

A Vocation in Waiting

Ecology in Practice

“Generally, I would say just going for (LEED or GRIHA) certification is not a great idea, but for Mumbai I would say actually, go for it, because something is better than nothing.”

—AMRIT, RECENT RSIEA GRADUATE

“Metrics like GRIHA and LEED are not for the masters; they are for the followers.”

—SHIRISH DESHPANDE, RSIEA FACULTY MEMBER

“I am very positive. Think of how Mumbai was ten years ago or fifteen years ago, and what we are, where we are today, it’s good. Another fifteen years and there will be a lot of change. Maybe not a sustainable city, but we will be able to be environmental architects.”

—SUHASINI, RECENT RSIEA GRADUATE

Upon completion of their final thesis, RSIEA students resumed their professional lives. Some returned to the smaller Indian towns from which they’d come, and some moved on to jobs in other large Indian cities. The vast majority of graduates, however, stayed in Mumbai and continued working in the firms or practices with which they’d remained during their studies. Newly conversant in RSIEA’s version of good design and green expertise, they now faced the challenges of implementing their new approach in practice. This chapter addresses whether, when, and how graduates operationalized what they had learned. What did it take, I ask, to transform good design aspirations into actualized built forms?

This question moves beyond the observation that cities are repeatedly reimagined to point to the conditions that may enable certain forms of social action, and thus beget certain material forms. If this book began by addressing the lived social life of environmental architecture through its concepts, techniques, and moral ecological framework, it now arrives at the point of action. In this chapter,

I describe the experiences of a subset of RSIEA graduates to address how the very idea of the possible in good design was reconstituted, adapted, and actualized according to each architect's ultimate social structural position. How, I ask, did environmental architects produce and reproduce Mumbai's political economy in their efforts to promote environmental and social change? How and when did they make specific attempts to influence the city's built form, and to what effect? After all, both aspiration and operationalization are bundled in the concept of ecology in practice.

My aim is a better understanding of the contextualized meanings and relative power of RSIEA-style good design, as this was posed in relation to other active and powerful categories. In this chapter, important categories like "the state," "the builder," and "the architect" emerge in ways that contour the operational terrain of good design, and at times limit its capacity to "do" anything at all. Each marks a narrated concentration of power in Mumbai's urban development; each points to the layered institutions, political processes, and forms of knowledge that shaped or affected RSIEA graduates' specific suite of available choices, meaningful actions, and possible strategies.

The tension between aspiration and practice I trace in this chapter underscores a durable, and yet often pliable, balance between the compelling appeal of alternative, more environmentally vibrant urban imaginaries, and the deeply ambivalent relationship those who are embedded within them hold to a city's established political economic trajectory. I describe architects who acted from their specific social and political positions, each with dual stories of power and vulnerability, and each embedded in both the historical moment and the prevailing political economic realities of urban development.

Through many creative and conscious actions, RSIEA-trained environmental architects in part reproduced and in part refashioned that political economy. It is this process, animated by architects' narrations of choices, biophysical and social structures, and the categories of actors with whom they engaged we approach an understanding of RSIEA's environmental architecture as ecology in practice.

To follow, I examine how RSIEA-trained architects described the professional urban context within which they worked. I highlight descriptions of the strategic relationships they forged, and the moments when they named social, political, or material forces that seemed to limit or shape their practices. I draw from an initial data set of quantitative, descriptive statistics, written interview responses, and interview transcripts to assemble a collection of narratives. Rather than separating current students, new graduates, and their senior counterparts across set phases, the chapter is organized in terms of questions and themes that help to illustrate the challenge of transforming good design as aspiration to ecology in practice.

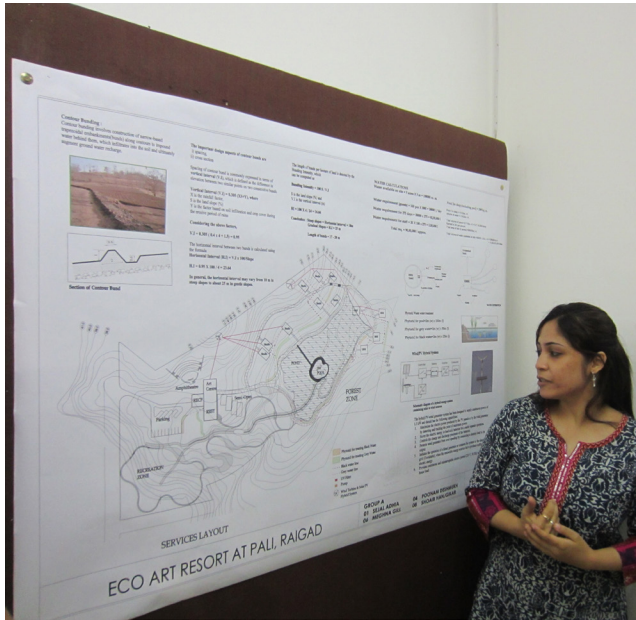


FIGURE 13. A graduating RSIEA student presents her team's final Design Studio proposal for an eco-resort at Pali. *Photo by the author.*

A basic assumption one might make when exploring the question of why a conventional architect might seek RSIEA training is that there is some kind of perceived scope for the future of environmental architecture in Mumbai. This, then, was one of the basic questions I posed to current and past students, usually to an enthusiastic and optimistic response. The following conveys one example; this offered by a student who was just completing her RSIEA training:

There is excellent scope for green design, not only in India but also abroad. The issues of sustainability have touched the lives of poor and rich, young and old, everybody. So slowly but steadily everybody today is talking about being environmentally sensitive. Buildings coming up today want to get credited with LEED recognition, which is not enough but nevertheless represents a first step towards becoming environmentally positive. At the same time nature itself is ringing all the alarm bells. The 2005 Mumbai floods, and the global warming that has taken place have alerted everyone towards the wrath of nature.¹

This particular assertion of certainty about an inevitable environmental shift, with an accounting of multiple signs that it was well underway, was offered in conversation with four RSIEA students facing immediate graduation. Of the three women and one man, all intended to maintain an architectural practice in Mumbai after

graduation. Of those who speak in the following exchange, Palavi works in a firm of roughly fifty architects, which she described as busy with contracts for LEED and GRIHA certified designs, while Kalpana maintains her own private firm with one partner. Arash worked in a large, well known development firm prior to, and during his two years at RSIEA, but upon graduation had plans to start working for a smaller developer which he described as, “more sensitive toward the environment.”

I spoke with this group immediately after the final event of the Design Studio course. The four had worked as a team in the course, and their collective proposal for the Pali eco-resort complex had just received a rather scathing critique by a small jury drawn from outside the Institute’s faculty. Following a lengthy discussion of the points of that critique, I asked about their professional plans, now that training at RSIEA was largely behind them. Having established that all four intended to stay in Mumbai, with three remaining in their current firms, the conversation shifted to the development climate in Mumbai, and whether or not there is a scope for them to practice environmental architecture in a meaningful way there. As they discussed this question, a debate unfolded. The conversation turned to whether an environmental shift was eventual and inevitable in Mumbai, and the role of the architect in bringing such a shift about:

Palavi: I don’t think immediately it’s going to change. Unless and until you get the client who wants green. Even if one developer is willing to do it, and if I start an initiative with them, . . . this is a chance. . . . The benefit to this builder is that he can market his work as “eco” and get a premium. He gets the money back that he put into it.

Kalpana: Environmental awareness will take at least five or ten years to grow in India at the scale we are envisaging. But what I am targeting, personally, is there will be policies made by the government—they have to, and they *will* make them—policies that are nature-friendly, even for Bombay. In every industry, in everything. That will be the time when we, the people who have done a master’s in environmental architecture, can step in and propose and work as environmentalists with those principles. Then the developers will choose us.

Palavi: See, it’s like studying computers. Ten years ago no one wanted to spend a lot of money to study computers. Now look. Nothing works without a computer, and those who studied computers are the economic leaders. Environmental architecture is going to make that impact. Everything goes through a phase, and this phase is going to lead to the next one.

