questioning the status quo, to learn and draw inspiration from the vast body of knowledge and experiences that humanity has accumulated over millennia of living in harmony with nature and fostering biodiversity. It is imperative that we draw on our cultural heritage, with intelligent and imaginative new initiatives, with a determination that no matter how small our contributions may be, our efforts will find a path of redemption for humanity, and steer the global life support system away from the current course of anthropogenic destruction.

NOTES

1. A version of this position was described by Ramachandra Guha and Joan Martinez-Alier (1997) as the elite urban conservationist view, which advocates keeping "nature" completely untouched by humans. In such a view, those who draw from a forest's resources for their livelihoods by, for example, cutting a tree or killing a bird, are the enemies of nature by disturbing the pristine purity of nature. This view underpins the American model of nature conservation as evidenced by the creation of nature reserves such as Yosemite National Park and the Yellowstone National Park in North America. Yet, in Asia and Africa, nature was never thought of like that; every part of nature has been in interaction with humans all the time.
2. Currently about 6,000 breeds of dog have been documented to exist against the 20,000 breeds of dog that are believed to have existed, most of which have become extinct. Yet, even the existence of 6,000 breeds of dog is the result of a fantastic magnification of genetic diversity, composed of special genetic traits. The smallest of these dog breeds is the Chihuahua, the Chinese dog which can fit in a coat pocket and the largest-sized dog is the Siberian Borzoi, which is the size of a small cow. This entire range—from the tiny Chihuahua to the Borzoi—all belong to the same species, *Canis familiaris*. This amazing genetic diversity was created by humans over centuries of intelligent selection and breeding. Even today, dog-breeders are very careful not to mix the breeds so as to retain the original distinguishing genetic traits of the particular breed.

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CHAPTER 14

Technology and Ethics for Sustainable Development: Reflections of a Textile Technologist

Mangesh D. Teli

The pursuit of sustainable development has become increasingly urgent and compelling given the grave environmental crisis that humanity faces at present and its fallout in terms of precipitating social, economic and political crises on a global scale. At the centre of the challenge of addressing the rapidly-escalating environmental crisis and finding sustainable alternatives to ecologically-unsound patterns of life and modes of production is the question of technology and its use. Technological development has been, on the one hand, denounced as the cause of the environmental crisis by enabling processes of rapid industrialization, urbanization and the massive exploitation of natural resources. On the other hand, faced with escalating climate change and natural calamities, policy makers have increasingly been reliant on technological solutions to mitigate the severity of the crisis. What has become clear is that in tracing a path towards a future based on the principle of sustainability neither can technological development be rejected as an agent of anthropocentrism nor can every technological innovation be uncritically welcomed with no regard for its social, moral and economic consequences. A new posture in humanity's engagement with technology is called for, one that reflects a maturity and wisdom born out of profound consciousness of the oneness of humankind and of the interconnectedness of humanity with the natural world. It is the premise of this paper that such a posture can only emerge from an ethical framework that reconciles individual progress with societal advancement and environmental well-being.

This paper is divided into three sections. The first section lays out the nature of the challenge facing the individual, the society and the environment in the present world context. The second section proposes an ethical framework that would synergize individual and collective progress with environmental sustainability and which has, at its core, the harmony between scientific methods and spiritual principles. The third section of this paper seeks to illustrate through examples from the field of textile industry how technology, guided by such a framework, would provide sustainable solutions.

A World in Crisis

The most evident crisis our world is faced with lies within the goals being pursued for individual and collective progress which are defined in terms of materialistic gain and accumulation. This elevation of materialism as a dominant creed of our present civilization and the consequent neglect of social, moral, environmental and spiritual values often lies at the root of the multiple crises facing humanity whether it is in the form of the alarming rise in economic inequalities, the degradation of the environment, the increasing incidences of international conflicts and war, the breakdown of the social fabric and the decline of standards of decency. Rather than being considered as the means to fulfilling higher order aims for individual and collective life, economic wealth has turned into an end in itself and the long-suppressed instincts of greed and selfishness are actively harnessed to enable its acquisition.

In the life of an individual, this prevalent ethos manifests itself in the singular pursuit of wealth and the equation of success with its acquisition. In other words, the achievement of economic wealth and financial security is regarded as the pre-condition for leading a happy and fulfilling life. All other aspects of life such as social relationships, family bonds, regard for one's personal health and commitment to ethical codes are considered secondary to this overarching aim. How well or poorly an individual fares in these other, non-material dimensions of life becomes of less relevance than their performance in the economic domain. In its pursuit, people can become so engrossed that they become willing to sacrifice integrity of family bonds, their social life, their own health and their commitment to ethical standards. This preeminence of economic values and materialistic considerations

in an individual's life is reinforced by the prestige that society accords to wealth and to the markers of economic status in a consumerist society. Thus, even in cases where an individual succeeds in achieving and maintaining high levels of economic wealth, it does not translate into a sense of well-being. This is because excelling in the highly competitive rat race of the employment market demands the entire commitment, energy and attention of the individual and this comes at the cost of neglecting relationships, personal health, a sense of spiritual connectedness and other such aspects that bring joy and give meaning to life. It can often leave an individual in an emotionally and mentally-fragile state without the maturity or resilience to face and learn from the setbacks and disappointments that are an inevitable part of life.

