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India 2100: Towards Radical Ecological Democracy[☆]



Ashish Kothari

Kalpavriksh, Apt 5 Shree Datta Krupa, 908 Deccan Gymkhana, Pune 411004, India

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ABSTRACT

India is floundering in its quest to meet basic social objectives of eradicating poverty, hunger, malnutrition, unemployment, inequality and other socio-economic deprivations. It is also on a steep path of ecological unsustainability. These issues can at least partly be attributed to a fundamentally flawed model of development, its flaws having been accentuated in the last two decades of economic globalisation. At the same time, however, peoples' initiatives at sustainable and equitable well-being in various sectors are growing, and some policy shifts have also taken place in this direction. Building on this, an alternative framework of well-being, here called Radical Ecological Democracy, can be envisaged. This involves a new political governance with decentralised decision-making embedded within larger, ecologically and culturally defined landscapes, a new economics that respects ecological limits and democratises both production and consumption, and a new cultural and knowledge-based society that values diversity, collective synergism, and public innovation. The combination of peoples' resistance to destructive development and alternative, solution-based initiatives, with support from other sections of society, can lead India to be firmly on the path of such a framework by 2100.

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1. Heading towards ecological, economic, and social collapse?

65 years after gaining independence, it is clear that India is very far from achieving the basic objectives any society or civilisation should aim for – security of food, shelter, water, health, and clothing, and fulfilment of human potential through educational, socio-cultural, and political opportunities. Depending on which measure one takes and whose estimates one believes, anything between a quarter and three-quarters of India's population suffers from deprivations of one or the other kind. This includes economic poverty, malnutrition and undernutrition, lack of safe drinking water and sanitation, unemployment or underemployment, inadequate shelter, and other such situations that are violations of minimum standards of human rights and well-being. These are often so serious as to cause irreversible health damage, premature mortality and suicides. Many of these have roots in traditional socio-economic inequities and discrimination, which have been compounded, or added to, by the inequities and exploitation of modern times.¹

To this has been added a rapid erosion of the natural environment on which we all depend for our lives. A 2008 report suggests that India has the world's third biggest ecological footprint, that its resource-use is already twice of its bio-capacity, and that this bio-capacity itself has declined by half in the last few decades [5]. Anyone travelling through the country will see what is happening. Natural ecosystems are under stress and decline everywhere, with exceptions only in the case of

[☆] Parts of this article are adapted from or based on Kothari [1,2] and Shrivastava and Kothari [3].

E-mail address: chikikothari@gmail.com.

¹ Detailed facts and analyses on these are available in a series of UNDP Human Development Reports, and a recent report by the Working Group on Human Rights [4]; Shrivastava and Kothari [3] contain a detailed account of how economic globalization has added to the deprivations.

some protected areas and community conserved areas; wild and agricultural biodiversity are under varying rates of erosion as vast monocultures take over; well over half the available water bodies are polluted beyond drinking, and often even beyond agricultural use; two-thirds of the land is degraded to various levels of sub-optimal productivity; air pollution in several cities is amongst the world's highest; 'modern' wastes, including electronic and chemical, are being produced at rates far exceeding our capacity to recycle or manage; and so on.² Economic globalisation since 1991 has significantly worsened the negative trend by increasing rates of diversion of natural ecosystems for 'developmental' purposes, and rates of resource exploitation for domestic use and exports [3]. Climate change impacts are being felt in terms of erratic weather and coastal erosion, and the country has little in the way of climate preparedness, especially for the poor who will be worst affected [6,7]. Projections based on the historic trend of materials and energy use in India also point to serious levels of domestic and global impact on the environment if India continues on its current development trajectory modelled on industrialised countries [8].

While discussions on the aspects above have been extensive, the interconnections between continued or new deprivations, including poverty, environmental degradation, and inequities on the social, economic, and political fronts have not been brought out in such a detailed manner. Or, conversely, neither have the positive interactions amongst poverty eradication, environmental sustainability, and empowerment. Thus, planning and programmes of the government, and usually those even of civil society, focus on one or the other element of the picture, in the process ignoring or even negatively impacting other elements. For instance, several poverty eradication or food security programmes are ecologically damaging (for example, chemical-intensive agriculture); conversely, several environmental protection programmes exacerbate poverty or create new forms of deprivation (examples being exclusionary protected areas for wildlife that forcibly displace resident communities, or watershed programmes that stop pastoralists' access without providing alternatives).

Several policy pronouncements of the Government of India, such as the National Environment Policy 2006 or the Approach Papers of various Five Year Plans, have promised the integration of development and environment. These policy frameworks could have been opportunities for a holistic pathway towards sustainable, equitable well-being for all of India's people. There is, however, little evidence that these policy pronouncements have been followed up with actual action to achieve such holistic well-being. Contrarily, in fact, the country has headed towards greater unsustainability and inequity. An integrated approach to human well-being that enhances the economic, social, and political opportunities for those traditionally or currently deprived, curbs the obscene levels of wealth and consumption of the super-rich, conserves nature and sustains the ecological basis and resilience so crucial for our existence, is not evident in the priorities of the government.

