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**CS11: A review on the potential risks associated with
development of new eco-cities in India in relation to
climate risks/urbanisation**

Case study: Mumbai–Pune region

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Abstract

This review paper will discuss the potential of eco-cities in India to mitigate climate change in the context of rapid urbanisation, with particular focus on the case of Mumbai–Pune region. Climate change refers to the concerns over the ecologically sensitive Western Ghats region, which regulates the monsoons in India and forms part of the Mumbai–Pune region. I suggest that the argument for eco-cities as a response to rapid urbanisation takes urban growth and economic development as a given. The first eco-city developed in the Mumbai–Pune region highlights a number of weaknesses of this argument – first that the trend in private–public partnerships for building new cities in India loses state accountability towards environmental protection, second that construction of eco-cities displaces the indigenous population from their land to replace them with elite urban populations that further increase rural–urban migration and third that the development of new eco-cities produces the need for high-speed private transportation networks, which further increase greenhouse emissions. I will argue that owing to the interconnectedness between urbanisation, environment and migration, there are strong reasons why we should pay attention to the dynamics between urban and rural spaces. Further, in the absence of strong enforcement and monitoring of environmental performance, eco-cities are easily co-opted within the development goals of the state and the business goals of private companies. I use the case of the Mumbai–Pune expressway to highlight how the first city of India to lay claims to sustainability – Lavasa – embodies some of the weaknesses of the argument that eco-cities are a ‘solution’ to climate change and rapid urbanisation. Given that the Indian state plans to build six new eco-cities in the new couple of decades, locating them along a mega-infrastructure project linking Delhi to Mumbai, eco-cities run the danger of prioritising economic development over environmental sustainability. I conclude that the importance of strong environmental policy framing and regulation are crucial in this context if eco-cities in India are to have any potential in mitigating climate change and addressing the challenges of rapid urbanisation and migration.

Urbanisation, environment and migration in India

The McKinsey report (McKinsey Global Institute, 2010) on India’s urbanisation, titled *India’s Urban Awakening: Building Inclusive Cities, Sustaining Economic Growth*, predicts that 590 million people will live in cities in the next 20 years. India’s urbanisation is predicted to rise from 28% in 2001 to almost 36% in 2026, and will be increasingly concentrated around the large urban metropolitan centres of Mumbai and Delhi (Dyson *et al.*, 2005: 5–6). Much of the increase will be led by rural–urban migration. To accommodate this growth, the McKinsey Report suggests that India will need a planned portfolio of at least 20–30 new cities.

Mumbai, Nashik and Pune form 1 of the 19 economic clusters proposed in the influential McKinsey Report (2010) on India’s urbanisation. The report encourages the development of these clusters through high-speed transport links, which is expected to transform the Mumbai metropolitan region into the world’s second largest urban agglomeration by 2030. The first expressway between Mumbai and Pune built in the mid-1990s cut the travel time between these cities to 2 hours. The Pune–Nashik road was widened to four lanes in 2009. The Mumbai–Nashik road to be completed by 2014 involves four-laning of the 99.5-km highway between these cities. These three expressways have seen rapid expansion and growth of large

urban centres along their routes as well as the construction of new towns, special economic zones (SEZs) and a proposed airport.

As India begins to establish its position as a 'rising power' in the global economy, its ambitious plan of economic growth has focused on the linking of its 'top-tier' cities like Mumbai with other 'second-tier' cities such as Pune and Nashik through high-speed expressways (Kennedy and Zerah, 2008). This is reflected in India's eleventh 5-year plan, which has a planned growth rate of 9% to be achieved by using cities as the engine of growth (Biau, 2007). Over the next 40 years, 400 million Indians are also predicted to migrate from rural to urban areas (McKinsey Global Institute, 2010). India's ambitious national programme of urban renewal (Jawaharlal Nehru National Urban Renewal Mission), focuses on creating more than 35 world cities in different states on the assumption that urban populations in India will grow far quicker than rural populations. Yet as Kundu notes, these predictions are alarmist and if anything the trends show that India's urbanisation is moving at a much slower pace than other countries (Kundu, 2011). He argues that this is due to the ambiguity in policy documents regarding urban development, which has 'deprived small and medium towns of the resources badly required for providing critical infrastructure and services', while an 'elite capture' of land has come in the way of absorbing poorer migrants into existing cities (Kundu, 2011: 12).