Kalpana: It *has* to. It *is* bound to. How much of land can you use up? How much can you cut down?

Arash: By then it’s too late, unfortunately.

AR: But can you change this, as architects?

Arash: We can change it, but we have to get into government. We have to be in policymaking.

Kalpana: I think every choice that you make, and I was telling Arash this a few months back, that we had been offered a project to do a housing colony in Panvel. They said we want to consume an FSI of 4 because that was a special regulation zone and they said we want this. And I said but why? That's Panvel! Why in that kind of landscape do you want to consume this kind of an FSI.

Palavi: I think you should have done it. At least you could have done it environmentally sensitive. If you say no, some other firm will do it and it will still be an FSI of 4, but with no environment concern.

Arash: They'll do it worse than you!

Kalpana: But for me it is about the impact that I make, not about the impact that I can reduce. It has to agree with my principles.

Palavi: The little interventions are what we can make.

Kalpana: But that's where we *cannot* make a difference. The moment we just pander to whatever is put in our way, then we are not doing it for the environment. We are just doing it for the fee that it's going to bring us. . . . So you have to make a call as to what it is that you will do and what you won't. The more people start making the right choices the better the impact will be.

Arash: That won't happen. Ever. Because people need money. They cannot survive and survival is the fees. Without that, nobody will survive. So? Why would you want to see the same site built in a pathetic way? You build it your way, you know, and at least a less destructive way. Just because I won't design it doesn't mean the work isn't going to be done. Someone is going to do it, and worse than you.

Kalpana: But you are doing something about it. I think every builder understands that any architect who is giving up that kind of a project and that kind of fee and that kind of money—because the fee is not small—the moment you say I will not do it, you are impacting the person's *mind*. He will stop and think that oh my god, that has to be something really strong that this person has said no to doing a project like this. It does not come by every day. So when you do that, that person will also. It will not be immediate but I think over time he will, it will impact him in some positive manner.²

This conversation underscores many of the issues that would recur as RSIEA graduates traced their experience once they left the Institute. On the question of the

power of the architect, per se, to catalyze an ecological shift, the answer hinged on the relative power of incremental design interventions. In Arash and Palavi's logic, even "less destructive," albeit far from perfect, environmental designs were better than those that occurred in a purely conventional scenario. This logic took all incremental interventions as potentially valuable, echoing the RSIEA student quoted at the chapter's outset who acknowledges the imperfection of LEED and GRIHA certifications, but interpreted their growing popularity as "a first step toward becoming environmentally positive." For Kalpana, by contrast, meaningful and effective action requires environmental architects to refuse projects that they regard as fundamentally destructive and environmentally harmful. This was the counterpoint to the logic of incremental change, but to stake this position also depended on one's political economic capacity to do so.

In the balance of this tension is the willing forfeiture of economic gain, a calculus familiar in any debate over the appropriate politics of social transformation. In the students' exchange, the "disengage until the proper terms are met" position offered a sharp rebuttal: in India, those who will accept the project exclusively on the basis of economic necessity are many. Policy and market structures, in this logic, are the ultimate purveyors of the kind of change that will create more demand for good design, and therefore enable the form of ecology in practice they sought to operationalize. Less clear, of course, was when and how environmental or political conditions might force state agents to reform laws and policies, and then to enforce them.

Despite the tension, the exchange above also illustrates a shared confidence that eventually, as one declares, "there will be policies made by the government—they have to, and they *will* make them—policies that are nature friendly, even for Bombay. In every industry, in everything." In an important way, the messiness of the *how* questions are far less important in this exchange than the resilient, shared confidence in the inevitability of change. One may be left to hypothesize, perhaps, that the architects regarded the breaking points of ecosystems themselves as the ultimate catalysts for a clearer path to practicing environmental architecture. Human power relations, when cast in the context of global environmental crises like climate change, natural disasters, pollution, or habitat destruction, seemed inevitably susceptible to reworking—particularly if the agent of that reworking was the very environment itself.

In another conversation among another group of four graduating students who had just experienced their *Design Studio* final project critique, the idea of an inevitable environmental shift repeated. Rather than casting the environment as a likely agent that would force the change, however, the participants in this conversation narrated a more conventional, if still dramatic, political economic shift. The shift was well underway, my interlocutors assured me, and its indications could be mapped globally.

This was, again, a group of three women and one man; here all planned to practice architecture in mid-level Mumbai firms following graduation. A field notes excerpt from the conversation reads,

No one said they had joined (RSIEA) with the intention of putting environmental architecture into practice right away, but they described seeing change coming quickly, across the globe. Kabir spoke passionately, and at length, about an inevitable global revolution, saying it had already begun. He cited the Arab Spring uprisings, the Occupy Wall Street demonstrations, and the rise of groups like Anonymous as evidence that, in his words, “this kind of global capitalism is going to end in our lifetime.” Naturally, he argued, what follows it will be more sensitive to the environment; it will support healthier cities and green design because it will value what environmental architects do. Not everyone was as confident that a total, global political economic revolution was imminent, but all agreed that significant global political and economic change is coming, and quickly. . . . To this confidence that global capitalism in its current guise is time limited, Aahna added an ominous assertion. She said that given how “chaotic” urban development conditions in Mumbai have become, they are bound to get much worse before they get better. Again, I asked why. Her reply was that “greed and profit” fueled all current urban development decisions in the city, and “you cannot take that down overnight.” Aahna said she expects that Mumbai is going to implode before a revolutionary change takes place, or, she then reconsidered, perhaps they will happen at the same time. When I asked what she meant by, “implode,” she talked about “suffering and chaos.” Then a long silence fell over the group, until Kabir said, “Watch for the next Occupy movement. It will be somewhere in Asia and it will be even bigger. This is what I expect. They will keep happening and then there will be a huge shift.”³

In light of this and the previous exchange, we might understand the training and practice of good design not only as a realm of ecology in practice, but also as a kind of anticipatory political and professional refuge. Training in good design was a way of ensuring that one had the architectural capacity to make “order” out of an inevitable and approaching urban environmental chaos—a positioning of the professional and personal self against broader forces regarded as both time-limited and self-destructive.

I was struck at first by the overt indictment of capitalism in this conversation, if only because it was so rarely discussed in any overt way during RSIEA training. The culprit in this logic had a shorthand name, capitalism, and the system that organized its social and environmental effects, and which also organized the patterns of urban development that kept Mumbai on a specific, environmentally undesirable trajectory, was withering in real time. The rather calm and casual agreement in support of an anticipated revolutionary change surprised me. Yet as my conversations extended beyond graduating students and engaged those who were now back in architectural practice, I found that idea of a vocation in waiting—not to mention on the correct side of an inevitable revolutionary change—consistently

reinforced. The revolution may be socially- or environmentally driven, but it was surely coming.

Understanding this depends in part on the experiences and responses of differently positioned, RSIEA-trained environmental architects. In surveys returned by current students, the overwhelming reply to the question, “What is the greatest obstacle to environmental design in Mumbai?” was simply, “lack of awareness.” This reply from a current student exemplified a logic that connects growing environmental awareness with an automatic social response: increasing demand for environmental architecture:

It is heartening to see a lot of awareness campaigns and citizens’ initiatives towards saving the environment and one hopes that these will bring about some amount of change, however small. Lack of awareness on the part of both clients and architects is the biggest challenge and obstacle. Bringing about awareness about the subject can go a long way in creating a demand-supply system for environmental architecture so this knowledge will definitely be helpful in propagating an urban lifestyle of low consumption.⁴

Among practicing RSIEA graduates, however, more complex descriptions of the political economy of development, its contours, and the nature of the changes that would have to accompany a shift to environmental architecture, emerged. Here, certain narrative categories organized depictions of the urban development present in Mumbai. These included social norms and processes, such as bribery and corruption, as well as specific actor groups, such as builders, government officials, and architects. These were all invoked as aspects of the lived “market,” or what Kabir would perhaps call more overtly Mumbai’s specific experience of global capitalism.