At the societal level, the dedication to materialistic conceptions of development manifests itself in a race among nations to exceed each other in economic growth measured in terms of Gross Domestic Product (GDP). Among the most grave consequences of this has been the unbridled degradation of the environment as nations vie with each other to reach higher levels of material advancement by more intensely and efficiently extracting and exploiting water, fossil fuels, minerals and other natural resources. The world's rapidly growing population is going to hit 9 billion by 2050. The demand for water is predicted to increase by 55 percent worldwide—2.7 billion people already live in areas of water scarcity. With the current levels of carbon dioxide emissions, scientists predict that global temperatures will rise by 1.5-2 degrees Celsius above pre-industrial levels by 2040 (Acted, n.d.). When this happens, the people of the world will face the full catastrophic impact of climate change including the rising of sea levels and the drowning of islands and cities in coastal and low-lying areas, the change of seasons, untimely and massive floods, hurricanes and severe drought-like conditions.

It is difficult to see how our society would escape these consequences unless we find a way to replace the current economic paradigm which runs on the idea of "take, make and dispose" (Özkan & Yücel, 2020 p. 62). This consumerist paradigm promises to satisfy every want of a consumer by making products that would satisfy them, products that can be promptly disposed off and replaced with new ones to keep the wheels of a consumption-based economy perpetually turning. As the

population of the world grows and ever-larger numbers of people are ushered into the consumerist economy in the name of development, the crisis this poses to the environment is only going to become more aggravated. This includes the irreversible loss of non-renewable resources such as groundwater, biodiversity and forests. WWF's Living Planet Report states that more than 30% of the earth resources have been already irreversibly consumed by this generation (Almond et al., 2022).

Such consumerist ideologies, and the free-market economic systems on which they are based, have not only degraded the environment but also taken a heavy social toll by giving rise to vast economic disparities which in turn cause increasing social unrest and violence in many countries. One estimate indicates that currently 1 billion people live on \$1 per day, which puts them in the ultra poor category (Ahmed, 2007). Half of the world's population lives on less than \$6.85 per day (Schoch et al., 2022) and of that 2.4 billion people earn less than \$2 a day (Chen & Ravallion, 2004), 700 million live with the uncertainty of whether they will have their next meal (Anand, 2023). 2.2 billion have no access to clean water (WHO/UNICEF Joint Monitoring Programme for Water Supply, Sanitation and Hygiene [JMP], 2023, p. VIII), 3.5 billion have inadequate sanitation (JMP, 2023, p. IX), 1 billion born in this century are illiterate, one-tenth of the world is always hungry and goes to bed without food (Anand, 2023) and 733 million are undernourished (Food and Agricultural Organization of the United Nations [FAO] et al., 2024) and 9 million die every year due to hunger (World Food Programme, 2021). There are about 2.2 billion children of which 900 million live in multidimensional poverty (Global Coalition to End Child Poverty, 2025); 250 million can't go to school (United Nations Education, Scientific and Cultural Organization [UNESCO], 2023); 640 million are without shelter (Shah, 2013); and 25,000 adults and children die every day (Holmes, 2008). These are estimates from the reports of reliable agencies and it makes clear that the world needs to change *business as usual* practices and has to address these urgent global issues.

In the meantime, while a significant population of the developing world lives below the poverty line and faces food and nutritional insecurity, a small section of the population in these same societies

live lives of extreme affluence. These affluent sections of society have garnered a large share of the benefits of material prosperity over the past century. Twenty percent of the world's population has access to 84 percent of the world's wealth while the remaining four-fifth of humanity endure lives of want and deprivation.

Towards an Ethical Framework

The kind of ethical framework needed to address the complex challenges of India in the twenty first century, is one that not only sets the standards for the achievement of the highest moral potential of the individual, but also synchronizes the pursuit of individual moral excellence with those values that are most conducive to the unity and advancement of society as a whole and the preservation of the environment. Such a framework must begin with a conception of the moral capacity of human beings and of the kind of life that would allow for the fulfillment of the highest potential of human nature and conduce to the achievement of overall well being. The conception of human nature that I would like to propose as a basic element of this framework is one that in some form or the other is found in most of the religious scriptures and ethical treatises of the world. It is a conception of human beings being possessed of a two-fold nature. On the one hand, humans have a material nature that is part of our animal heritage and is an outcome of the process of biological evolution. This is the nature that human beings share with animals—our instincts, desires, emotions and urges. If human beings only had a material nature, we would be no different from animals and would be incapable of manifesting the many noble traits that have allowed us to generate knowledge, build civilizations, develop arts, crafts, and literature and achieve great moral feats of selflessness, heroism, love, and sacrifice which can be seen in the lives of saints and heroes. All these achievements are the outcomes of humanity's higher, spiritual nature which comprises those qualities, attributes and virtues that allows humans to subdue their animal nature, to transcend the dictates of an appetitive nature, and to direct their wills towards the achievement of artistic, moral, intellectual, scientific or spiritual excellence. A true state of well-being in human life is achieved not by repressing or denying the material nature but rather by controlling and regulating it and ensuring that the higher nature is always in control

of the material nature so that human thought and behaviour does not pass beyond the bounds of what is conducive for individual and social well-being.

Human beings achieve their highest potential by developing the qualities and virtues that are part of their spiritual nature. The spiritual aspects of life are not to be set in opposition to the material aspects but rather they are meant to give meaning and direction to our material existence and to prevent our material nature from sliding into excesses which is detrimental to the individual, the society and the environment. Similarly, the process of moral and spiritual development cannot happen in a vacuum. It can only be achieved through a life dedicated to serving humanity through the various roles that an individual is required to play as part of a full life—as a child, a parent, a spouse, a friend, a citizen, and an employee or employer.