There are, however, strong counter currents. There are a number of positive initiatives by the state relating to poverty, environment, employment, and empowerment. Even more widespread is the exciting and innovative work done by many communities, civil society organisations, institutions and private sector agencies, towards alternative approaches for well-being. All of these are indeed elements of a more sustainable and equitable future. However, at present these are submerged and overwhelmed by the sheer bulldozer effect of current macroeconomic policies and political governance structures that are taking India further down the path of un-sustainability, deprivation, and inequity. A number of course corrections, including better implementation of progressive policies and programmes that already exist, reforms in other existing policies and programmes to make them more progressive, and fundamental changes in pathways of development and governance are necessary if holistic human well-being is to be achieved.

2. Three scenarios for India's (and the World's) future

What will India (and indeed, the world) be like in the future? There are at least three possible scenarios (adapted from [3]), with some resonance to future possibilities put out by the Global Scenarios Group [9]:

- i. *Business as usual*: As today's economic growth paradigm continues its domination, there is increasing ecological collapse and socio-economic inequity. Alternative visions and experiments remain marginal and scattered. Conflict inevitably rises as masses of deprived people retaliate; the privileged try to defend their riches and power using the forces of state and private power; situations in many parts of India (and other countries) approximate civil form. Biological extinction reaches its peak. State and corporate totalitarianism is attempted. Eventually, ecological collapse drives humanity itself into either extinction or a constant, desperate struggle for survival.
- ii. *Slow transition to sanity*: Today's dominant models prevail for some time, leading to partial ecological collapse and increase in social conflict. However, existing alternatives become stronger and spread as more and more people realise the folly of business as usual. Localised initiatives linked up into larger landscapes and through socio-political struggle slowly edge out centralised domination by the state and by large corporations. In the immediate future (next 20–30 years) human suffering and biodiversity loss continues, but in the longer run the alternative forces coalesce into a critical mass to take society towards sustainability and equity (evolving into the Radical Ecological Democracy framework outlined below).

² Honest official reporting on these is uncommon, sometimes found in the annual Economic Surveys of Government of India, and occasionally in the Ministry of Environment and Forest's annual State of Environment reports; more is found in independent reports such as the State of India's Environment reports by Centre for Science and Environment. Facts and analyses for some of the trends are given in Shrivastava and Kothari [3].

iii. *Rapid transition to sanity*: Humanity quickly realises the folly of today's dominant models (perhaps with the alarm over climate change as a catalyst), people's mobilisation is rapid, and governments and civil society invest quickly in a range of alternatives. This scenario involves the least suffering and the least biological extinction, and a quick transition to Radical Ecological Democracy.

The first of these is possible, but we must will ourselves away from it, for the loss of hope is itself a harbinger of such a scary future; and there is already considerable churning against it. The third is highly improbable, though not impossible, given that sudden shifts can and have happened in human history. The second is the most probable as also possible, and the rest of this article will focus on it: what its essential elements would be, why I think it is eminently possible, and how I think we can get there.

Laying out such a broad alternative vision is crucial in today's context of growing disenchantment with the existing system, and increasing people's resistance and protest movements. Such movements need not only to espouse what they *don't want*, but also what they *do want*; if they win, what will they do, which direction will they head in, and what opportunities exist to get there?

3. Radical Ecological Democracy: framework and principles

Human well-being can be achieved without endangering the earth and ourselves, and without leaving behind half or more of humanity. But for this to happen, the notion of well-being itself needs rethinking, away from market-led dreams of ever-increasing material accumulation (Reliance Industries, one of India's biggest corporations, has an advertisement selling large-screen TVs captioned 'Republic of Happiness'). If well-being is about having secure ways of meeting basic needs, being healthy, having access to opportunities for learning, being employed in satisfactory and meaningful tasks, having good social relations, and leading culturally and spiritually fulfilling lives, there is no reason this has to be achieved through ecological devastation, and no reason why only some humans get to enjoy it.

Broadly, such a framework of human well-being could be called Radical Ecological Democracy (RED): a socio-cultural, political and economic arrangement in which all people and communities have the right and full opportunity to participate in decision-making, based on the twin fulcrums of ecological sustainability and human equity [1,3]. It is important to define these terms: ecological sustainability is the continuing integrity of the ecosystems and ecological functions on which all life depends, including the maintenance of biological diversity as the fulcrum of life; human equity, is a mix of equality of opportunity, access to decision-making forums for all, equity in the distribution and enjoyment of the benefits of human endeavour, and cultural security.

RED is based on a set of principles, most of which are very different if not outrightly opposed to the principles (or lack thereof) displayed in today's dominant system. These are laid out briefly in [Box 1](#).

Taking the above principles together (and undoubtedly others that will be added on its evolutionary path), RED is a continuous and mutually respectful dialogue amongst human beings, and between humanity and the rest of nature. It is also not *one* solution or blueprint, but a great variety of them. These would include systems once considered valuable but now considered outdated and 'primitive': subsistence economies, barter, local *haat*-based trade, oral knowledge, work-leisure combines, the machine as a tool and not a master, local health traditions, handicrafts, learning through doing with parents and other elders, frowning upon profligacy and waste, and so on. This does not mean an unconditional acceptance of traditions – indeed there is much in traditional India (such as caste/gender/class/age inequities) that needs to be left behind – but rather a re-considered engagement with the past, the rediscovery of many valuable practices which seem to have been forgotten and building on the best of what traditions offer. This is *not* the kind of revivalism that India's right-wing Hindu chauvinists talk about; traditions need to be rescued from those who use them in a bigoted way.