If more enabling structural changes were just on Mumbai’s horizon, what, more precisely, was the timeframe architects described? How, and how soon, would essential urban development structures enable environmental architecture in Mumbai, and, yet again, what would catalyze it? Let us consider first comments offered by an architect whom I will call Siddharth, an architect who was completing the RSIEA program when we first met in 2008.⁵ As seatmates on the long bus journey between Chennai and Auroville, we forged a continued interest in one another’s work that long outlived the dusty, sundrenched heat of Tamil Nadu. It was there that Siddharth had first described to me his ideas for a set of bungalows that his boss was working on in Africa. On the bumpy bus ride, he sketched design elements on a scrap of paper, carefully itemizing how its many aspects harmonized with good design principles.

Since our very first interaction was framed by a discussion of this project, I had thenceforth assumed that Siddharth joined RSIEA because he had a deep commitment to environmental architecture. But years later, in the context of an interview in 2012, he assured me that this had actually never been the case. Instead, his

interest in the RSIEA program was simply driven by a love of design; environmental architecture was a way to sharpen his sense of connection between built forms and landscape. Siddharth described his experience at RSIEA as a way to expand his concept of design, not a platform for forging eventual (or inevitable) environmental change. I learned in those later interviews, in fact, that he did not actually “bother” to complete a final RSIEA thesis when he finished years earlier because, in his words, “the knowledge was more important than the degree.”

After leaving RSIEA, Siddharth shifted from the small environmental design firm with which he’d worked in 2008 to a much larger firm of seventy architects; his current firm undertakes projects all over India. Few of these, he told me, had environmental dimensions; when I asked why, Siddharth said flatly that the builders were not asking for them. Seated together in the open-air institute cafeteria in 2012, I asked Siddharth his working impression of the scope for environmental design in Mumbai. His quick, sharp reply caught me off guard, in part because I’d been focused in the days prior on interviews with current students, so many of whom expected at least some scope for environmental design practice upon graduation. He said:

There is no scope for environmental architecture in Mumbai. For any project, the commercial aspect—the profit—is much more important than environmental impact or the design aspect. Because finally (builders and investors) want to earn . . . it’s more about money than real architecture or environmental values. I don’t think it’s possible to change this until everything changes. Right now the politics and economics are completely against environmental architecture here. Only a whole new economy will create a scope to practice real environmental architecture and design.⁶

What was missing from the conversation with Siddharth was the confident assurance that such a “whole new economy” was somehow imminent. So long as builders and developers were profiting, he could find neither scope for good design nor promise of political transformation.

Conversations with other practicing graduates offered a similar view. Aditya, a 2009 graduate whom I’d first met during the study tour to Chennai and Auroville in 2008, told me when we sat down for a 2012 interview that he had initially hesitated to accept my request for an interview. He was eager to say hello after several years, he explained, but he was concerned, in his words, “because basically my experience is anti- your thesis.” I asked him to elaborate on what he meant, and he replied that he understood me to be studying actual environmental architecture in Mumbai. Yet since graduating, he had been doing almost exclusively “anti-environmental architecture,” not by choice, but out of the necessity of his work. “My work,” he repeated, “is anti- your thesis.”

Aditya works for a large, well known firm of over seventy architects; the practice is focused on mid- and high priced luxury residential developments in Mumbai. Several of Aditya’s projects have high visibility and recognition in South

Mumbai, the most exclusive part of the city. During one of our 2012 conversations in a teahouse not far from the Institute, he described his dire view of the scope for environmental architecture. He based his view on his work experience:

No, for residential buildings, I don't see any scope in Mumbai to practice environmental architecture. . . . I don't think it's really possible in Mumbai. Not only are the builders looking for their profits, but once it is built and lived in, in residential buildings everything is about personal consumption. If I am paying for my flat, then I think I can use AC for twenty-four hours a day. I can consume, and consume continuously. Just that example, AC is normally on all the time if you're in a high rise building. In fact these luxury high rises have central AC. These are 3BHK and 4BHK. So really, where is the green design here? Not in the building itself, and then not in how people use it once they live there. There is no energy efficiency. No water efficiency. Nothing.⁷

When I asked whether in the design and construction phase there was scope, at the very least, to use alternative materials or make other simple interventions (according to the “incremental change” logic discussed above), he replied:

Like for meeting green building criteria? I'm not seeing this used very often in residential developments. Maybe on paper or in their advertising, but no, the environmental architecture we studied in RSIEA, this is completely not possible in residential development in Mumbai. In reality, by being a residential architect in Mumbai I am working in an anti-environmental practice. It's not what I was hoping for.⁸

RSIEA boasts a number of prominent graduates in Mumbai; among these is a well-known builder whom I will call “Contractor.” Contractor employs huge teams of architects, and among them is someone I shall call “Darius.” Darius met with me several times to discuss his experience as an architect in a large builder's firm in Mumbai. At his invitation, we spoke over tea on the open-air deck at the very exclusive Bombay Gymnasium. This private club in the heart of South Mumbai was originally established in 1875, when its membership was limited to the British. In the present, it remains exclusive, but its membership boasts a partial who's who of Mumbai's elite. “Bombay Gym,” as it is often called by its members, is remarkable in many respects, but prominent among them is the relatively large plot of open, green space it occupies in the heart of South Mumbai. Shaded with dense mature trees, the plot's perimeter marks a clear boundary between the relative environmental calm of the club space and the dense, bustling city just beyond its borders.

From the comfort and relative calm of this place, Darius and I discussed his work experience. When I asked how it shaped his view of the scope for practicing environmental architecture in any sector in Mumbai, he emphasized the historical moment for urban development in India—not in the sense of an imminent new development plan, but rather in the context of the broader global economy. The relative economic boom in India, he said, would trace a predictable continuum in

which a consumption-hungry urban middle class drives a specific phase of capitalist market growth. Referring backward to the neoliberal economic turn in India, he made the inevitable comparison to a prototype consumer society, and in doing so explained his sense that the current political economic order will not only continue, but that the state and market balance in contemporary India is in part to blame for what he viewed as a destructive culture of consumerism in Mumbai:

America became a consumer society a long time ago, and India is going through that right now. We're doing it right and wrong. We're picking up a lot of the negative sides of consumerism much faster than we should. I think the beauty of India—at least with Nehru was that . . . (historically, the market sector in) India . . . remained closed. We industrialized and didn't allow any sort of foreign products in until I think 1990 or so. . . . I think economic globalization is good and fantastic and the way forward. However I think India needs to keep it in check. It needs to slowly introduce it, which is not the way things are happening now.⁹

He continued, connecting his reference to an emergent, bustling consumer market to the “way things work” in the urban development sector:

These days, it's all a numbers game. The money is all that matters. At the end of the day if the client can save one lakh he will save one lakh. On one hand, one lakh means nothing to him in the context of these mega-projects he's doing for millions of lakhs, but then on the other hand it's a mindset. If he can save it he will save it. And if that means taking an illegal route, eight times out of ten, in my opinion, people will be fine with it. Unfortunately this is India. This is the world we're living in. It's sad.¹⁰

When I asked him to say more about what he meant by the comment that, “this is India,” Darius echoed views voiced earlier in the book, in which the state and irresponsibly built form development are coproduced. His discussion of Mumbai, almost instantly pointed to the state of Maharashtra:

The entire state is run by the Shiv Sena. . . . Take a simple thing like roads. Ninety-six percent of the BMC is Shiv Sena. The election just happened, as you know, and they won in a landslide. So for instance you have a simple road that gets built and does not last even for one monsoon. It falls apart. Then the building contractors are not held accountable . . . because the problem is that the building contractors are also Shiv Sena. So they're not going to pull them up. The political groups protect their own, and the sense that we all belong to Bombay, or to Maharashtra . . . is totally missing.¹¹

A 2007 RSIEA graduate whom I will call Amrit worked with “a typical commercial architect firm” until 2010 and then established a private practice that allows him to work with individual clients on small projects “according to environmental principles,” explained to me that while he is enjoying using some of his green design techniques in this new practice, he regarded the scope for any kind of environmental architecture in Mumbai to be limited to small scale projects within a very small arena of affluence.¹² It turned out that all of his current projects were

in that scope, each for a client who wanted “eco-friendly” bungalows for weekend escapes from Bombay. These projects were in Ali Baug, a common destination for Mumbai’s elite to establish second homes. When I asked him to describe his experiential impression of the scope for environmental architecture in an interview at RSIEA,¹³ Amrit explained,

Basically Mumbai has a lack of space, so nobody’s coming to an architect to design new construction. You simply can’t apply all your thoughts or work the way you *want* to practice. . . . It’s completely builder governed, this industry. I would say in Mumbai, it’s probably because they want to sell the property in a very limited span of time. There are also redevelopment projects and they are booming. But there you have that ratio of sellable areas and so within that constraint it’s very difficult to achieve any of the environmental design aspects you’ve learned in the (RSIEA curriculum).