In practice this would mean that the various dimensions of life are brought into coherence with each other by an underlying ethical framework. The preservation of health, the achievement of financial stability, the fostering of a healthy family life which includes due attention and care for parents as well as children, the nurturing of social bonds of friendship, the active participation in community life with a spirit of service, and the development of one's skills and capacities through educational and professional avenues are all necessary dimensions of a wholesome life. What holds them all together, with each being accorded their due importance, is an ethical framework. This framework recognizes the inherent oneness of humankind and of our interconnectedness with the natural world and it places at the centre of our lives the responsibility to serve humanity by developing and applying spiritual and intellectual capacities, by building unity, by working to establish justice, and by becoming responsible stewards of the natural world. These commitments find everyday expression in every one of the roles an individual plays.

The implications of overcoming materialistic conceptions of human nature go beyond the life of the individual and embrace the conceptions we hold of the development of society as a whole. What is true for the individual is also true for the world at large. Globally, decision-making in the field of development has been based on a fundamentally materialistic view of existence that has essentially

ignored the spiritual nature of the human being (Institute for Studies in Global Prosperity [ISGP], 2008). This scenario leads to the sobering conclusion that the materialistic development paradigm has proven not only insufficient but fundamentally flawed and a new paradigm is needed.

For both the individual and society at large, the systems of knowledge that inform and shape such an ethical framework are both science and religion. Science is a system of knowledge that helps humanity explore and understand the material universe and the laws that govern it. On the other hand, religion is a system of knowledge and practice through which humanity gains insights into the dynamics of spiritual reality and of the means to achieve moral progress. It must be emphasized here that by religion is not meant any particular religion but rather religion as a common phenomena in human history that is responsible for spiritual and moral progress of humanity through providing a tremendous stimulus to the advancement of civilization, the expansion of knowledge, of arts and literature and of laws and moral standards. When viewed from the purpose of its nature and purpose, religion is one even as science is one. The oneness of religion stems from those common spiritual and moral teachings that are at the core of each religion. The differences in social teachings and laws of particular religions can be attributed to the differing needs of each age.

Another vital element of this ethical framework is that both science and religion as two systems of knowledge and practice that advance civilization are in harmony with each other. When science is guided by the highest moral and spiritual teachings of religion, it serves the common good and is protected from being used for dangerous purposes or from sliding into materialism. Religion must also be in accord with science and reason so as to protect it from the enervating influences of dogmas, manmade rituals, blind imitation and superstitions. In this sense, both science and religion hold each other in check and ensure that neither is misused. It is this vision of the complementarity of science and religion that led Albert Einstein to famously declare: "Science without religion is lame, and religion without science is blind" (Einstein, 1950, p. 26).

In the context of the broader vision of development, science and religion would then be seen as the two systems of knowledge that

build capacity in populations to take charge of their own material and spiritual progress. While scientific knowledge and scientific methods are indispensable for arriving at a correct understanding of social, psychological and physical realities and using sound methods for transforming these realities, the spiritual principles of religion would provide both the ethical goals of development as well as the moral guidelines for using science and technology for achieving these ends. Further, among the unique powers of religion is that it taps into the deepest sources of human motivation by appealing to the human spirit. The practical manifestation of the complementarity of science and religion can be seen in the influence of ethics in shaping the purposes for which technology is developed and the used.

In addition to the above, this ethical framework would need to include a host of moral principles that would guide human character and conduct in the challenging circumstances of the twenty-first century. The first among these principles, is an unreserved acceptance of the oneness of humankind and the need for the complete abolition of all forms of prejudice. It is this principle that was invoked in the ancient *Upanishads* which gave humanity the dictum “*Vasudhaiva Kutumbakam*” or the earth is but one country. In the world of the twenty-first century which has been reduced into a global neighbourhood by technological developments, the need for wholeheartedly reflecting this principle in human consciousness as well as in the structures of society is more urgent than ever before given that humanity today faces collective challenges such as climate change, the environmental crisis, global conflicts, the rise of pandemics, international terrorism and the energy crisis, among others. None of these crisis in the world today can be addressed by one nation alone; they require global collaboration. These problems, again, cannot be addressed merely by signing treaties or entering into formal agreements. A profound change in human consciousness is needed where oneness is accepted as a spiritual reality and the spirit of love and brotherhood embraces all human beings. In such a world, while our oneness at the level of our essential humanity is recognized, the limitless diversity in our secondary identities whether it be ethnic, cultural, linguistic, or in tastes is celebrated and cherished. A range of principles are derived from the overarching truth of the oneness of humankind such as the centrality of justice to the ordering

of social and economic life, the equality of women and men, the need to abolish extremes of wealth and poverty and the need to adopt consultative methods in collective decision making that give room to everyone to express their views in an atmosphere that encourages open, constructive and humble participation.

Closely connected to the principle of the oneness of humankind is the oneness of existence and of the interconnectedness and interdependence of humanity with the natural world. This principle would call for humanity to be deeply respectful of its bonds with nature and to play its role as a wise and humble steward in the use of the earth's natural resources preserving the vast diversity of species on the planet, drawing from nature to the extent that is needed without defiling and defacing nature and being careful not to disturb the ecological balance that maintains all life.

Environmental Sustainability: Challenges and Learnings

The earlier section introduced some of the principles that would form part of an ethical framework that can bring about a much-needed reordering of the relationships of human beings with each other and with nature so as to achieve enduring prosperity. In the contemporary development discourse such a vision of enduring prosperity is outlined in terms of the principles of sustainability. The United Nations' World Commission on Environment and Development defines sustainability as "development that meets the need of the present without compromising the ability of the future generations to meet their own needs" (Sustainable Development Commission, n.d., para. 1). Thus, in order for an economic venture to follow sustainable practices, it must not only seek to be profitable but also meet stringent environmental standards and ensure that it has a positive influence on people who work for it and on the community in which it is located.¹ Sustainability would require both producers and consumers in the economy to embrace the principle of reduce, reuse, recycle, restore and replenish. It calls for an attitude of self-restraint to prevent needless consumption and waste.