4. Contours and manifestations of RED

RED is at once a political, economic, ecological, socio-cultural, and ethical paradigm, or set of paradigms. Some crucial elements are given below; where relevant, examples are given of on-ground or policy-level initiatives that are already displaying one or more of the principles and values of RED.

4.1. A new politics

RED is based on a very different framework of political governance than the one we are used to. Its key feature is decentralisation and embeddedness. Decision-making starts from the smallest, most local unit, and builds to expanding spatial units. In India, the Constitution mandates governance by *panchayats* at the village and village cluster level, and by *ward committees* at the urban ward level. However, these are representative bodies, subject to the same pitfalls (albeit at smaller levels) that plague representative democracy at higher levels, including elite capture. It is crucial to empower the *gram sabha* (village assembly) in rural areas, and the *area sabha* (smaller units within wards) in cities, or other equivalent body where all the adults of the individual hamlet or village or urban colony are conveniently able to participate in decision-making. All critical decisions relating to local natural resources or environmental issues should be taken at this level, with special provision to facilitate the equal participation of women and other underprivileged sections.

Box 1. Principles or tenets of Radical Ecological Democracy**Principle 1: Ecological integrity and limits**

The functional integrity and resilience of the ecological processes, ecosystems, and biological diversity that is the basis of all life on earth, respecting which entails a realisation of the ecological limits within which human economies and societies must restrict themselves.⁴

Principle 2: Equity and justice

Equitable access of all human beings, in current and future generations, to the conditions needed for human well-being – socio-cultural, economic, political, ecological, and in particular food, water, shelter, clothing, energy, healthy living, and satisfying social and cultural relations – without endangering any other person's access; equity between humans and other elements of nature; and social, economic, and environmental justice for all.

Principle 3: Right to meaningful participation

The right of each person and community to meaningfully participate in crucial decisions affecting her/his/its life, and to the conditions that provide the ability for such participation, as part of a radical, participatory democracy.

Principle 4: Responsibility

The responsibility of each citizen and community to ensure meaningful decision-making that is based on the twin principles of ecological integrity and socio-economic equity, conditioned in the interim by a 'common but differentiated responsibility' in which those currently rich within the country take on a greater role and/or are incentivised or forced to give up their excessively consumptive lifestyles in order for the poor to have adequate levels of human security. This principle should also extend to the impact a country has on other countries, with a 'do no harm' component as a basic minimum component.

Principle 5: Diversity

Respect for the diversity of environments and ecologies, species and genes (wild and domesticated), cultures, ways of living, knowledge systems, values, economies and livelihoods, and politics (including those of indigenous peoples and local communities), in so far as they are in consonance with the principles of sustainability and equity.

Principle 6: Collective commons and solidarity

Collective and co-operative thinking and working founded on the socio-cultural, economic, and ecological commons, respecting both common custodianship and individual freedoms and innovations within such collectivities, with inter-personal and inter-community solidarity as a fulcrum.

Principle 7: Rights of nature

The right of nature and all its species, wild or domesticated, to survive and thrive in the conditions in which they have evolved, along with respect for the 'community of life' as a whole.

Principle 8: Resilience and adaptability

The ability of communities and humanity as a whole, to respond, adapt and sustain the resilience needed to maintain ecological sustainability and equity in the face of external and internal forces of change, including through respecting conditions, like diversity, enabling the resilience of nature.

Principle 9: Subsidiarity and ecoregionalism

Local rural and urban communities, small enough for all members to take part in face-to-face decision-making, as the fundamental unit of governance, linked with each other at bioregional, ecoregional and cultural levels into landscape/seascape institutions that are answerable to these basic units.

Principle 10: Interconnectedness

The inextricable connections amongst various aspects of human civilisation, and therefore, amongst any set of 'development' or 'well-being' goals – environmental, economic, social, cultural, and political.

Adapted from: Peoples' Sustainability Treaty on Radical Ecological Democracy <http://radicalecologicaldemocracy.wordpress.com/> (accessed January 2013).

Already there are examples of this, such as:

- The Gond *adivasi* village of Mendha-Lekha (Maharashtra), adopts the principle of 'our government in Mumbai and Delhi, but we are the government in our village'. All decisions are taken by consensus in the full village assembly, based on information generated by *abhyas gats* (study circles). In the last three decades the village has moved towards fulfilment of all basic requirements of food, water, energy and local livelihoods; it has also conserved 1800 hectares of forest, and recently gained full rights to use, manage, and protect it, in the process earning over Rs. 10 million from sustainable harvesting of bamboo [12–14].
- Cities like Pune are moving towards participatory budgeting, with citizens able to submit their priorities for spending to influence the official budgets; this is still a far cry from citizens being able to *determine* spending priorities, but is one step in that direction [15]. In Udaipur district, several villages have carried out detailed resource mapping and planning, and are forcing government budgets meant for them to be spent in line with community-set priorities [16].