Where Amrit did find scope to practice RSIEA-style good design was in making precisely the kinds of interventions that were so heavily critiqued as inadequate back at the Institute. In the context of Mumbai, they were “better than nothing:”

Generally, I would say just going for (LEED or GRIHA) certification is not a great idea, but for Mumbai I would say actually, go for it, because something is better than nothing. At least builders are beginning to recognize the value (of certification) for marketing purposes . . . so to a certain extent it is helping to save our environment. It’s not ideal. It can be completely impossible in some aspects to practice green architecture here.¹⁴

A survey quotation from a recent graduate underscores Amrit’s point about finite space in Mumbai and the work of the environmental architect, offering yet another complicating point:

A lot of design is governed by development control regulations and though it is necessary, in many ways it does not give any design flexibility to the architects. Clients are always demanding that extra inch more. Plots in Mumbai are very small, and where every square inch has great value, any architect’s focus lays much on consuming the entire FSI and so many times the focus on sustainable issues is left out.¹⁵

Ideas of spatial, political, and economic restrictions on architects’ work often connected to descriptions of a cultural sensibility that animates the urban development process in Mumbai. Its primary characteristics might be mapped back to a portrait of the city’s contemporary political ecology of urban development, but many architects emphasized a world of associations and meaning-making which they also attributed to image and marketing.

Particularly in the residential development sector, several interlocutors emphasized that despite what seems to be a proliferation of LEED and GRIHA certified projects and buildings, “actual” environmental architecture was virtually nonexistent. Both Siddharth and Darius repeatedly used the term “gimmick” to describe what, on the surface, can appear to be a proliferation of green-certified developments in Mumbai. Siddharth described one of his current team projects

by telling me of a developer who approached his firm with a request for an LEED gold building design. After working on the project for a few months, Siddharth was convinced that,

Right now it's a trend—a marketing gimmick. This builder doesn't actually want a green thing happening, in the way we think about good design. He doesn't care about the ecology at all. It's just a marketing thing. He's like most developers, I think. They know if they say it's LEED, it will affect their final sale.¹⁶

Darius substantiated this point to some extent, when he described the “green philosophy” of the builder for whom he works. Rather than signaling principles of environmental architecture or urban ecology, Darius explained that “green” quite literally often means adding green-colored things to building plans. He explained,

Look, the way we think about green is in a pretty naive sense. We put greenery on our buildings. So for instance we build terraces. We (plant) trees. We build beautiful, but artificial, landscaped podiums. For instance in my township, my 300 acre township in Pune, in my plans I showed a bird sanctuary. Because it's a gimmick; it's what the builder can sell to his public, saying, “we have an urban forest.” They are the cool words we use; I don't think they're true. When we say bird sanctuary, we just mean that birds will be there, or birds will come there. We're not actually developing a *bird sanctuary*. . . . It's a term we use to draw people in. It's a gimmick. So that's the obvious way we show green.¹⁷

Even as we spoke, many parts of Mumbai were plastered with billboards promoting new residential developments that promised “green bliss,” a “green lifestyle,” and “green luxury.” The impression these boards and their attendant advertising campaigns created, if only through their ubiquity and visibility, was of a luxury residential sector that was literally transforming. With these new developments, they seemed to convey, the city could finally provide the discerning Mumbai buyer with the tranquility, efficiency, and general moral ecology of environmental architecture that he had been so desperately seeking. At very least, even I had assumed that these buildings were securing open spaces (albeit likely private and highly exclusive), vegetation, and, importantly, the infrastructure for an energy and water efficient domestic and service sphere.

Nearly all of the architects with whom I spoke convinced me otherwise, but none with more chiding than Aditya. He was unsurprised to learn that I had gleaned this impression, but he was quick to reform it:

AR: You are saying there is absolutely no authentic interest among any builders to erect green residential structures, but when I drive through Bombay, it seems that all I see are billboards advertising the new green luxury buildings. What's going on?

Aditya: Well, where is that building? (laughs) *What* is that building? Of course they are making all kinds of green claims, but there is nothing green about the actual buildings except the pictures on

the signboards. I can tell you with my experience of trying to make even little changes that are green, in the residential sector there is nothing truly green. Yes, in the commercial sector you see a lot of push for certification, but even there it is about green cents (spells out c-e-n-t-s). There is no motivation to think in terms of environmental architecture, and it's even harder to imagine the residential buyer wants to use less water or energy or AC. Okay, in the residence they want some green lawn or something. But they will put a gate around it; they will use chemicals to keep it green . . . they will be anti-environment. This is why I am saying that my work is actually anti- your thesis.¹⁸

A collection of key actor categories consistently organized architects' narrations of the political economy of urban development in Mumbai. Here, the popular image of all urban development professions, the relationship between government and private sectors, and the ultimate room for choice and action which architects ascribed to themselves made the optimism and imperatives of responsible action that so characterized RSIEA's good design ethos seem almost ripe for caricature. These descriptions echo, nuance, and in many ways return us to many of the basic points to which Laxmi Dashmukh alluded much earlier in the book. Each came, however, with the personal narratives that brought these categories to life as facilitators of, or obstacles to, doing environmental architecture—structural obstacles to ecology in practice. I turn now to some of the descriptions of choices architects faced, and discussions of how those choices resonated with their ideological imaginaries. These connected to the deeply personal, moral, and even familial logics through which RSIEA environmental architects described professional compromises between RSIEA training and ecology in practice.

Perhaps the most prevalent figure in nearly every interview was that of the builder. Roundly despised, and often pointed to as the source of urban disorder in all its forms, the popular image of the builder in Mumbai is unquestionably negative. At the same time, many of India's wealthiest and most powerful figures are themselves builders. Even as they may be regularly critiqued in the press, in activism, and in many aspects of everyday Mumbai life, the names of the city's most prevalent builders are as known as any famous media or political figure, often with a mix of reverence and disgust.

Darius works for one of these prominent builders, and so it was in conversation with him that I was particularly interested in narrations of builders. One of our conversations took place on an evening when the day's newspapers were saturated with reports of a threatened strike by the Builders' Union. Our discussion thus turned to his views on the strike and its potential, but this quickly turned to the broader role and image of large construction and development firms in Mumbai.

When I asked how he felt working for a firm with such a renowned, but also somewhat notorious, figure at its head, Darius shrugged. “Well, he’s a builder, and . . . nine times out of ten, I think, if you ask people, “What do you think of a builder?” they’ll say, “they’re corrupt.” But in his view this image was unfair; whilst the processes by which construction and development proceed in Mumbai are anything but transparent, builders are nevertheless facilitating the provision of material development, he explained. “At the end of the day,” he said, “(builders) are doing a service and without them the nation would be pretty lost. (Builders) are at the forefront of everything, in the sense that without them the city wouldn’t work.”¹⁹

Expressing some confusion about what, precisely, a builder union was, not to mention its relative power, Darius replied:

Everyone talks about a builder lobby, but it’s really a big bad ghost because they don’t stand up for each other; there is no unity among builders. (I’m talking about the main firms, like) Lodha, Hiranandani, Raheja—these are the old names, and then you have newer ones like Peninsula. They were the ones who did Phoenix Mills, so they revolutionized the entire building industry. They managed to convert one of the old mills into a huge commercial district and this had never been done before. . . . It was amazing how they did it. The mill lands had been under litigation for thirty-odd years or forty-odd years and somehow they managed to twist the system, get the workers compensated—not well, but they sort of got the problem to go away—and then they built Phoenix Mills.