Urbanisation, migration and environment are fundamentally related. Rapid urbanisation brings with it associated environmental challenges of increased greenhouse gas emissions, resource depletion and changes in climatic conditions, particularly across coastal regions in India. The rapid expansion of Indian cities, particularly of Delhi and Mumbai, has led to increased risks of flooding, drought and a host of other environmental disasters. In 2005, Mumbai was hit by exceptionally heavy rains, a metre of which fell in only 1 day. The city was flooded, but this mostly affected those living in slums and low-lying areas. In Mumbai's peri-urban regions, however, 60,000 villagers had to be relocated on account of this flooding, and it destroyed that year's crops. Experts predicted that increased flooding along coastal cities like Mumbai is related to increased deforestation along the Western Ghats, soil erosion and changes in climate patterns that affect the intensity of monsoon rains (Fifth Report from the Working Group on Climate Change and Development, 2007). Indeed, Mukhopadhyay and Revi argue that by the 2030s, there would be a large of environmental refugees 'fleeing from the flood and drought affected parts of rural India' and that if the consumption levels of the Indian middle-class continue to rise at the same pace, 'the scale of rise in GHG emissions and potential resource conflicts are clearly unsustainable for both India and the world' (Mukhopadhyay and Revi, 2009: 60).

Other regions in Maharashtra, such as Vidarbha and Marathwada, on the other hand have been facing drought for a few years now, affecting nearly 10,000 villages and the basic livelihoods of 10 million people (Fifth Report from the Working Group on Climate Change and Development, 2007). Such extremes of weather are related to the rapid depletion of ecologically sensitive areas such as the Western Ghats, which lie across Maharashtra and nearby states and regulate the onset and intensity of monsoons each year. Although rapid urbanisation is not the only cause, degradation of ecologically sensitive areas is one of the most important consequences of rapid urbanisation and the rise in development activity along transport corridors.

Maharashtra state in India has one of the fourth highest percentages of rural-urban migration in the decade preceding 2001, currently with 45% of the total urban population composed of rural-urban migrants (Mitra and Murayama, 2009). Bhagat notes that this trend includes a rise in net rural-urban classification as well as net rural-to-urban migration (Bhagat, 2011). He

contends that the increase in urbanisation in the decade 2001–11 is due to the rise of a number of smaller towns which were previously classified as villages.

Increased urbanisation, at the rate that has been planned for India, is likely to have huge consequences on the use and availability of land. For example, Navi Mumbai, a satellite town of Mumbai, was built after destroying a large area of mangroves, which regulate flooding along the coast. And with increased urbanisation comes the increased need for infrastructure networks connecting these cities and towns to each other and to the global economy. In recent years, this has taken the form of high-speed auto expressways between large metropolitan cities. Indeed, a more radical form of urbanisation is taking shape along these infrastructure networks even as these expressways are created to reinforce economic development. Much of the new infrastructure networks are conceived as ribbon developments, where a host of services – eco-cities, SEZs, IT parks and so on – are planned along its route. The first one to do so on a grand scale was the Mumbai–Pune expressway, which paved the way to creating Lavasa, which stakes its claims to a number of sustainable development initiatives.

Eco-cities as a solution?

Eco-cities are often seen as the panacea of ecological degradation, climate change and rapid urbanisation. Do they really deliver upon what they say? More importantly, can they mitigate ecological degradation and reverse the rural–urban migration trends that are leading to rapid urbanisation in the first place?