⁴ Rockström et al. [10,11] describe this as the 'planetary boundaries', which include biodiversity loss, land use change, climate change, freshwater use, nitrogen and phosphorous cycles, ocean acidification, chemical pollution, atmospheric aerosol loading, and ozone depletion.

But the local and the small-scale are not by themselves adequate. For many of the problems we now face are at much larger scales, emanating from and affecting entire landscapes (and seascapes), countries, regions, and indeed the earth. Climate change, the spread of toxics, and desertification, are examples.

Larger level governance structures need to essentially emanate from the basic decentralised decision-making units. These would include clusters or federations of villages and towns with common ecological features, larger landscape level institutions, and others that in some way also relate to the existing administrative and political units of districts and states (more on this below). Governance across states, and across countries, of course presents special challenges; there are a number of lessons to be learnt from failed or only partially successful initiatives such as river basin authorities.

Landscape and trans-boundary planning and governance (also called 'bioregionalism', or 'ecoregionalism', amongst other names), are exciting new approaches being tried out in several countries and regions. These are as yet fledgling in India, but some are worth learning from. The Arvari Sansad (Parliament) in Rajasthan brings 72 villages in the state of Rajasthan together, to manage a 400 sq.km river basin through inter-village coordination, making integrated plans and programmes for land, agriculture, water, wildlife, and development [www.tarunbharatsangh.org; 17]. In Maharashtra, a federation of Water User Associations has been handed over the management of the Waghad Irrigation Project, the first time a government project has been completely devolved to local people [18].

Though communities (rural and urban) will be the fulcrum of the alternative futures, the state will need to retain, or rather strengthen, its welfare role for the weak (human and non-human). It will assist communities in situations where local capacity is weak, such as in generating resources, providing entitlements, and ensuring tenurial security. It will rein in business elements or others who behave irresponsibly towards the environment or people. It will have to be held accountable to its role as guarantor of the various fundamental rights that each citizen is supposed to enjoy under the Constitution of India, including through appropriate policy measures such as the Right to Information Act the government brought in 2005. Finally, it will retain a role in larger global relations between peoples and nations. The recent experiments in evolving a 'plurinational' state responsive to direct, decentralised democracy in some Latin American countries, would be worth critically following, for relevant lessons.

Over time, however, nation-state boundaries may become far less relevant, certainly less divisive. Cultural and ecological identities will become more important, but these too defined not so much as isolationist categories but as a sort of diversity within the essential unity of humankind, a diversity to be celebrated, and with the openness of learning from each other.

4.2. A new economics

The second key basis of RED is an entirely new economics, that acknowledges and respects ecological limits (we are part of the earth, not the other way round), and empowers every person and community with the capacity and rights to democratically manage the economy as it relates to them.

Congruent with decentralised governance is economic localisation, a trend diametrically opposed to globalisation. This is based on the belief that those living closest to the resource to be managed (the forest, the sea, the coast, the farm, the urban facility, etc.), would have the greatest stake, and often the best knowledge, to manage it. Of course this is not always the case, and in India many communities have lost the ability because of two centuries of government-dominated policies, which have effectively crippled their own institutional structures, customary rules, and other capacities. Nevertheless a move towards localisation of essential production, consumption, and trade, and of health, education, and other services, is eminently possible if communities are sensitively assisted by civil society organisations and the government.

There are already thousands of Indian initiatives at decentralised water harvesting, biodiversity conservation, education, governance, food and materials production, energy generation, waste management, and others (in both villages and cities). The 73rd and 74th Amendments to the Indian Constitution (mandating decentralisation to rural and urban communities), taken to their logical conclusion, should be as much about economic decentralisation and localisation. To give some live examples:

- Sustainable agriculture using a diversity of crops has been demonstrated by Dalit women farmer of Deccan Development Society, communities working with Green Foundation in Karnataka, farmers of the Beej Bachao Andolan, and the Jaiv Panchayat network of Navdanya [19; www.ddsindia.com; <http://www.greenconserve.com/>; 20; <http://www.navdanya.org/campaigns/jaiv-panchayat>].
- Thousands of community-led efforts exist in Odisha, Maharashtra, Uttarakhand, Nagaland, and other states, at protecting and regenerating forests, wetlands, grasslands, and coastal/marine areas, as also wildlife populations and species [21].
- Water self-sufficiency in arid, drought-prone areas has been demonstrated by hundreds of villages, through decentralised harvesting and strict self-regulation of use, such as in Alwar district of Rajasthan by Tarun Bharat Sangh, and in Kachchh by Sahjeevan and other groups [www.tarunbharatsangh.org; 17: 16–17; http://www.sahjeevan.org/ta_drinking_water.html].
- In Bhuj town (Kachchh, Gujarat). Groups like Hunnarshala, Sahjeevan, Kutch Mahila Vikas Sangathan, and ACT, have teamed up to mobilise slum-dwellers, women's groups, and other citizens into reviving watersheds and creating a decentralised water storage and management system, manage solid wastes, generate livelihood for poor women, create adequate sanitation, and provide dignified housing for all [www.hunnar.org/iup.htm; http://www.sahjeevan.org/ta_urban_initiative.html]. Here and in Bengaluru, Pune, and other cities, increasingly vocal citizens are invoking the 74th Amendment to urge for decentralised, local planning [www.janaagraha.org; 22].