In this context, some of the most innovative and creative forms of recycling have resulted when technology is employed for recycling used products or upcycling what is considered waste into new products,

at a profit. Making products out of such used materials can make production to a certain extent circular greatly reducing the pressure on exploiting new sources of raw materials.

As a textile chemist and technologist, I have conducted and led various research endeavours aimed at upcycling used textiles at very low cost and for a handsome profit. I am sharing a few examples here from my experiential learning as a researcher to demonstrate how ecologically-sound and commercially-viable such efforts can be. Usually, a young buyer would wear an item of clothing that he or she buys no more than 10 to 12 times after which the wearer loses interest in it and it remains stacked in their wardrobe. Young professionals often have such garments lying in their wardrobes unused for over a year. These garments are not damaged; it is just that their owners lose interest in them and prefer to purchase new garments, further pushing up the demand for clothing. This in turn increases the carbon foot print of the industries and factories that are manufacturing these clothes.

Given this scenario, a group of M.Tech students at my Institute under my guidance carried out a study to evaluate the viability of recycling pre-used garments. They purchased old garments at the rate of Rs.10 per kilogram and segregated them for recycling. After being thoroughly washed and disinfected, the garments were examined to identify the reasons for their loss of value in comparison with the original garment, such as colour loss, fading of the print, or smudging of the design. These garments were refurbished—mended, top-dyed, printed, or embroidered as required. Finally, they were ironed, neatly folded, and packed before being put up for sale. The results indicated that profitability ranged from 65 to 500 percent, an outstanding outcome considering major apparel units typically struggle to maintain margins of 25 to 30 percent.

This research project involving the recycling and upcycling of garments indicates that such ventures which have a positive impact on the environment can also be tremendously profitable. The more such companies come into operation, the more we prevent or delay the dumping of old garments in landfills.

Many of my research projects have emerged out of the need to find technological solutions to practical everyday problems. For example, one project that we carried out aimed to find cheap, ecologically-friendly

ways of producing garments that are wrinkle-free and odor-free. As a result of our research, we found that by using citric acid and chitosan specially derived from shrimp shells (the waste derived from packaging shrimps), we were able to achieve these effects (wrinkle-resistant and having antibacterial properties) at a much reduced cost. Further, due to antibacterial finishing, the cloth does not irritate the skin or develop odors and it is quite durable to washing cycles.

Another challenge faced by garment manufacturers is to meet the tight deadlines of retail brands and that too as per the fast-changing fashion trends. We developed a chemical formulation based on some additives and we prefinished the fabric and stitched it in colourless form. Upon receiving an order with specifications of lot, size and colour combinations, these ready-to-dye garments can be quickly dyed and supplied in the shortest possible delivery time. This technology offers a competitive edge for manufacturers giving them the capacity to meet the demands of retailers within the stipulated delivery schedule.

We carried out a project where we developed fabrics with a fragrant finish derived from natural oils like peppermint oil, lemongrass oil or neem oil that were micro-encapsulated and deposited on the fabric surface. These oils which are embedded in the fabric also have antibacterial and UV protection properties along with a pleasant fragrance.

A similar process was followed for developing mosquito-repellent finish for fabrics using citronella oil, cedar oil and peppermint oil, which were encapsulated and then deposited on the fabric surface through cross-linking or grafting. This technology is particularly valuable in developing countries, where mosquito-borne diseases such as malaria and dengue fever remain prevalent.

In another project, two of my research students, motivated by the goal of developing sustainable solutions, devised a method to extract starch from the large quantities of wheat and millet wasted each year due to poor storage conditions, which cause the grains to become wet and germinate (by one estimate, nearly 30 to 35 percent of the harvest is wasted). The starch extracted from these non-edible grains can either be used as a substitute for thickeners in fabric printing or converted into superabsorbent material for sanitary napkins. As a superadsorbent, it can retain bodily fluids up to 150 to 200 times

its own weight. Moreover, such a product would cost far less than the current market price of sanitary napkins, making it a boon for economically-underprivileged classes.

In yet another experience, we found a unique way of disposing of the *Nirmalya* or flower offerings of the Siddhivinayak Temple in Mumbai. Each day, thousands of devotees visit the temple and offer flowers and coconuts to the Ganapati idol. At the end of the day, the disposal of these flowers (*Nirmalya*) in a dignified way becomes a major challenge for the Temple management. One of the social enterprises engaged in natural dyeing to whom I was a technical consultant, decided to collect these marigold and hibiscus flowers from the temple and extract natural colours from them. These extracted colours became the natural dyes that were applied on cotton and silk fabrics and garments which were then exported to departmental stores in Europe and the United States of America. This not only solved the problem of the Temple management, but also generated revenue for them. Through this work, the social enterprise was able to support around 20 women workers from slums and a couple of artisans in the field of natural dyeing. A few of my students assisted the enterprise and their staff to develop various shade gamuts on cotton, wool and silk. One of my doctoral students improved on this process and was able to develop natural dyeing material using natural mordants which made the dyes more environmentally friendly and soft.

Finally, my last example relates to the development of fabrics with high oil-absorbent qualities. Since shipping is often the most economical way of transporting crude or refined oil, there has been a growing incidence of oil spills at sea, which pose a serious threat to marine life. Spilled oil sometimes ignites, burning for days and causing severe environmental pollution. Such accidents also adversely affect fishing communities whose livelihoods depend on marine resources. In response to this challenge, synthetic oil absorbents are usually employed, but they are not eco-friendly. As part of one of my research projects, we utilized acetylated jute and coir fibers for this purpose. These fibers are ecofriendly, not widely used in apparel, and hold great potential for strengthening the rural economy. Oil collected by these absorbents can be recovered through simple mechanical squeezing, after which the fibers can be reused. They were found to be as effective,

and sometimes even superior, to synthetic products, with the added advantage of repeated use. Once they are no longer serviceable, they can also serve as an efficient fuel for ship boilers.