Hoping to probe the idea that the well-known, and comprehensively studied, case of Phoenix Mills could possibly have undergone such an almost magical transformation, I asked “do you mean to say that *no one* knows how they did it?” He continued:

Look, there are a lot of loopholes. Indian law is written with vague intentions, so it’s completely up to interpretation. And I think it’s also partially luck. So for instance, if you can get the right officer to interpret (a law) in a certain way, it’s all well and good and your project gets through. If you don’t get that—and an honest officer is a joke; there’s no such thing as an honest officer—you’re basically working around the system. And the system is set up for you to work round it. If you try to do something through the legal channels, it will never get done, and the system is set up that way. You accept it, you move on. If you don’t accept it, you don’t survive.

Darius’ response reinforced points that were echoed repeatedly in conversations with environmental architects: the laws and regulations are never the actual medium for effective action in urban development, and “the system” is actually designed in a way that invites “interpretation” and requires the capacity to shape that interpretation. To learn to see that system not only as it was, but to “accept it” and move in accordance with its choreography, was not just about practicing environmental architecture; it was about survival itself.

“What use is a Builder Union, then, if the process depends so much on subjective interactions with officials?” I continued.

Well, for example, they (the Builder Union) have been trying to get rid of the new BMC commissioner. But it hasn't worked. Everyone claims that the Builder Union is the strongest lobby in India and they push and change things whenever they want to. But see, it's not the case. I think the Indian government has the ability to push back and keep them in check. The beauty of (his employer and head of the firm) is that he knows whose ears to whisper into; I think we get a three month warning before something is going to change, and we plan accordingly. So normally none of our projects get stopped, but even *our* projects over the last year have been stopped. This is really unusual. Under this BMC commissioner, there has been no leeway. . . . The stoppage is for all the violations that just a few years ago were pretty standard. What used to happen was if you had done something illegal, and you were caught, you would be fined. But then you would be allowed to continue. This has stopped.

What has changed, I asked, to allow for such a dramatic shift in enforcement norms? Why was the Builder Union having such a difficult time realizing their goal of “getting rid of” this most recent municipal commissioner?

Yes, every municipal commissioner who has stood up to the builders in the past has been thrown out. But this time, I think he just has (the central government in) Delhi behind him. They claimed he wasn't going to last a week, because in the past they haven't. In the past they have been transferred out. But now I think the Congress government has had so many scams, between the Commonwealth Games and the Adarsh scam in Cuffe Parade, I mean they recently arrested a few people for that—and high up people. So he seems to be honest; they claim he's honest. And in India you can get that: at the head, yes, the honest are not corrupt, but he cannot control his fifty other minions that are below him. Every one of those people is corrupt.

The scuffle with the Builder Union, then, was symptomatic of a larger shift in assertions of power at the level of state and municipal government, one that might ultimately rework a calculus of state-builder power, but that would still, presumably, limit the work of the environmental architect.

But Darius' very deliberate assertions about “corruption,” even as he described an entire system that works in a known, albeit not formally scripted way, compelled me to ask further about his experience of the way urban development actually happens in Mumbai. He took a deep breath, paused, and began a description that immediately introduced another important actor in many conversations with environmental architects: the municipal architect. He explained:

To start a project in India, step one is you have to go to a labor commissioner and get his permission. That process, between fees and bribes, costs you 25–30 lakhs, depending on your project. Then you have a whole host of other officers you have to go through—the feeding order—and so that's where your municipal architect gets

involved. At (Darius' firm) we do not get involved in that. We are aware of what is happening, of course, but we don't deal with that. We don't deal with payoffs or making the bribes. So that's the job of the municipal architect.

Here, Darius made another common assertion: although this process exists, he explained, they were kept at a distance from his firm. Any necessary payoffs and shady dealings, he claimed, were in some way outsourced to municipal architects. He continued:

You have a bunch of municipal architects; generally they are all ex-government officials. So they've retired from government and set up these businesses. They have left the service, but they have all their contacts and so keep getting their share of the pie. So it's sort of this circle of, after you retire, after you leave that department, you can retire or you can start your own practice and depending on how high you were up there, you have the connections and you have the ability to get things passed.

Darius had set the category, and its place in the processes of urban development, that allowed the architect to be simultaneously a part, and to stand apart from, the broader system he described. When I asked him to explain further, he described how a municipal architect functions in his own firm:

The way the system works is that any building that is built by (Contractor) in Bombay, on paper his associates are not the architect. On paper you have the municipal architect. So if we get into trouble it's the municipal architect who gets into trouble, not (Contractor). This is standard.

Consistent with my conversations with environmental architects in many kinds of firms, Darius explained what is "standard" according to the established "system." Its dimensions were narrated as structures that confined action and limited available choices for how an environmental architect (or any other architect) can operate. In this sense, the municipal architect was rendered a rather neutral figure—a facilitator of other processes rather than, for instance, a derided subset of an otherwise respected profession:

You have to have a municipal architect because drawings have to be done in a certain way. They know the rules; they know the loopholes. . . . So for instance a client hires this municipal architect. The municipal architect knows the ins and outs of the government, and knows how the system works. The municipal architect will tell him, for your project, roughly, it will cost you this much. Officially it's this much, but unofficially you will have to pay him X. The client then gives him a ballpark, saying, I'm alright going up to this level, but anything more is not feasible for me. So the municipal architect will go off and deal with the officer. Well, he'll never deal with the officer directly; he'll deal with the secretary or the appointed person. And generally the deals really do happen in these hotel rooms where they go, drop the money, and his fellow calls up and says you've got it . . . I've never experienced that, thank god, but I know how it works in that sense and I've heard of how things happen.

I asked Darius how he could possibly avoid experiencing this, given how closely he works with the firm and its projects. “Well for me,” he said, “it’s all still pretty shocking. And it’s sad. Being my father’s son, I know I cannot do anything illegal. I know it; I mean, I will get caught. So I have figured out how to avoid it and still do interesting work. But it’s not easy. The system is set up this way.”

In every interview I conducted among practicing environmental architects, the default position in discussing how Mumbai’s urban development system works was to outline the technically legal activities in which the interviewee took part, and to describe an arena in which a particular subset of architects undertook any necessary illegal or “corrupt” tasks. Designating two separate spheres not only facilitated claims to practicing without legal compromise, it also reinforced the notion that a powerful structural system determined architects’ capacity for action, rather than the other way around.

This was nearly always supplemented by some overt expression of disappointment, and occasionally disillusionment. In Darius’ case, the municipal architects’ material gains were a kind of index of injustice:

What’s really sad is that a municipal architect earns more money per square foot than a regular architect. And his fee is not including the bribes that have to be paid. His fee is just telling the client the roadmap . . . as in, this is who you need to give money to, and when. And he does the municipal drawings, which are totally different from what an architectural drawing would be. They are essentially two different projects. They submit one project (for permissions), but a completely other project is being designed. They are literally like two separate buildings, two different projects. At times it’s mind blowing. I’ve seen some municipal drawings and I’m shocked at how our plans are transformed into this other set of documents. And these people are making so much money.

The challenge of maintaining a personal sense—or even a consistent and coherent narrative—of professional integrity in the midst of such uneven and opaque norms was a recurrent theme among nearly every RSIEA graduate with whom I spoke. In responses similar to Darius’s, interlocutors spoke of drawing certain boundaries around the work they were willing to do. Some also spoke of a conscience, or in Darius’s case, a familial sense of honor, that prevented them from engaging in the practices they labeled as corrupt. And yet even as each of them described their relationship to “the system” and “the process,” it was clear that they, too, had probably had to compromise those boundaries at times.