For localisation to succeed, it is crucial to deal with the socio-economic exploitation that is embedded in India's caste system, inter-religious dynamics, and gender relations. Such inequities can indeed be tackled, as witnessed in the case of dalit women gaining dignity and pride through the activities of Deccan Development Society in Andhra, dalits and 'higher' castes interacting with much greater equality in Kuthambakkam village of Tamil Nadu, and adivasi children being empowered through the Narmada Bachao Andolan's *jeevan shalas*. In any case, there is little evidence that globalisation has in any significant way reduced caste, religious, and gender exploitation (even if *individuals* within exploited sections may have managed to use new opportunities to their benefit), and indeed not brought in new forms of inequality.

Building on such localised economies and polities, and in turn providing them a solid backing, would be a rational land use plan for each bioregion, state and the country as a whole. This plan would permanently put the country's ecologically and socially most fragile or important lands into some form of conservation status (fully participatory and mindful of local rights and tenure). Such a plan would also enjoin upon towns and cities to provide as much of their resources from within their boundaries as possible, through water harvesting, rooftop and vacant plot farming, decentralised energy generation, and so on; and to build mutually beneficial rather than parasitic relations with rural areas from where they will still need to take resources. The greater the say of rural communities in deciding what happens to their resources, and the greater the awareness of city-dwellers on the impacts of their lifestyles, the more this will happen.

The combination of localisation and landscape approaches also provides massive opportunities for livelihood generation, thus tackling one of India's biggest ongoing problems: unemployment. Land and water regeneration, and the resulting increase in productivity, could provide a huge source of employment, and create permanent assets for sustainable livelihoods. The National Rural Employment Guarantee Act (NREGA), one of the current government's flagship programmes, as also other schemes such as the Jawaharlal Nehru National Urban Renewal Mission (JNNURM), could well be oriented towards such environment-employment combinations. Also important in the new 'green job' deal would be a renewed emphasis on labour-intensive rural industries and infrastructure, including handlooms and handicrafts, local energy projects, rural roads, and others that people can be in control of, building on their own traditional knowledge or with easily acquired new skills. Jharkhand's state-created initiative, Jharcraft, has in just six years enhanced the livelihoods of 250,000 families with relatively simple inputs to empower the producers of silk cloth, cotton handlooms, metalcraft, tribal art, leatherwork, bamboo and cane furniture, and so on (Dhirendra Kumar, MD, Jharcraft, personal communication, February 2013). The social enterprise SELCO has enhanced livelihood and social conditions of over 150,000 families through decentralised solar power, provided not as top-down charity but by ensuring financial linkages that help the families ultimately pay for it themselves [23,24].

The United Nations Environment Programme and the International Labour Organization estimate that there is considerable employment opportunity in 'green jobs', defined as "decent work" that helps to tackle the ecological crises we face. For instance, organic, small-scale farming can employ more people than conventional chemical-based agriculture. Renewable energy generation, and energy efficiency, as yet in its infancy, could provide jobs to tens of millions. For both farming and energy (generation and efficiency), as also several other sectors, such as transportation, energy-efficient building, decentralised manufacture, recycling, forestry, and others, the potential in India must be truly astounding. Yet no comprehensive study on this potential has ever been carried out.

RED requires not only a fundamental change in political governance, but also in economic relations of production and consumption. Globalised economies tend to emphasise the democratisation of consumption (the consumer as 'king'... though even this hides the fact that in many cases there is only a mirage of choice), but not the democratisation of production. This can only change with a fundamental reversal, towards decentralised production which is in the control of the producer, linked to predominantly local consumption which is in the control of the consumer. The Nowgong Agriculture Producer Company Ltd (NAPCL) in Madhya Pradesh, the Aharam Traditional Crop Producer Company (ATCPC) in Tamil Nadu, and the Dharani Farming and Marketing Cooperative Ltd in Andhra Pradesh, are examples of farmer-run companies encompassing several settlements, that enable producers directly reach their markets; Qasab – Kutch Craftswomen's Producer Co. Ltd in Kachchh does the same for women working on embroidery, appliqué and patchwork [Avani Mohan Singh, NAPCL Board, pers. comm., 2009; 25; 26; <http://www.timbaktu-organic.org/aboutdharani.html>; <http://www.facebook.com/pages/Qasab-Kutch-Craftswomen-Producer-Co-Ltd/120970047978656>].

Village-based or 'cottage' industry, small-scale and decentralised, has been a Gandhian proposal for decades. Such industry would be oriented to meeting, first and foremost, local needs, and then national or international needs. Since this would be a part of a localised economy in which producer-consumer links are primarily (though not only) local, the crucial difference between such production and current capitalist production is that it is for self and others, primarily as a service and not for individualised profits.

Groups of villages, or villages and towns, could form units to further such economic democracy. For instance, in Tamil Nadu, the dalit panchayat head of Kuthambakkam village, Ramaswamy Elango, envisages organising a cluster of 7–8 villages to form a 'free trade zone', in which they will trade goods and services with each other (on mutually beneficial terms) to reduce dependence on the outside market and government. This way, the money stays back in the area for reinvestment in local development, and relations amongst villages get stronger (R. Elango, personal communication, January 2013). In Gujarat, the NGO Bhasha is promoting the idea of Green Economic Zones to encompass dozens of tribal villages, based on the "concepts of sustainability, ecological sensitivity, and an ingrained understanding of the cultural roots of a people" [27; Ganesh Devy, personal communication, November 2009].