Conclusion

No objective observer of the world's conditions today would deny that humanity, beset by multiple crises, stands at a crossroads. In many ways, the destiny of present and future generations will depend on whether we choose to respond constructively to these crises or remain passive spectators, allowing them to worsen. The most fundamental decisions before us as a human race concern whether we persist with materialistic conceptions of development—rooted in a materialistic view of human nature—or whether we adopt a more holistic understanding of the human being, one that encompasses spiritual, social, and cultural dimensions as well. Only on the basis of such an expanded conception of humanity, and a corresponding broadening of the vision of development, can we expect to find the motivation and will to confront fundamental challenges such as climate change and environmental degradation—challenges that demand long-term, persistent, and coordinated effort involving considerable sacrifice.

Assuming that solutions to the deep systemic problems underlying the environmental crises will emerge from the existing paradigm of development, or from a 'business as usual' approach, has proven to be a costly illusion. The catastrophes of the twentieth century and the first two decades of the twenty-first provide conclusive evidence that economic and social systems built on the assumption that human beings are primarily material in nature have failed—not only in building a peaceful and united world, but also in establishing justice or ensuring even the basic requirements of a decent life for the majority of humanity. It is perhaps time to test a different hypothesis: one that views human beings and society not merely through material needs and wants, but as "moral beings concerned with spiritual awareness and purpose" (ISGP, 2008, p. 2). The learnings from the field of sustainable textile technology shared in this paper are offered as a humble contribution to the collective process of discovery by which humanity might learn how to construct a society founded on a more holistic conception of development—one that draws upon both spiritual principles and scientific methods.

NOTE

1. In order to measure the progress companies make in adhering to environmental and social standards, international certification or accreditation processes have been set in place to certify a company's levels of compliance. While the ISO 9000 series is quite well-known for quality assurance, environmental compliance is obtained with the ISO 14001 certification. Similarly, a company's social accountability and the extent to which they take care of all their stakeholders and their workforce is covered by the SA 8000 certification. For occupational health and safety, there is the OHSAS 18001 certification. These certifications have become almost mandatory for companies to gain and maintain a positive image and credibility in the market. Over the past few years, the government of India has also legislated that at least 2 percent of the profits of a company should be used for philanthropic activities or endeavours undertaken as part of a company's Corporate Social Responsibility.

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CHAPTER 15

Beyond the Dynamic Knowledge, Diminishing Languages and Destructive Development¹

G.N. Devy

I would like to bring ‘development’ and ‘language’ together with what is happening to our ‘knowledges’ in the 21st century. I said knowledges not because I fault in grammar but because I want to allude to a report prepared by the philosopher Jean-François Lyotard. The Quebec government asked him to produce a report on knowledge sometime in the 1980s. It came out in the form of a book with the title *The Postmodern Condition: A Report on Knowledge*. In it, Lyotard speaks of a new situation in the arena of knowledge. One of the key insights in the book was that the world had to now think of knowledges rather than knowledge (Lyotard, 1984). I recall that when I was a university student, the world had a great certainty about what knowledge *is* or what knowledge *was*; but that certainty about the epistemic architecture has received many challenges over the last several decades. Perhaps one may say that for almost a century things have been shifting very rapidly beyond the recognition of knowledge practitioners.

When as a young lecturer I read Lyotard’s book, a question came to my mind. Lyotard said that knowledge can no longer be thought of in terms of analogies but that we have to think of it in terms of ‘paralogies’. The question was—has not knowledge always been changing, always been shifting throughout its past?

The Changing Epistemic Architecture

Let me elaborate a little on this question because we need to recognize the difference between the change in knowledge in past eras and the change in the field in our time. It is clear that the changes taking place

in various knowledge-fields now are unprecedented. To illustrate the nature of knowledge-shifts in the past, let me take an example from the area of theatre, poetry and literature. Almost 2,300 years back, Aristotle proposed a theory of poetry and drama. It hinged on the term ‘catharsis.’ His argument was that drama cleanses humans of their emotional turmoil and brings them back to a state of normalcy. That was the ultimate purpose of tragedy as Aristotle described it.

But Aristotle’s entire philosophy of literature or poetry hinged on something else outside literature, which was the Greek worldview. For the Greeks in those ancient times, the world was shaped like a box; the top with holes in it (I am oversimplifying), and through those perforations trickled in light during the nights. They did not think that the stars that are there are really out there. The Greeks thought that they were cavities and perforations and light trickled down to our world. They assumed that there must be an area or a domain of existence above the sky which is full of light. While in our day we have light and at night we have darkness, in the higher domain light must be perennially there. This they juxtaposed with the idea of Hades or an area that is under the earth, full of darkness. They concluded without an iota of doubt that it is the mixture of the darkness, that emanates from the subterranean world, and the light coming from above, that generates what is called shadow. This became a central philosophical obsession for Plato. Plato was trying to see how the body and the shadow could be disentangled, could be separated; and that is what he describes in that famous passage about a caveman stepping out, standing at the mouth of the cave and suddenly seeing that a very long shadow of his own body has fallen inside, terrifying him. The relationship between the shadow and the substance became, therefore, the abiding foundation of all sciences and philosophical thought during the Greek times. It was out of that philosophical preoccupation that Aristotle described theatre as an act of reproducing the images *up there*.