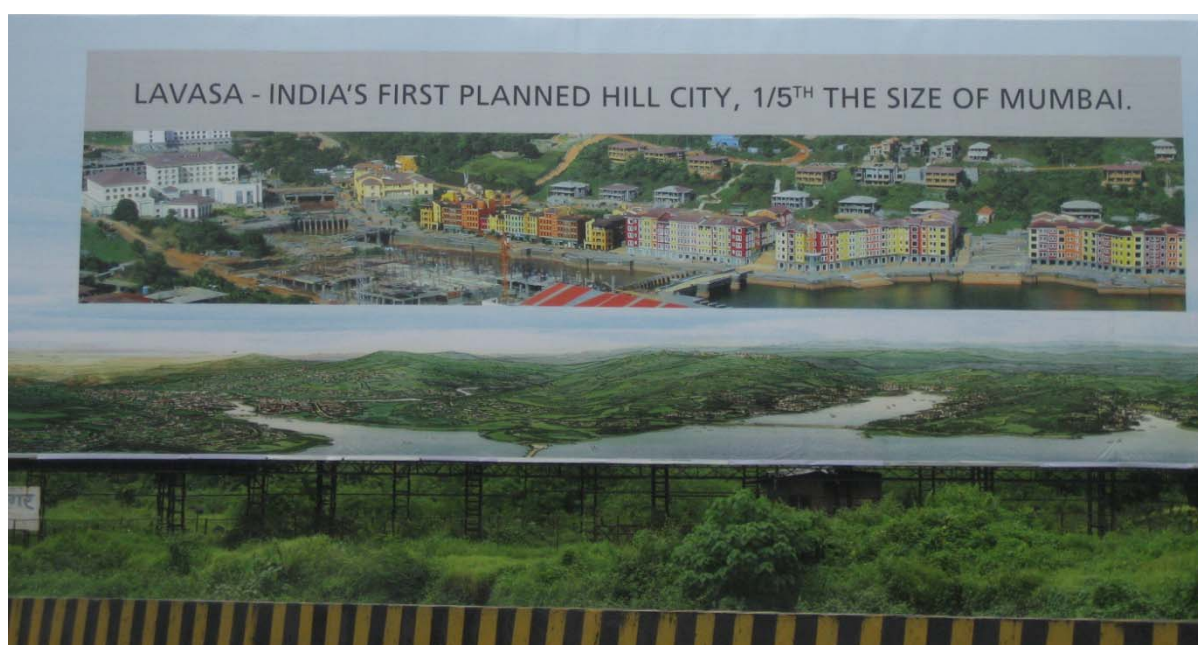
Although efforts to create sustainable cities are not new, eco-city as a term was first coined by Richard Register in his 1987 book, *Ecocity Berkeley: Building Cities for a Healthy Future*. In his concept, the eco-city could feed itself and satisfy all its energy demands without help from outside its boundaries. As Joss found more recently in his global survey of 79 eco-cities, they are of three broad typologies – new cities, newly expanded city regions and retrofitted cities. He also finds that eco-cities have developed from a loosely defined concept in the 1980s to a ‘multitude of concrete practice-led initiatives’ (Joss, 2010: 242) in more recent years. He notes that the concept of eco-cities is becoming more mainstream in policy and regulatory processes. More crucially, Joss notes that about three-quarters of these eco-cities see technological innovation as the way forward, focusing on solar power, transport infrastructures or water management.

In India, the Central Pollution Control Board (of the Ministry of Environment and Forests) launched an eco-city programme in 2006 as part of its tenth 5-year plan that was targeted initially at six small and medium towns – Kottayam, Puri, Thanjavur, Tirupati, Ujjain and Vrindavan. For those who are familiar with Indian cities, it will be clear that these are cities with important heritage sites of high spiritual significance. The programme was intended to execute various retrofit adaptations in these cities through improvements in sanitation, solid waste collection and disposal, protection of water bodies, transportation and landscaping (Central Pollution Control Board, 2006). This programme, however, was public funded and did not deliver on its goals. Indeed, it was heavily criticised for not having transformed any of these towns into ‘eco-cities’. Simultaneous to this programme, however, there have been a number of private-led developments in India which claim to embody the broad qualities of an eco-city, using technological innovation at an urban scale and development across several sectors (housing, transport, sanitation, water and so on).

Lavasa – India’s first eco-city?

In the 1990s there emerged an economic imperative to connect Mumbai, the financial capital of India, and the neighbouring industrial hub of Pune through a high-speed transport link. Its financial viability relied on a property-development corridor passing through key towns like Navi-Mumbai, Lonavla and Pune. The Mumbai–Pune expressway was a flagship project of the Maharashtra state government, which attempted to attract global investment into the region by decreasing travel distances. The expressway displaced a total of 66 villages and 97.05.01 Ha of forest land (Consulting Engineering Services, 1996). It was cleared after the environment impact assessment (EIA) proposed an environmental management plan, which was supposed to mitigate its ecological and social impacts. This project was challenged by local environmental activists for violating environmental regulations and destroying ecologically sensitive areas. Yet, it was executed with minimal changes to its route. Almost 15 years later, the Mumbai–Pune expressway, India's first six-lane high-speed tolled expressway funded through public–private partnerships, has seen a phenomenal rise in luxury gated developments marketed to the Indian middle-classes and non-resident Indians along its route. More significantly, this has seen the construction of India’s first privately designed, built and financed cities along its route – Aamby Valley and Lavasa. In the following pages I will briefly focus on the latter.