Two graduates whom I will call Suhasini and Prisha are, like Siddharth, 2009 graduates of RSIEA. I have known both since the study trip to Chennai and Auroville during which I first became acquainted with Siddharth and Aditya. Both women joined the RSIEA out of a deep commitment to what they described to me as their “environmental values.”

Thane-born Suhasini works for an urban planning and advocacy firm that is focused on “sustainable transportation systems” in Mumbai. She also lectures occasionally at RSIEA, and so in a short period has moved from graduate student to adjunct professor. Her speech becomes most passionate, however, when she speaks of bringing about positive environmental change in Indian cities.

Prisha, by contrast, works in a small design firm of four architects, with a changing roster of draftspeople and interior designers. Most of their work is in architecture, and Prisha described her experience in the firm with great enthusiasm. This is not a nominally environmental firm, she said, but “if a client comes to us wanting something green, we encourage it.” Any lack of environmentally-focused projects was not, she said, due to the firm’s collective willingness, but to the problem of demand.

In a comment that instantly challenged the overwhelming impression among current RSIEA students of a widening scope for environmental architecture in Mumbai, Prisha told me simply, “I have never had a single client come to me and ask for something green.” She continued, “I think certification is still growing. We (her firm) are also relatively small, so if it’s a big project and they want to make it green, then often that kind of client won’t be pitching to us; they would take it to a bigger (firm).”

Although professionally positioned in different sectors, both Suhasini and Prisha emphasized the need to maintain boundaries around their work that allowed them to avoid engaging in illegal or “corrupt” practices and remain “neutral.” When I asked how one could possibly manage this in the context of “the system,” Prisha not only described a category of practice similar to the municipal architect, the “local architect,” but she further differentiated her own practice from the wider “system” by emphasizing the aspect of the overall process in which her firm was active:

In my firm we are lucky, I think, because we can just concentrate on design. When it comes to passing permissions, the client has his own local architect to do that. If we get into that, because we are a small team, it’s like diverting your specialization in design. So this is so much easier. We all agree, let’s stick to it (design); we specifically don’t get into it (permissions).

But working on just one part of the larger process also created limitations. She explained, “this means that we are also restricted. But we have tried to create a line so we don’t cross into politics because, I guess, it’s not me, but my seniors must have indulged into it and (had bad experiences) so they have drawn a line as well, saying, no, we won’t do anything illegal.”

As Prisha talked through the details of this “line,” Suhasini nodded her head constantly. Without prompting, she substantiated Prisha’s expressed need to avoid illegalities at all costs by invoking the experience of her father, also an architect:

It's so bad otherwise. My father was working on a very prestigious project that was organized by WHO (the World Health Organization); they were designing disaster assistance schools. So I was working with him before taking a break to start the master's program. . . . For the first two years it was going well, and we were working, but my father was not getting paid. And the thing is, we were designing schools, and it was through disaster assistance, so the buildings had to be from good quality material. You know, no corruption and all. So he said we'll find a contractor, and we'll have a proper tendering process. But (the client) said no, they wanted their own local contractor who would also eat money like them. So then they stopped paying him. Even to this day, he has not been paid. So finally my father got so frustrated—after three years (they're) not paying (him) and this is too much. So he filed a case against them and it's (pending). When I see my father going through all this, I think, you know, why be in Bombay? I feel so discouraged when I see this.

Suhasini's story was in no way unique, and comparatively rather benign. In addition to nonpayment for services, most of my interlocutors shared stories of extortion, death threats, and overt violence to degrees far beyond what one might entrust to the courts to adjudicate.

Furthermore, several RSIEA graduates who work in environmental architecture, but whose employers are large builder firms, were unwilling to speak with me on an ethnographic record at all. All apologized, with some expressing a sincere wish that they could share their experiences with me. Yet even the appearance of sharing information about that builder's designs or the processes they followed in order to have them built could cost these architects their jobs; this was a risk they could not, neither would I ask them to, take. Any promise of anonymity was automatically insufficient, and the ambient sense of fear and danger that accompanied most discussions of corruption in Mumbai's urban development omnipresent.

Aditya assured me that in his experience the government tendering process was as fraught as the processes others described in the private sector. An inevitable choreography was predetermined, and it ensured a substandard buildingscape. He explained:

With the government buildings the tender process is long and complicated. Let's say that you and I are contractors, and a tender is floated by a government body at the cost they expect for the project. Say 50 crore is the cost of the project. You are a contractor and I am a contractor; you will charge 51 crore, and if I quote 49, I will get the contract irrespective of my actual calculations of the cost. No matter what background I am from, if I can quote it for 49 I will get the project. . . . Now, that same firm has actually calculated a total cost for a project of 35 crore. They will stretch with the unskilled workers, maybe they will take labor from a place where they don't have knowledge of construction, you know, they just make it work without the costs. . . . Why? Because if you want to get a government contract, then the practice is like that: you lower the quote to get the job. This is not how it should be. If you want good buildings it should be a good contractor. It should be good infrastructure. How can we talk about environmental *anything* when this is the process?

Inevitably this reliable choreography foreclosed any latitude for an architect to make any kind of intervention, whether based on good design intentions or not. Aditya continued,

As the contractor I quote that low, but I have in my mind some way to make up that money. It's like a lump sum contract. Now I come as the architect and I look at the drawings, and I see things that should be changed or improved. This is a normal thing for architects—I am trying to improve on some things. But if I do that, the contractor will say, "this is not under the contract," and they will demand extra money as devaluation cost.

When I observed that this would prevent any architect from revising the design to make it more ecologically sound, Aditya smiled and paused. "In fact," he said, "that will cut my amount." "But this means that you can't make any suggestions, environmental or otherwise, without incurring the cost yourself?" I asked, realizing that the personal material stakes of this kind of intervention were rarely mentioned in the entreaties to action that closed the most inspiring of RSIEA lectures. "Well," he answered:

If I find mistakes in the drawings, and I try to change something, and my boss agrees, then there are just a few sides to convince—the client side, the government side, and the project manager. You discuss it. But just the other day I went to Goa (to check on a project we are doing there) and I asked (my boss) if we can make some very important changes. These were for safety, not even for green aspects. But he said no. So here I am; I came back to Mumbai and I find today that even my structural engineer has made mistakes. More mistakes! But I cannot change these things without cost and without convincing all the others. And they are not interested.

Aditya's experience with exclusively high-level residential development in Mumbai left him adamant that there is no scope for practicing anything that even resembles RSIEA's version of good design—let alone space for reform in the urban development process—in Mumbai itself. Others, however, like Suhasini, Prisha, and Darius saw recent work stoppages associated with the municipal commissioner's tightened permissions enforcement, discussed earlier, as reason for optimism. "I think it is already changing," Suhasini said; "this new commissioner looks good in principle, and I think he has some integrity." What was notable, regardless of whether powerful structures in urban development were changing or fixed, was the degree of powerlessness that each architect described when it came to catalyzing that change. Each environmental architect I interviewed outlined an ecology in practice that seemed in every way circumscribed by a "system." Changes to that system were almost never considered to be within the architect's purview.

Yet, the system *was* changing. Darius pointed to a significant shift in old norms, which he called "loopholes," that had previously allowed builders to create larger flats than Floor Space Index regulations would allow:

The old rule was that when you design a lift, what is in front of the lift is free of FSI. So builders would have architects design one lift that would open this way, and another that would open (the opposite) way. So in the municipal drawings they are shown that way: all correct. But in our drawings, the space at the back, which would be 200–300 square feet, would go into the flat. This was also common practice with car lifts. You had a car lift, and builders would say they are providing parking spots in the air. . . . That's one thousand square feet, and you were getting that FSI free. Technically it wasn't illegal . . . but then of course people didn't use that as a car parking spot. They used it as an extra bedroom or extra living room, a den. These are the kind of loopholes that municipal architects informed us about. This is something they could do, and we exploited that.