The Greek worldview assumed that while our objects die and perish, the objects up there could never perish or die because that area is full of light and therefore Aristotle felt that if there were one table up there, that would be enough for the existence of the idea of the table. The world up there does not require millions of chairs, tables or houses: only the concepts of ‘house-ness’, ‘chair-ness’, ‘table-ness’ were enough

for it. This *concept* they described as ‘Idea’ and *that world above* they called the ‘Ideal world’. The function of literature, for Aristotle, was to reproduce the ‘Ideal world’, if possible, by making the Idea better.

I discuss the Greek understanding at great length to show that just some thousand years later this entire idea of ‘a heaven above, a world of death beneath us and we in between’—like a three-storey tiffin box—was discarded almost entirely. The idea of the ‘Ideal’—not in the sense we understand it today but in the sense in which Greek philosophy understood it—was discarded and by the time of Dante, the dramatists, writers and poets were saying that it is not the business of poets and writers to think about some other world but to make this world superior than it is. The latter-day thinkers held that rather than being mimetic—rather than copying those ideas in literature or philosophy—it would be much better to be didactic, to produce ideas here and spread them among people in society. In this shift, the *episteme* had changed. Episteme is to knowledge, in the simplest possible words, what a brick is to a building. Episteme is the building block of knowledge. Once the episteme changes all the structures that a former society has created as knowledge starts disintegrating and gets reorganized.

Something similar happened some centuries later in Europe where thinkers had previously maintained that Imagination is a sickening element in one's thoughts while Memory is empowering. That is what Thomas Hobbes, a political philosopher, believed. Images in the mind are decaying impressions of the world and the decay inside the mind is so complete that if one were to activate those images, one's thought starts getting imbalanced. The entire medical science of that time was based on this idea. Thus, Robert Burton's *Anatomy of Melancholy* became extremely influential. Burton had argued that most of the errors—moral and judgemental—that humans commit were due to melancholy, which he held was the result of the fumes from the spleen rising to hit the brain and producing Imagination (Burton, 1621/1973). Not only in the realm of political-philosophy and medical sciences but even in the creative arts of that era one sees a similar kind of thinking. Take for instance William Shakespeare's *King Lear*. It depicts the story of an old and generous king—‘every inch a king’—who, just before his death decides to distribute his kingdom among his three daughters.

Several of the performances of this play show Lear inside a dark grotto (that represents the spleen) and hit by Melancholia. Can we ever accept that pathology today? Certainly we will not.

Just as the 'Idea' of Plato and Aristotle got discarded and a new episteme was brought in, similarly this late-medieval argument of Memory as being superior to Imagination was discarded towards the end of the 18th century. Some of the greatest minds of that time in Europe such as Goethe, S. T. Coleridge, William Blake, William Wordsworth and John Keats were celebrating Imagination as a power that could liberate humans. When the French Revolution took place in the name of liberty, fraternity and equality, the literature that promoted those ideas were ideas promoting the strength of imagination or image. When one looks at the paintings of J.M.W. Turner, one notices how once imagination starts becoming active in the mind, suddenly the world gets lit up. Turner could show in his work the journey from the ordinariness of life to the life of imagination. Similarly, William Blake held that whatever the imagination seizes as truth exists, whether it existed before or not. Keats followed this trend of thought.

I am trying to say that in the past the episteme has undergone many radical shifts. The human perception of the earth and its shape, the cosmos and its structure and the human relationship to Nature have changed in the past. Beginning with the idea of God having created the world, scientists have moved on to the idea of evolution as the path of human advent. All of that has happened in the past; but this time the shift taking place in knowledge is of a different order. In the past a given field of knowledge was replaced by another field of knowledge, keeping knowledge on a new but steady path. What has happened in our time is that knowledge production and knowledge consumption, knowledge storage and knowledge transaction have started moving out of the human domain and have—revisiting this debate between memory and imagination—actually trivialized both memory and imagination as well as the structure of the cosmos as was understood by those past orders of knowledge.

Image, Memory and Language

Memory constructs time for humans. If we had no memory humans would not have thought of time at all. Image or imagination

constructs for humans the space that humans grasp. Without an object for an eye to see, the eye cannot see *anything*. When we stand in long stretches of deserts or when we are in the middle of an ocean without any object marking space, one just cannot understand how much space there is surrounding the viewer. Image constructs space for humans, memory constructs time for humans; and image and memory together construct the worldview. What has happened to both these agencies of the human mind in recent decades is amazing. It is unprecedented in the history of the Homo sapiens and it is very bewildering for all of us.

Let me unfold this new change bit by bit. Perception is based on sensory experiences. For instance, when I touch something I understand in my brain that I am touching a surface; the sensory perceptions formulate cognition of an experience in the human brain. It happens not only for humans but for animals as well; but human beings have an additional ability which other animals do not have, and that ability is language. Unlike tigers, lions, elephants, fish and birds, we speak very complex utterances conveying meaning. We speak and express the thoughts inside our minds and brains. Scientists working on brain structures describe the human brain as the recursive brain. All other animals too have brains. They help the animals to think, to balance their bodies and make judgements and decisions. But the human brain, in addition to balancing the body and making judgements and thinking, is also capable of thinking *about* thinking. That is the recursive brain. It has enabled humans to articulate their thinking about thought; and the articulation has acquired, in the process of evolution, the form of language. With the help of language, humans are able to put outside themselves the cognition which perception brings—experiences which their brain recognizes. But when it is put out, it remains neither mine nor yours and becomes altogether an external entity. It becomes what we can roughly call the “collected memory” (I am not talking of the collective memory here, a concept in Jungian psychology, which is a different concept). It creates a space of itself. That newly created space becomes, in the course of time and because of interpersonal exchange and communication, what we call knowledge. In the initial times, the objective memory or collected memory required no test

of verification; but as humans progressed, verification— checking whether it is fake or authentic, real or imagined—was brought to bear upon this collected memory. And, in fact, one may say rather simplistically, all our museums, libraries, universities and schools are social and cultural forms of this collected memory. At the bottom of all of these institutions is the collected memory of humans passed from one generation to the next.