In 1996, the government of Maharashtra created a Special Regulations for Hill Station development to relieve congestion in British-era hill stations. The Special Regulations allowed Lavasa to acquire land along hill slopes. On 30 May 2001, the Maharashtra government removed the upper limit of 2,000 ha in the Special Regulations, allowing Lavasa to acquire another 3,000 ha for its second phase of development. In 2007, another amendment was made to the Special Regulations that allowed cutting into the slopes. In June 2008, Lavasa Corporation Limited was made a special planning authority with powers to plan and approve development in the area under its jurisdiction.



Lavasa’s claims to status as India’s first planned hill-city is based on the special regulations that allowed it to materialise in one of the most ecologically sensitive landscapes in India – the Western Ghats. Lavasa obtained environmental clearance from the Maharashtra State Environment Department in 2004 for urban development of 2,000 Ha of land along the slopes

of the Dasve Lake, deep in the heart of the Western Ghats. Most of this land had forest cover, but some parts of it was also degraded as a result of shifting cultivation carried out by indigenous tribal groups living off the land. Currently under construction by Hindustan Construction Company (HCC), the company which also constructed the Mumbai–Pune expressway, Lavasa is being built on the principles of new urbanism after clearing 25,000 acres of forest land – almost a fifth of the size of Mumbai (Editorial, 2010).

Closer examination of the politics of Lavasa's making is beyond the scope of this essay, but it is worth examining the sustainable initiatives that broadly align Lavasa to eco-city principles. Much of its ecological initiatives are related to an environmental management plan which includes water conservation, rain-water management and biodiversity enhancement. Its broader sustainable development initiatives include minimising soil erosion, hydroseeding, biomimicry and raising awareness about sustainability among surrounding villages. Development plans for Lavasa consist of four phases and involve the construction of 12 towns spread across seven hill slopes. The proposed infrastructure of the city includes research centres, hospitality and tourism, education, residential accommodation, health care, a theme park, a golf academy, a football academy and a hockey academy. It has received Leadership in Energy and Environmental Design 'silver' certification for one of its hotels. In 2010, the McKinsey Report (McKinsey Global Institute, 2010) gave Lavasa the status of a 'world-class' city currently developing in India.

Since Lavasa was built, however, there have been a number of allegations around its development, including on the topics of its political patronage, land acquisition, ecological damage, water use and social equity. Its distance of almost 50 km from Pune and 180 km from Mumbai means that the two metropolitan centres closest to Lavasa can be reached only through private transport along the Mumbai–Pune expressway. Interviews with ecologists employed on the project during its initial stages (who subsequently left the company) reveal that their recommendations had been to use low-cost local techniques of restoration and conservation such as transplantation of native species, building on lower slopes, restoration through seed collection and replanting, and the use of locally available materials for building, which would have been more sensitive to the region. These ecologists also recommended the preservation of animal corridors which would connect a number of ancient groves on Lavasa land to the larger government-reserved forest nearby. The ecologists revealed that these techniques were apparently regarded by Lavasa as inappropriate for global marketing, and preference was given to more internationally renowned environmental technologies like biomimicry and hydroseeding to restore hill-side slopes with fast-growing non-native species. Most significantly, although Lavasa claimed to engage in corporate social responsibility through employment, vocational training, schools and childcare for its workers, there have been allegations around the ways that land was acquired from the villagers through middlemen and sold to Lavasa.

In November 2010, the Union Ministry of Environment and Forest in Delhi ordered the Lavasa Corporation to stop further construction on the grounds that Lavasa Corporation Limited had not obtained environmental clearance from the centre under Section (5) of the Environment Protection Act 1986. After this, Lavasa Corporation moved Mumbai High Court against the stay order contending that they were only required to obtain clearance from Maharashtra State Environment Board, since this was a new township. This plea was rejected by the Mumbai High Court in December 2010. In early January, a committee appointed from the centre visited Lavasa and made many observations of non-compliance. Among these the following were related to environmental issues.