Ultimately as villages get re-vitalised through locally appropriate development initiatives, rural–urban migration which today seems inexorable, would also slow down and may even get reversed. . . .as has happened with villages like Ralegan Siddhi and Hivare Bazaar in the state of Maharashtra, several villages of Jharkhand where the Jharcraft programme has succeeded, many in Dewas district of Madhya Pradesh where Samaj Pragati Sahayog is active, Kuthambakkam in Tamil Nadu, and others.

Money may remain an important medium of exchange, but would be much more locally controlled and managed rather than controlled anonymously by international financial institutions and the abstract forces of global capital operating through globally networked financial markets. Considerable local trade could revert to locally designed currencies or barter, and prices of products and services even when expressed in money terms could be decided between givers and receivers rather than by an impersonal, non-controllable distant 'market'. A huge diversity of local currencies and non-monetary ways of trading and providing/obtaining services are already being used around the world (<http://www.uea.ac.uk/env/ijccr/index.html>; [http://www.uea.ac.uk/env/ijccr/pdfs/IJCCR%20vol%2012%20\(2008\)%201%20deMeulenaere.pdf](http://www.uea.ac.uk/env/ijccr/pdfs/IJCCR%20vol%2012%20(2008)%201%20deMeulenaere.pdf)).

Financial management itself needs to be radically decentralised, away from the mega-concentrations that today's banks and financial institutions represent. These globalised institutions and the free rein given to their speculative tendencies, have been at the heart of the latest financial crisis. But simultaneously, across the world a host of localised, community-based banking and financing systems have also cropped up over the last couple of decades.

4.3. A new culture of knowledge and ethics

The most relevant knowledge for RED will also be that which disregards the artificial boundaries that western forms of education and learning have created, between the 'physical', 'natural', and 'social' sciences, and between these sciences and the 'arts'. Ecological and human systems are not constituted by such neat boxes, landscapes are not amenable to easy boundaries between the 'wild' and the 'domesticated', the 'natural' and the 'human'. The more we can learn and teach and transmit knowledge in holistic ways, giving respect not only to specialists but also to generalists, the more we can understand nature and our own place in it. A number of alternative education and learning initiatives attempt to do this: schools like *pachasaale* of the Deccan Development Society, in Andhra Pradesh, the *jeevan shalas* ('life schools') of the Narmada Bachao Andolan, struggling to save the Narmada valley and its inhabitants from a series of mega-dams, and Adharshila Learning Centre in Madhya Pradesh; colleges like the Adivasi Academy at Tejgadh, Gujarat; open learning institutions like the Bija Vidyapeeth in Dehradun, Uttarakhand, Bhoomi College in Bengaluru, and Swaraj University in Udaipur (<http://www.ddsindia.com/www/psaale.htm>; <http://www.ddsindia.com/www/Education.htm>; <http://www.narmada.org/ALTERNATIVES/jeevanshalas.html>; <http://adharshilask.tripod.com/aboutadh.html>; <http://www.Adivasiacademy.org.in>; <http://www.navdanya.org/earth-university>; www.bhoomi.org; www.swarajuniversity.org).

Similarly, several groups are working on public health systems that empower communities to deal with most of their health issues, through combining traditional and modern systems, and through strengthening the links between safe food and water, nutrition, preventive health measures, and curative care.

RED would also promote, and in turn be strengthened by, a freeing of the personal and community spirit from the bounds of materialism and bigoted religiosity. Quests for improving oneself through spiritual means would be reinforced by the spirit of living and working in communities, and would in turn reinforce the community.

4.4. International relations

The reversal of economic globalisation does not entail the end of global relations! Indeed there has always been a flow of ideas, persons, services and materials across the world, and this has often enriched human societies. RED, with its focus on localised economies and ethical lifestyles, learning from each other, would actually make the *meaningful* flow of ideas and innovations at global levels much more possible than a situation where everything is dominated by finance and capital.

Indeed one of the most beneficial exchanges would be the various ideas and visions of alternatives that are being discussed or practiced across the world. 'Buen vivir' (with various variants) in south America, 'degrowth' in Europe, and many others are exciting traditional or new approaches that resonate with Radical Ecological Democracy; there could be much mutually beneficial learning between India and the indigenous peoples, local communities, and other civil society organisations of these regions [28; www.degrowth.org].

More practically, India needs to build much better relations with neighbouring countries, based on our common ecological, cultural, and historical contexts. Transboundary landscape and seascape management would be an example, including 'peace zones' oriented towards conservation where there are currently intense conflicts (e.g. the Siachen glacier between India and Pakistan). More globally, strengthening various treaties on peace, rights, and the environment, are a key agenda; these could dovetail into a new framework for the 'development' goals after 2015 (when the current Millennium Development Goals are up for review), a framework that has internal coherence and a unifying set of principles, and is based on sustainability and equity as core themes running across all goals [29].