Knowledge and Fragmentation

When the collected memory becomes too complicated, the inter-generational exchange requires to invent tricks for remembering the memory deposit of so many past generations. In the course of time, thinkers, teachers and scientists developed methods of classifying this collected memory, or what we now can call ‘knowledge’. From its beginning, the knowledge that humans had gathered was getting organized in different fields differently: the knowledge related to chemicals was organized in the form of chemical tables, knowledge related to maths was getting organized in the form of mathematical tables and the knowledge related to biology was getting organized in yet different formulas. We are told that when the mathematician Lilavati was learning mathematics, her father would tell her greatly complicated mathematical formulas in the form of very simple *shlokas* where every letter in the word represented some equation, some multiplication, some division, and so on. Thus, a very complex field was compressed and made easy to remember because knowledge is ultimately memory load; and the memory load had to be made easier to carry from one generation to the next. In the process of making it easier to carry forward, this load was distributed in fragments. But a time came when tabulation of knowledge in one field did not tally with the tabulation of knowledge in another field. These fields of knowledge are evolved to meet cultural convenience, while the aggregate of experience itself is a gestalt, a synthesis and a seamless unity, bringing all sensory inputs into a whole.

During the 17th century this anomaly was resolved by Gottfried Wilhelm Leibniz. He organized the different tabular abstractions into a higher-order and single-spectrum abstraction by using a string of 0s and 1s as symbolic markers. In his string of 0s and 1s, what do the 0s

and 1s stand for? Nothing at all. It stands for abstractions which in turn might stand for things. Leibnitz's method later became the foundation of modern computational sciences. Initially it was a great memory trick which enabled one to comprehend many disciplines. That is why any field of knowledge which was compatible with that trick was called a 'discipline' and the knowledge in the discipline was called 'universal knowledge'. It was not knowledge about the universe—even today humans do not know enough about the universe. What we call a university is an institution training students in the method of recognizing what is knowledge as against what is non-knowledge. In our time, this development of memory has attained a level of sophistication which would have been impossible for anyone to imagine even half a century ago.

Today the memory chip has almost entirely replaced natural memory or human memory. You look at yourself and see how many things you do by depending on the ability of the memory chip in your mobile-phone to grasp. It is the mobile's memory chip or the computer's memory chip or the memory chips attached to the entrance and exit of your university or the cameras or the short-circuit TVs which watch you. All of that memory is non-human and mechanically generated but which is approximating the human intellect almost entirely. At this juncture, the artificial memory is a relatively new thing in the fields of knowledge; and it is because the nature of memory has undergone this radical change, the nature of human thought too has changed deeply impacting the nature of knowledge.

Towards a New 'Reality'

The next important element in the story of the contemporary epistemic shift is the camera. Nearly a century ago, in the camera eye an image was born; and soon that image acquired much larger presence than anticipated, more substantial, impact-making ability than the image that the human eye could perceive. The function of seeing, in short, was handed over by humans to non-human eyes. Just now as I speak, I am sitting in a very small town in Karnataka, and you are able to see me which ordinary human eyes would not have been able to do. I had mentioned that the Greeks were struggling to figure out how to dissociate, disentangle substance from the shadow. Today, the image by

itself has its life. Just now I am not talking to you, you are not listening to me. My image is speaking and your image is listening to me through a device entirely dependent on artificial memory. When the substance which is the human being's ability to see and the human ability to remember get segregated or get displaced by the ability of the shadow or the rapidly-increasing ability of artificial memory, the nature of the cosmos constructed by this artificial memory and the resulting artificial vision is different.

Humans today have moved towards creating a new 'reality'. This need not be confused with truth. Truth and Reality are two different matters. The new 'reality' being created is independent of the reality in which humans live. Thus, humans are today living in the reality which surrounds them—which has been with them for all their past-- as well as the reality which they are engaged in creating. I mean today's citizens all over the world have to be more in the digital world and perhaps less in the physical world. Their digital person matters, whether they are bodily present or not does not matter so much.

Diminishing Languages

I have given this elaborate background to what is happening to knowledge to say why human languages are diminishing. Very briefly I can say that out of the 7,000 living languages in the world, at least two-thirds of them (or more than 4,000 languages) will simply perish in the next 30 years. Sadly, I have no doubt about this. Of course, in the past when some language went away a new language replaced it; but now the process of replacement is not possible because biological evolution has brought the human brain to a state of fatigue with sound-based language.

I want to introduce to you here a book by Maryanne Wolfe titled *Proust and the Squid: The Story and Science of the Reading Brain*. Proust is the French artist/writer and the squid of course is the creature we know. This study is about why people no longer want to read. Those of us who are working in universities know that students no longer want to read. The part of the brain which is called the Broca's lobe is showing clear signs of unwillingness to decipher the world through sound-based symbols. The change is taking place very rapidly, irrevocably, irreversibly and almost rashly towards deciphering and

interpreting the world through visual-symbols. We homo sapiens may find ourselves in the next two or three centuries in a situation where humans may still be able to use words but those words may not carry too much meaning. Those words will merely perform what linguists call 'Phatic-communication'. When we see somebody in the morning we say in English "hey, good morning!" and the person responds saying "yeah, good morning". What do these utterances mean? They mean absolutely nothing; they only signify, "yeah, you are there and I am here." Quite likely, the words that we shall use in the future may just be some form of Phatic- communication—words that do not mark any meaningful communication but which are deliberately produced to make a meaningless communication. Perhaps, communication in the future will be through a language, if I may call it language, of visuals and visual signs. It still will have some shell or nominal cover of sound-tokens; but it will predominantly be visual. If you watch any of your family members today you see them engaged most of the time with the cyber space rather than in the physical space. You find them looking at their mobiles rather than looking at you, listening to or talking to you. This is now a universal condition. In India, out of a population of around 140 crore people, 125 crore are using mobiles, but when it comes to reading, only about 100 crore people can barely manage to read. Languages are diminishing all over the world. From my study of Indian languages during a linguistic survey, I can say with great sadness in my heart that we are in the age of the death of language.