- no document to show the power of the state government to grant environmental clearance;

- large-scale hill cutting and quarrying and changing good vegetative cover to barren, exposed slopes. Enhancement of siltation in the reservoir;
- likelihood of serious environmental degradation in ecologically sensitive Western Ghats in the absence of scientifically formulated quarrying operations with environmental management plans;
- likely to reduce the water supply for irrigation purposes and/or of Pune City; and
- no scheme for villagers.

On 19 January 2011, the Indian Ministry of Environment and Forest ruled Lavasa hill city as illegal because of its non-compliance with environmental issues. Lavasa has now appealed against this decision.

Eco-cities on a grand scale

Indian models of sustainable cities derive much of their inspiration from recent Chinese eco-city models. A number of new cities proposed and/or built in China, such as Dongtan and Huangbaiyu, are located on greenfield sites and connected to existing metropolitan regions through newly built transport links. In these models, their location in or near ecologically sensitive regions is not a deterrent to their construction – rather remedial action and environmental management is seen to reconcile developmental aspirations and local environmental protection. The new cities that India wants to build in the next few decades have aspirations to transcend these Chinese examples. These cities will be delivered through private–public partnerships where the state makes land available and private developers provide for infrastructure, site planning, energy services and a host of other services. While the publicly funded ‘eco-city’ projects initiated by the Central Pollution Control Board had focused on environmental improvements in existing heritage towns, these new cities planned at a grand scale require huge investments and can only be delivered through private-sector investment.

Over the next couple of decades, the Indian state plans to build six new cities. Broadly aligned to eco-city principles, these cities will be called ‘smart communities’ – ‘cities in which citizens, business and government live, work and interact in a sustainable manner through delivery of integrated, low carbon products and services’ (IANS, 2011). Such a conceptualisation resonates with eco-city principles through their focus on minimal pollution, maximum recycling and re-use of finite resources, and optimisation of energy supplies. Significantly, these new cities are to be located along the Delhi–Mumbai industrial corridor (DMIC), a mega-project planned on a much grander scale than the Mumbai–Pune expressway, to link these two metropolises through a development corridor of SEZs. Much of the industrial corridor will be along greenfield sites, which means that the land would be re-classified from agricultural or forest use to urban. These cities have been conceived on a grand scale – Dholera in Gujarat, Manesar-Bawal in Haryana, Indore-Mhow in Madhya Pradesh, and Dighi and Nasik-Igatpuri in Maharashtra are all larger in area than any of the current Indian cities. For example, at 900 km², Dholera is envisaged to be six times bigger than Chandigarh (Sen, 2011). These cities are meant to be India’s answer to Chinese urbanisation.

The location of these cities along the DMIC is significant. They will contribute to the consolidation of mobility patterns that are typical of the urban middle classes and elite social groups. The linking of two large metropolises is meant to consolidate their global economic

links through income generation, industrial production and exports. Each of these cities will cost around \$9–10 billion and will be paid for by Japanese investment (from companies like Hitachi, Mitsubishi Corp, Toshiba, JGC and Tokyo Electric Power Company) and designed by international masterplanning firms.

It seems then that the Indian answer to rapid urbanisation has been a push towards a model of city construction delivered through private investment. The approach provides the state with minimum responsibility for constructing new cities apart from a commitment to providing land and creating a positive policy context for this to take shape. Are these smart cities then the answer to problems of energy and climate change? I suggest that this approach makes a few basic assumptions which have inherent weaknesses.

The first assumption reinforced by the McKinsey Report is that new cities are required in India as a result of increased urbanisation. The inherent weakness in this assumption is that it takes migration into cities as a given, and therefore gives a reactive response to urbanisation. As already mentioned, rural–urban migration in India has not taken place at the pace predicted. The reactive response also relies on a public–private partnership in which the state merely acts as a facilitator. This has resulted in a move towards private urbanism (such as in the case of Lavasa) with claims to sustainable development but which raises huge legal debates around environmental management and protection.

Second and related to the above point is that these cities do not usually cater for the population they displace. Indeed, their access through exclusively private transport, house prices and envisaged lifestyle reflect the socioeconomic profile of elite and upper middle-class families. Eco-cities like Lavasa make attempts at corporate responsibility, but do not explicitly account for low-income accommodation targeted at the social groups that they displace.