5. Is such a transformation possible?

RED entails huge shifts in governance, and will be resisted by today's political and corporate power-centres. But in India, there are many signs that a transformation is possible over the next few decades, including:

5.1. Growing civil society mobilisation to resist elements of the dominant economic growth model

There has been a marked growth in mass movements against destructive development projects, especially amongst communities most impacted by displacement or the degradation of their environment, supported by civil society groups in urban areas. Resistance to destruction is itself a positive, constructive act, especially when it is motivated by the desire to sustain what may be already relatively sustainable lifestyles and cultures. More often than not, however, even resistance movements need a vision of what the future could look like, for once the immediate struggle is won, there will always be challenges of improving and sustaining socio-cultural, economic, and political processes in the face of new challenges and threats. India has already seen great betrayals, for instance the distortion of *adivasi* visions that motivated the creation of the states of Jharkhand and Chhattisgarh, at least partly because there was little coherent vision of what *after* statehood is gained.

5.2. Civil society facilitating basic needs

The repeated failure of the state to deliver on many counts, has prompted civil society organisations (community-based, or NGOs) to take on the role of provision of basic facilities and amenities, and of facilitating local empowerment, as illustrated in examples in this paper. But care is needed that they do not exempt the state from its roles as described above.

5.3. Policy shifts and reforms

Civil society advocacy and initiatives by progressive individuals from within the state itself, has led to some policy shifts and reforms that are against the general trend of economic globalisation. Three recent legislative measures are examples: the Right to Information Act 2005, the National Rural Employment Guarantee Act 2006, and the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act 2006. Each of these has a base in people's initiatives; e.g. the RTI emerged from grassroots struggles in Rajasthan, Delhi and elsewhere, led by groups like the Mazdoor Kisan Shakti Sangathan (MKSS) demanding access to official records on employment and funding.

5.4. Technological shifts

Many technological innovations are making human life not only less dreary but also more ecologically sensitive, in industrial and agricultural production, energy, housing and construction, transportation, household equipment. There is also growing appreciation of the continued relevance of many traditional technologies, e.g. in agriculture, textiles and other manufacturing, and other fields. Countries in a 'developing' stage, have the unprecedented opportunity to leapfrog directly from some of the most wasteful industrial, energy, and transportation technologies, into super-efficient ones, provided they are given the opportunity and support to do so by the industrialised world.

5.5. Financial measures

A range of reforms in macro-economic and fiscal policies have been suggested to move towards greater sustainability. Shifting subsidies from ecologically destructive practices such as chemical-heavy agriculture, to truly sustainable ones like organic farming, are one powerful set of changes that a number of civil society groups have demanded in India. Taxes that reflect something of the true value of natural resources being used by urban and industrial-scale consumers, discourage ecologically destructive practices including consumerism, and reduce income disparities, would also contribute substantially.

5.6. Awareness, education, capacity

Ecological and social awareness and the capacity to deal with associated problems have risen exponentially in the last 2–3 decades. Yet amongst decision-makers, and business elites, it remains particularly poor. This is partly because these sections have been buffered from the worst ill-effects of ecological and social disruption, and partly because the environmental movement itself has not adequately 'targeted' them. A transition to RED will require a massive campaign to spread awareness about the multiple crises we face and their root causes, and builds capacity to spread meaningful solutions. This requires different approaches for different sections and at various levels from local to national decision-makers and the general public. While adult populations cannot be neglected, possibly most important are the younger generations since they will be in decision-making positions soon. Non-formal education, field exposures, learning by doing, site-specific and locally developed awareness programmes, in-service training, bringing 'experts' from the informal sector (like an *adivasi* elder) into formal institutions, using public transport vehicles as mediums of awareness, and so on ... all these need dramatic expansion.³

³ Detailed strategies and actions in the sector of biodiversity awareness and education are provided in Kalpavriksh and TPCG [31].

5.6.1. Who will be the primary agents of change?

Several of the initiatives at change mentioned above are led by peoples' movements and civil society organisations, mostly in the non-party political sector (including progressive trade unions in the formal and informal sector). These are at times helped or backed by sections and individuals within government, political parties, and academic institutions. Such movements and organisations are likely to continue being the main change-maker into the near future, especially those amongst them that are part of, or are facilitating, the empowerment of rural and urban communities.

Over time several political parties will feel pressure from their constituencies, as they gain more decentralised power, to reorient their focus to issues of sustainability and equity; the more progressive sections within them will grasp the opportunities to push from within. So will business, facing pressure from consumers, but I do not foresee the private sector in its current dominant form as a major player, since in any case in a RED scenario it will not have a place; it will be replaced by producer companies, public sector, and the emerging category of 'social enterprise' (where it is genuinely public-oriented). International agencies, themselves pressurised from increasingly vocal and active communities in relevant countries and regions, too will play a role, with environment and human rights treaties gaining ground, and multilateral/bilateral aid agencies being reformed towards the new values.

One significant factor in this could be the growing sense, across the world, of being part of one earth. For perhaps the first time in history, not in small part due to the climate crisis, a truly global consciousness is emerging. As more and more peoples' forums for regional and global interaction (such as the World Social Forum and its regional variants) increase, this consciousness will be a basis for enlightened action. The 'sandwich' effect of grassroots mobilisation and global consciousness and action, is likely to be crucial in changing the way governments (stuck in between) behave. . . but of course not without first resisting and hitting back. Local to global networking is crucial to withstand this backlash.