Again, the agent of change was not the architect; it was the new municipal commissioner, a state actor who was reforming the structural choreography. The dynamics of agency and power had not changed; architects may be able to do things differently, but they were still constrained to Darius' "system." He continued:

But these days (with the new commissioner), those very same things are not allowed (and so they are causing work stoppages). . . . Just another example: earlier, balconies were all free of FSI. The commissioner changed that too. We were designing two thousand square foot balconies, one thousand square foot balconies. . . . I mean you don't have *flats* that size. And those were all free of FSI. So in a, say, four thousand square foot flat, we were giving you a two thousand square foot balcony. This was completely free; that space wasn't counted in FSI. The builder gets one hundred percent on that because it's not taxed. So the development people see it as a win win-win, but of course the BMC that was losing out on this money, and the city was not able to control the environmental damage or other costs. So what the new commissioner has done is to simply say that if you make a balcony, it's considered in FSI. Everything that was free earlier, you'll have to pay for now. It's amazing what a complete change this simple thing has made.

Despite the overwhelming experiential evidence that an established political economy of development—however it may change in terms of specific regulations—deeply constrained environmental architects' attempts to practice good design, I nevertheless heard repeated assurances that eventually the scope for practicing good design in Mumbai would change. Amrit, for example, was unapologetic in his optimism, and always quick to return our conversation to the possibility of agentive, collective action through architecture itself. Despite what seemed to be an endless set of stories of architects' powerlessness in practice, the source of this optimism derived from an aspirational capacity to act. To one of my more skeptical questions about what appeared to be the impossibility of environmental architecture, Amrit simply said:

Look, I'm very optimistic! But I'm realistic, too. I do think architects will need to come as a force if we want to change things. We should enforce certain things on the

builders . . . not builders enforcing certain things on the architects. Of course it is possible, and in fact I think it is inevitable. It's a matter of time, and those of us who are willing, we need to keep fighting for this.

Such comments resonated with the almost unshakable faith in the inevitability of significant transformation—and thus significant new opportunities to practice good design—that opened the discussion in this chapter.

Suhasini told me that her optimism came from a diehard idealism, a personal characteristic in which she took great pride. “It’s always a struggle,” she said, “but change is constantly happening, all around the world.”

Everyone in my office is highly idealistic. We believe change can happen because we know it is happening. Look, even these little things in Mumbai. In my office, we all come on foot or cycle; no one comes by car . . . and I’m happy that (I work with) a class of people who don’t see the cycle as a poor man’s vehicle. It’s a small, small thing but it is uplifting. So I know the bigger picture *will* change, but it will take time. We need a whole paradigm shift. It will take time. I know from my Rachana Sansad class there are many people who want this! I know people of my generation who want to cycle. See, you have to start to make a trend and soon it is happening.

Prisha nodded, adding, “I still think there’s a lot of scope in Bombay. There are people who are actually practicing environmental architecture, and they are trying to push the limits. Sometimes they are even doing it. It’s a slow process. But we feel it.”

When I asked Suhasini if she believed that change would depend on idealists, she was quick to say, “No. In fact it’s the common person who has to make this happen.” She explained:

Many people travel abroad these days, you know, the first-timers who go abroad. They come back saying it’s so clean—the air is fresh and they have parks and good transport—in other countries. So I say, then let’s do it here! But there are always those people who say no, it’s not possible in India. Why is it not possible in India? The main thing is cultural: you have to *believe* it’s possible. I think part of why there is no willpower is because there’s corruption everywhere. You can just go to any MCGM office and show them a very good design, and they are still just dismissing you, talking about idealism, come to real life, it’s not possible. But that’s generational and it is moving out. I think eventually—hopefully it will move out. I am very positive. Think of how Mumbai was ten years ago or fifteen years ago, and what we are, where we are today, it’s good. Another fifteen years and there will be a lot of change. Maybe not a sustainable city, but we will be able to *be* environmental architects.

I persisted, asking if inevitably environmental change would have to be catalyzed in the realm of politics. Perhaps it’s true, I suggested, following the exchange at the start of this chapter, that policy changes, combined with enforcement, are the only ways to solidify a new direction for the urban development future of Mumbai.

Suhasini agreed, but added that it will also depend on architects. “I don’t have to be a minister to make lasting change,” she said, continuing:

All over the world, people are changing things. It is environment, but it is also political. Look at the climate change, look at urbanization, look at all the political demonstrations. Things are changing. But if you look at (Mumbai) right now, in 2012, you wonder, what did we learn from our Mumbai floods? . . . Nobody is really trying out new ideas (at large) scales yet . . . so it’s like if you have a tumor and you’re just eating medicine, but not removing the tumor. In Mumbai we reclaimed (urban land) in the wrong places and everything is flat, so all the river drainage is gone. So (the floods are) just how nature acts. But see, it cannot continue like this. People will demand change, and nature will force it. The politics are just reflecting this.

I continued my line of logic, asking, “So architects are also powerful in this?”

Yes. Doing environmental architecture *is* a political step. And it’s also right now a huge risk. But if you do take the risk, then ten years down the line when the rains come like that again, you have (a different outcome). My father is of that older generation, and so of course he (is skeptical), saying that already Bombay is too small and land value is so high, so you can never take land away by changing the (reclamation patterns). I’m not saying make Mumbai seven islands again . . . it’s not possible. But you know, by thinking this way you actually see that in Bombay, if you organize it correctly—environmentally—there *is* a lot of space. You will even have open spaces! So if you organize it well, and you have smart design, it will happen. We have to think differently than my father, than the officials in the MCGM. We have to, you know Ian McHarg? Like, design with nature.

Suhasini’s dual faith in a generational shift and the capacity of that generation to both imagine and organize urban space differently was pervasive across many interviews—often to an extent that defied easy analysis, particularly in light of equally adamant descriptions of an existing system that not only constrained architects’ choices and parameters for action, but was also riddled with risks, dangerous facets, and unscrupulous practitioners.

Environmental architects often framed the factors that enabled or constrained good design practice in very personal terms, through one’s material capacity, consciousness of scale, or beliefs about the impact of individual consumption patterns. Consider the contrast between Aditya’s discussion of the financial circumstances that constrain the kinds of architecture he can practice, for instance, and Kalpana’s relative freedom to make choices about the firm that she runs. In the latter case, the constraints had more to do with the scale at which one assessed a design’s impact; in the former, constraints began with the essential need to earn a specific salary. Aditya explained:

After graduation, after three years, I have not found any firm where I can practice what I learned (at RSIEA). Yes, there are firms in environmental architecture, but they cannot pay that much, and I have to keep in mind financial stability. I get a

certain amount in my current office. Here I can do small, small things. But pure environmental architecture, if I go there they would pay me half as much. It's not sustainable financially for me . . . so, I simply cannot work full time in the environment field. I would love to, but it's not viable. I just bought my flat. I have my dues to pay for that, and if that is not feasible, then I am an architect without shelter! . . . How can I work for half the pay?²⁰

In contrast, Kalpana offered:

I have my own firm; there are two of us. As and when we need people we hire on a contract basis. What I'm doing right now is essentially more interior work and small homes outside of Bombay. A couple of commercial complexes also. I am able to implement most of what I learned (at RSIEA), in terms of (using green) materials, energy systems, and general design principles, because I share that kind of a rapport with my clients. I sit down and I talk to them about what they want, and I can say, "You know, why not build it this way? Even if it costs you a little bit more . . . And they are willing to listen. We got an offer to design a school, for example, and they came with these pictures saying, "This is what we want, this is what we want, this is what we want." And I said, "You know, okay. But why don't you look at it in another way? So I showed them some pictures of the school in Auroville, and I said, "You know, this is as good, if not better, (than the pictures you have). And they realized, like, "Oh yeah, this is much better."²¹

In the contrast between these two responses, the constraints of individual architects' own positionality within the political economic system—not just as professionals, but also as individuals, were made very clear.