The third assumption is that the current policy and regulatory mechanisms for assessing environmental impact and its mitigation are neutral, objective and effective. Paliwal (2006) finds that EIAs are seen more as bureaucratic arrangements rather than tools for responding to environmental challenges in mega-projects. There is also inconsistent application of evaluation and predictive tools across different projects since there is no regulatory body that provides training or accreditation of EIA specialists. Combined with improper monitoring and poor implementation, there is very little accountability in the EIA system.

The above points suggest a wider acceptance of ‘sustainable development’ as the panacea for India’s environmental challenges and in the mitigation of climate change. As Jasanoff (1993) notes, the debate on environmental protection is often at odds with development aspirations of the Indian state. Both these debates look towards effective legal structures and policies as the answer to climate change and resource depletion. Yet in India, policies are not always evidence based and their implementation, monitoring and enforcement are influenced more by political structures and electoral volatility. The challenges of environmental policy making and enforcement, therefore, are central to the making of future eco-cities in India.

Environmental law and policy on sustainability in India

Many of the approaches towards sustainability in India are led by the way that the ‘environment’ has been formulated within law and policy. The constitution includes a number of

legally enforceable rights called 'fundamental rights', and prescribes minimal indices for development called 'Directive Principles of State Policy'. The 'environment' is not included in the constitution as a fundamental right. In 1976, the 42nd Amendment of the Indian Constitution listed 'environment' for the first time under the Directive Principles of State Policy, acknowledging for the first time the Indian state's responsibility to protect the environment (Divan and Rosencranz, 2002). However, Ramakrishna (1985) explained that this did not go far enough to propose how this would be practically achievable. Moreover, since the directive principles are policy directives rather than legally enforceable law, they do not go far enough to impose any realistic sanction on the government to pass enforceable laws.

This difference between fundamental rights and directive principles in the constitution has had profound effects in shaping the relationships between urbanisation, environment and migration. Since there are no fundamental rights to environment, in the absence of appropriate policies, affected parties must file petitions in court on the basis of violation of their fundamental rights to life (interpreted as the right to shelter or livelihoods). Success in such litigation is low since environmental disagreements are settled in India on a case-by-case basis at the discretion of the judiciary. This was indeed the case during the construction of Lavasa and the subsequent judicial decisions which ruled it as an illegal settlement.

The regulation and enforcement of environmental policies on the other hand are deeply affected by power sharing around important environmental issues between centre and state. An important example of this is in the 42nd Amendment, which removed the right of states to declare any reserved forest as non-reserved without prior approval from the central government. Although state governments have a role in environmental decision making, the Constitution of India explicitly grants the centre ultimate authority over deciding major environmental issues. The state governments can decide upon issues which concern public health, land reform, water supply, sanitation, irrigation agriculture and fisheries, but decisions involving the location of new cities are likely to be retained by the centre since these are at a much larger scale and affect a range of environmental issues under the authority of the centre. This means that not only do regional states lose out in having a say over how their traditional forest habitat is accessed and managed, but also the centre may impose ill-considered development solutions on environmentally sensitive regions. Such centre–state dynamics of power sharing will shape the sustainability of the six new cities planned along the DMDC described earlier

It is often argued that current environmental policies in India are weak because they are contradictory, send conflicting messages and there are gaps between policy wordings and its implementation potential. This is particularly relevant in the case of forests. The designation of what actually constitutes a forest has been a highly contested territory. In Maharashtra, entries of private 'forests' in government records refer to land that is often not forest land at all (Lobo, 2002). Lobo notes that in 1975 in four districts of Maharashtra (Thane, Raigad, Ratnagiri and Sindhudurg), over 303,000 ha of agricultural land holdings were declared 'private forest' without the knowledge of more than 100,000 (mostly tribal) cultivators. These lands were then acquired and vested in the state. On the other hand, the National Forest Act of 1952 had proposed that 33% of the country's area needed to be under forest cover. However, this figure is now believed to be less than 20%, with dense forest cover on only 12% of the land. In 1980, concerned at the rapid loss of forests to other land uses, the Government of India enacted the Forest Conservation Act (FCA) which made it mandatory for state governments to seek central permission before diverting forest land to other uses. Sarin notes that this took power away from local communities and replaced them with a centralised management system around forest resources such as timber and other commercially viable products (Sarin, 2005). These

processes have made indigenous and tribal populations more vulnerable to livelihood depletion and subsequently migration to urban areas.