Also important is the simultaneous, mutually reinforcing transformation of the self and society [30]. Engaging in social movements helps in individual change, and personal self-reflection and spiritual or ethical growth helps engage more meaningfully in social causes.

6. India 2100, revisited

India is perhaps uniquely placed to achieve the transformation to RED. This is for a variety of reasons: its thousands of years of history and adaptation (including ancient democratic practices that perhaps pre-date even the famed Greek republics), its ecological and cultural diversity, its resilience in the face of multiple crises, the continued existence of myriad lifestyles and worldviews including of ecosystem people who still tread the most lightly on earth, the powerful legacy of Buddha, Mahavir, Gandhi, Ambedkar and other progressive thinkers, the adoption of revolutionary thinking from others like Marx, zealously guarded practices of democracy and civil society activism, the very many peoples' movements of resistance and reconstruction, and the equally numerous opportunities for the transformation of the self.

But of course India cannot do this alone, it will need to convince, teach, and learn from, other countries and peoples. . . which too it has done for many centuries, but now in an entirely new and far more challenging context. Here too it is more likely that peoples' movements and groups will lead the way, rather than the state.

So what will India look like in 2100? Here is a likely scenario:

- Contrary to expectations at the start of the 21st century, rural–urban migration would have slowed down to a trickle, and thousands of villages would be welcoming back residents who had earlier gone away, including young people that were not even born in them. This would be because rural areas would be economically vibrant, their societies increasingly less socially divisive and hierarchical, their *gram sabhas* the locus of enlightened democratic governance.
- Most cities would be well on their way to becoming sustainable: considerably reducing their parasitic dependence on the countryside, meeting much of their water, energy, food, and material needs from within or immediate surrounds, dedicating at least 75% of their roads to public transport and cycling/walking, every colony dominated by public spaces where children can play freely, most colonies declaring themselves zero-waste, and a large majority of the citizens involved in *mohalla sabha* level democracy.
- In many parts of the country, villages would be part of a larger socio-economic and ecological units of rural and urban settlements that would be able to meet most or all basic needs internally; *sustainable exchange zones* or *swaraj* economies would be flourishing; governance institutions at these larger cultural and ecological landscapes would have been established, accountable to the *gram sabhas* and *mohalla sabhas* they are comprised of.
- While India, Pakistan, and Bangladesh still retain their 'national' identities, their boundaries would be porous, needing no visas to cross, local communities having taken over most of the governance and having declared *shanti abhyaranyas* (peace reserves) in previous conflict zones like Siachen and the Sundarbans (the latter having become a serious arena of water and land conflict due partly to the climate crisis, during the 2030s and 2040s). The same would be the situation in Palk Strait, with fishing communities from both India and Sri Lanka empowered to ensure sustainable, peaceful use of marine areas.
- Community-based conservation would have spread across most of India (and South Asia), with communities on their own or with help from the government and civil society, managing and conserving natural ecosystems; such ecosystems would cover a third of the country, having been regenerated and interconnected, providing cover for a dramatic recovery of most wildlife populations.

- Absolute poverty (including deprivations of any kind of basic needs) would have been eliminated; some inequities would persist but be on their way out. An ‘above sane consumption limit’ having been established in the 2020s, all those who were over-consuming resources would have changed their lifestyles to greater sustainability. Greater awareness, a mix of incentives and disincentives, and resistance and protests by victims of destructive development, would have played a great part in this.
- Schools and universities would have been transformed into facilitators of learning and welfare amongst the communities as a whole, their teachers coming from both formal and informal, modern and traditional backgrounds, their students taking part in setting curricula. Dependence on ‘professionals’ would be considerably reduced, as each person and community learnt the basics of living, health, learning, and economic occupations that they choose. While electronic means of communication would have spread considerably, there would also have been a revival of face to face interactions, as people would increasingly realise the hollowness of exclusively virtual relationships.
- The politics of representation would be greatly transformed, emanating from power at the grassroots, subject to strong norms of accountability, transparency, and the right of recall; the nature of political parties would be less about gaining power (since in any case power at centralised locations would be considerably less) and more about genuine representation of cultural and social diversity, natural leadership, and the motivation to serve. Some unease in the relationship between direct or radical democracy at the ground and representation at higher levels would remain, but not result in serious disruptions as an empowered public would not allow representatives a free reign of power.
- Religious centralisation and inter-religious conflicts would be on their way out, as each individual and community realised the power of its spiritual and ethical self; enlightened spiritual leadership would remain but attempts to convert this into dogmatic, undemocratic institutions such as the religions that dominated the early 2000s, would be constantly challenged by the public.
- Population would have stabilised at about 1.5 billion, as birth rates dropped dramatically in the 2020s and 2030s consequent to women’s empowerment, improvement in economic security of the poor, and declining hold of religious beliefs privileging male children or prohibiting abortion and birth control.

Sounds utopian? Perhaps. But, like my co-author and I say in *Churning the Earth*: “between the seemingly ‘impossible’ path and the obviously insane one, we prefer the former” [3].

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