Invisibilized in a Digital Age

How do all of the philosophical and historical observations I presented before you actually relate to the question of development? The 2011 Indian census had listed 1,369 mother tongues (Office of the Registrar General, India, 2011, p. 6). Out of these 1,369 mother tongues the largest spoken is the Hindi language, spoken by 52 crore people. It is followed by Bangla spoken by some 21 crores and Marathi spoken by 8 crores. When one looks at the top 15 languages, one notices that they represent about 96.7 percent of the population. The remaining population speak the other remaining 1,354 languages. And who are these 3 or 4 percent people speaking

those languages? They are the nomadic communities, the coastal communities, the Adivasis and the people who are left at the tail-end of development.

Thus, knowledge is developing very rapidly, many knowledges have sprung up; there are knowledges related to the virtual world and knowledges related to the physical world. The physics of the real world is no longer like the physics of the virtual world; chemistry in the material world is no longer like the chemistry in the virtual world. The past tense and the future tense of the languages of the natural world no longer operate in the virtual world; there, they just collapse together.

But what is happening to those 3 or 4 percent people that I mentioned whose languages are most certainly disappearing in less than 15 years? Who are they? They are the Adivasis, the poorest among the poor, the ones whose land is owned by them but the papers related to the land are withheld by the government. They are the denotified tribes who, for no fault of theirs, were declared by the British as criminal tribes, or those who have migrated from, let's say, Myanmar or Bangladesh and who come to Assam—I am thinking of the tribal communities who are without the identification of citizenship, without their digital numbers which makes them *real* citizens. They are there physically but digitally they are made to disappear. This situation is really very frightening.

Two Views of Development

Let me add here for your consideration that the future of this world is today split into diametrically opposite directions. In one direction there is overwhelming optimism. The Canadian mathematician Freeman Dyson proposed construction of a sphere or a swarm of objects around a star which can capture a large percentage of its energy for the use of humans (Dyson, 1960). By the way, this is not just an imagination as tenders have been floated in Canada to build the Dyson shell some 10,000 kilometres above the earth-surface using rays. When and if such a feat becomes possible, humans will, it is believed, be able to have trillion times more energy-units than what they get today. So, the imagined scenario claims, there won't be any food shortage, material shortage and economies lagging behind.

While Dyson's idea has since been dismissed by the mainstream scientific community, it reflects an underlying optimism born out of faith in technology which leads many to view development as an endless road or as an unlimited ocean open for the fishers to fish. In this view, development is imagined as an empty room with enormous height with the human animal left in it to hunt as much as one aspires to and even touch the very top of that empty room. This is one view of development and which has become the dominant paradigm.

But there is another contrary view of development too. It maintains that humans have crossed all the tipping points that can keep them secure. It was around 9,500 BC that the climatic era named Holocene began. In it, the temperature started rising, clearing the ice-cover built during the preceding seven thousand years north and south of the equator. The snow started melting and space became available. Then blades of grass started to grow. With shrubs and herbs growing, birds came, animals came, humans could feed on them, and therefore human population increased. Human settlements became possible and human civilizations flourished. That has been the history since Holocene in the last 12,000 years. Scientists got together some five years back and they said "the Holocene is over and we have entered the Anthropocene" (Vaughan, 2016). Anthropocene is the climatic age which will generate human footprint on the ecology in an irreversible measure. It is the irreversible decline of the climate, irreversible diminishing of the earth's resources, and the irreversible beginning of the death of existence. I mentioned languages as one instance of that scenario.

Climate and Environmental sciences tell us that once in the Anthropocene going back is impossible. We are sliding down; the best we can do is to slow down the sliding. We cannot go back to where we began. This limitless craving for energy, endless accumulation of wealth leaves so many small communities, not just human communities but communities which are without language i.e., the animals and environmental communities, to languish without any hope. Uneven development in the world is not just an economic crisis, it is not just a question of food shortage or water shortage in a given year or given area. The development crisis in the world is not just the question of where the land is sandy or wetland, it is not the question of climatic

variations around the earth—it is the question of a completely new philosophy of how we mobilize ourselves, how we organize ourselves and how we civilise.

Towards a Cosmocracy

The French Revolution inaugurated an era where liberty, equality and fraternity came to be cherished values. Throughout the 19th century, nation after nation started getting inspired by the idea of independence, and most nations became independent during the 20th century. Those large-scale changes brought in the idea of democracy, as a universally-held idea. Democracy is good, yet we have to think of something even more liberating. We will have to think of a cosmocracy where humans think of not just humans but all other species as well, where they think not just of the earth but of other planets too. We all will have to think of a new politics, a new sociology—new knowledge which will bring humans to the centre of the world not for consumption but for protection, not for hurting the earth but for protecting the earth. Humans have to learn to say “the earth does not belong to me, I belong to the earth.”

NOTE

1. This chapter is an edited version of the transcript of a lecture delivered by Dr. G.N. Devy as part of the lecture series titled ‘Dialogues on Development’.

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