The National Environmental Policy established in 2006 intended to strike a balance between the need for conservation of natural environment and the needs of communities by ensuring the protection of livelihoods through local decision making. It was a landmark policy because it recognised that urban poverty was interlinked with loss of rural livelihoods. It brought together several existing policies such as the National Forest Policy, 1988, the National Conservation Strategy and Policy Statement on Environment and Development, 1992, and the Policy Statement on Abatement of Pollution, 1992, National Agriculture Policy, 2000, National Population Policy, 2000, National Water Policy, 2002, etc. However, the gap between intention and reality has been most starkly evident in this policy as not much has changed. Although it claimed to devolve power to the grassroots, in reality the pressures from industry, politics and commercial interests have dominated decision making.

The obvious benefit with devolution of power since 1991 is the increased role of local communities and non-governmental organisations in environmental decision making. Yet in the absence of strong environmental policies, it will be challenging to protect ecologically sensitive areas from encroachment by new cities or mega-infrastructure projects. In the absence of strict enforcement of existing environmental laws and policies by the state, aggrieved parties will have to rely on the courts to protect ecologically sensitive regions. There has thus been a rising trend in India since the mid-1980s where a growing number of environmental lawsuits have been brought forth by public petitioners on the basis of violation of fundamental rights to life. These 'writ petitions' claiming that actions of private developers, industry or government have deprived particular social groups of their rights to the environment have seen the ruling over landmark cases such as that of Lavasa.

This very brief overview of environmental law and policy in India point to the politics of environmental assessment, monitoring, clearances and enforcement practices. It highlights first that in the absence of laws that prioritise environmental protection, sustainable development of new cities run the danger of being co-opted by private economic interests. It also suggests that in the absence of strict laws and their enforcement, the Indian public might have to depend time and again on litigatory routes to set precedents and protect sensitive ecological areas. While the new cities planned on a grand scale in India might make a number of claims to eco-city status, we will first need to see strong environmental regulations in India that establish strict environmental criteria for the making of eco-cities and the monitoring of their environmental performance over sustained periods of time.

Potential of eco-cities to mitigate climate change?

In context of the challenges around assessing, regulating and monitoring environmental impact of mega-projects, do new privately funded eco-cities have any potential in mitigating climate change? My discussion so far has made the argument that such a question comes loaded with a number of assumptions, not least the most powerful one that accepts rapid urbanisation and migration into cities as the only future for India. The very notion of building new cities brings with it requirements for vast amounts of land and the displacement of rural communities who are usually not included in these cities. Instead we should ask whether there is a potential for existing cities to become more eco-friendly while at the same time better providing for low-income families. This means focusing more on the eco-city projects of the Central Pollution

Control Board, detailing and adding more cities (beyond the heritage towns) to its programme portfolio. It also means questioning the reasons why people migrate from rural to urban areas, and thinking critically about the ways in which the links between urban and rural economies could be strengthened without impoverishing one or the other. The answer to rapid urbanisation is not in the creation of new cities – it requires an integrated approach to providing for low-income housing within existing metropolitan centres and investing in rural economies in ways that would counter the increasing trends in rural–urban migration.

These arguments could be interpreted as ‘anti-developmental’, yet in a context where there is little or no accountability of the Indian state in regulating and monitoring environmental performance of future eco-cities, and where environmental policy and regulations are often ambiguous or obfuscatory, there is a danger of eco-cities prioritising economic development over mitigation of climate change and urban middle-class lifestyles over low-income livelihoods. If eco-cities are to have any future in India, they have to be accompanied by stringent environmental policy regulations in ways that are sensitive to fragile eco-systems.

In order to have any potential for mitigating climate changes, the ‘environment’ would first have to become *not* a fundamental right for all sections of the population. Its location within Directive Principles of State Policy increases the layers of governance and the ambiguities of responsibilities between centre and state. Second, the processes of EIA have to become more regulated through professional accreditation, systematisation of EIA models and monitoring beyond the completion of projects. The EIA model itself has to be re-thought in ways that it should take into account location and siting of projects along with their relationship to rural economies. Third, urbanisation has to be re-thought in the ways that challenge rural–urban migration as inevitable. This means investing more into rural economies to remove rural poverty, but also increasing investment within existing cities to make them more eco-friendly and socially just.

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