Yet beyond the question of one's own class position and position within one's firm, several issues also emerged in architects' discussions of the factors that enabled or constrained good design practice. For many, RSIEA's emphasis on good design's conceptual dimensions came at the expense of what they called more "practical," skill building classes. This left environmental architects relatively underprepared to implement what they had learned. On one example, for instance, Kalpana, Palavi, and Arash, characterized this issue in terms of ideology and strategy:

Students discussed at length the ways that the (RSIEA curriculum) is "all ideology," teaching very few skills that they called "technical" and "practical." Arash asked why the curriculum doesn't split into two parts, in which the first year is "ideology" and the second is devoted to "practical" concerns. He argued that as he was on the verge of graduation, he felt he should be able to design a green building. He suggested that the Design Studio final project—the resort at Pali—could have included the stipulation that it be a platinum rated building, for instance. Arash emphasized a need for more classes or projects that focus on hands-on calculations and "thumb rules." Otherwise, he said, environmental architecture remains intuitive, even as they are graduating.²²

At the same time, architects emphasized how central that same "ideological" dimension was to their sense of professional identity as an environmental architect.

Even for Siddharth, who, the reader will recall claimed to have no particular interest in environmental architecture, told me:

I was never interested in *environmental* architecture, frankly . . . but the course helped me a lot. It completely changed the way I think about *architecture*. When I used to plan buildings before, a building was a footprint on the ground. But when I learned environmental architecture, and that you should design a minimalistic footprint that is integrated with the ground . . . it forced me to always think in a creative, different way. You think in a way that doesn't endanger nature. And it makes the overall design so much more interesting. I would never want to go back to the way I used to practice.²³

Architects also described the ways that the philosophical dimensions of RSIEA training left an imprint that reached beyond their professional practice. Suhasini, for instance, told me that the moral ecological aspects of learning and embracing good design had transformed her very sense of self:

I needed RSIEA to show me a path. Maybe if I had (just learned the technical aspects of environmental architecture) on my own, I wouldn't know what is right or wrong, I would just go whatever way. Definitely I could have done without it from the point of view of technical skills, but yes, it did help. It changed me as a *person*!²⁴

Similarly, Palavi identified critical engagement with environmental design as a lasting, if not directly "practical," or even enabling, skill:

The course makes you think and question things. It makes you question the current practices, the current materials, but then even everything that you do. . . . You question and you also think about what is the right process to assess things. What is the right process to know what is correct, environmentally? The program guides you to develop that thinking and to feel you have grounding for your ideas. And you know you are doing something good.²⁵

Even Aditya, whose personal financial constraints so restricted his capacity to practice environmental architecture after graduation, was enthusiastic about the positive impact of the RSIEA experience on his life and his work. During one of our conversations, we spent most of an hour discussing the ways that he actively promoted RSIEA to his colleagues and friends. True to his own economic situation, he described the benefits of his training through a cost and benefit equation, settling on the unquantifiable dimension of an experience that "guides your conscience":

The course is two lakhs for two years; IRs 40,000 per semester, plus college entry fees of IRs 10,000 or something like that for six months, so for two years it comes to two lakhs plus the study tours. This is not easy to afford. I went to all the study tours and they are also an expense. And now, many of my friends are asking, "Aditya is it really worth it? Should I join?" I say, "Yes!" Because this degree is only two years, and yes, you are paying, but you are also earning at the same time. You can keep your job,

and be in your office during the week, so you keep earning. . . . But this course has its own importance. It guides your conscience. I would do it over again and again. If you're really interested you can learn anywhere, and with RSIEA I learned the big picture of green.

Our conversation ended in laughter, as Aditya assured me that, having studied at RSIEA, "I know what environmental architecture is, so I am also very good to tell you what it is *not* in Mumbai."²⁶

THE ENVIRONMENTAL ARCHITECT AS INTEGRATED SUBJECT

Newly conversant in the techniques of good design, RSIEA architects faced the challenge of ecology in practice. Through their accounts, we glean a sense of urban material and economic development in Mumbai, and how practitioners discerned, experienced, and engaged its organizing systems and power structures. Social categories like the state, the builder, and the architect in its many guises organized narratives of purposeful and dynamic actors operating in an otherwise "chaotic" process called urban development. Each architect described his own position within that process, placing the self, and the category of the "environmental architect," in strategic relationship to the figures and forces understood to limit or shape good design.

Graduates' narratives also conveyed individual and collective logics of when, and how best, to challenge existing structures with an eye toward transformation. Their retellings of ecology in practice trace the simultaneous scales and forms of transformations already underway—from new officers in specific municipal positions to global protest actions—and patterns of power, economic incentive, and established processes that limit, if not fully foreclose, any chance to enact good design. In conversations across a wide range of RSIEA graduates, from the newly finished to the seasoned practitioner, the tension between finding an evidentiary basis for good design aspirations and describing, as Darius called it, "the system," were always present. If that tension was to break, it seemed, it would be the environment itself, rather than environmental architects, who would force it: ever-more untenable conditions of resource scarcity, pollution, human depravation, and suffering seemed poised to open the future to good design. As Suhasini declared with both confidence and optimism, "people will demand it, but nature will force it."

As professionals, RSIEA architects' newly cultivated sensitivity to biophysical processes and the functionality of urban ecosystems allowed what they considered to be a unique, and often superior and more complete, perspective on Mumbai's urban past, present, and future. Suhasini's reference to the Mumbai floods is a useful example. She locates their cause deep in urban land reclamation history, but

in a final assessment concludes that contemporary land distribution, land value, and political economy will prevent any reversal of resulting drainage patterns. Nevertheless, she proudly proclaims herself an “idealist,” emphasizing her confidence in the inevitability of significant change, and perhaps, ultimately, “reorganizing” Mumbai in ways that will recognize the legacy of those historical drainage patterns. For her, a generational turnover in municipal and other state agencies will accelerate change, making today’s very circumscribed environmental architecture interventions merely temporary.

If the agents of change formed one set of important concerns that emerged as architects sought to enact ecology in practice, then the pace of change formed another. The capacity to understand the origins of contemporary environmental conditions and events, such as the Mumbai floods, in terms of longtime patterns of land reclamation and morphological modification left RSIEA architects equipped with an intellectual basis for their expectation of more, and more intensive, catastrophic ecological events. This is critical for understanding a pervasive, underlying expectation not only of massive eco-social transformation, but also of the scope for their own opportunities to operationalize what they had learned. By studying the environment as an integrated subject, and environmental design as good design, environmental architects might themselves be understood for their own integrated subjectivity: although ecology in practice was largely aspirational in the present, it was not only prudent, but prescient. It was through their own integrated subjectivity that RSIEA environmental architects anticipated an essential place in the Mumbai to come.

Meanwhile, everyday strategies to resolve the impasse between good design training and the (current) realm of the possible were in part driven by pure pragmatism, as in the case of Darius, who said, “you accept it; you move on,” or Aditya’s logic of necessary financial and professional survival. These strategies were not, as Aditya joked, “anti-environmental” architecture; they were simply grounded in the dual belief that wholly necessary practices were, in the present, conditioned through the actions of other, more powerful urban development agents. Rather than assume the idealized role of an activist, RSIEA architects held their commitment to good design in service of a vocation in waiting. It was the environment itself that provided legitimate reassurance that the wait was worthwhile.

Likewise, pride and personal integrity grounded in RSIEA’s brand of moral ecology implied a critical mindset relative to urban development norms in Mumbai, and the firm belief that environmental architects could maintain their integrity despite their embeddedness in a system rife with opaque norms. Nearly every architect described herself as able to remain separate and autonomous from the ubiquitous layers of illegality and corruption. Their experiences of a “messy” present recalled the comments shared earlier by a member of the RSIEA planning faculty. However pervasive the problem, that professor assumed a standpoint

guarded by the possibility of preserving an objective, neutral stance that enabled moral insulation. This she held, despite a city in which:

The kind of mess they have created now even the builders can't help it. Even the pan-walla is demanding with an old building that is to be demolished . . . the illegal tenant who (occupies it) has a goonda . . . It's very easy to tell that builders have become the leeches who are taking the blood from the city, but now the small fries are also sucking blood from the builders. In huge numbers. The other day the (municipal) commissioner was saying that every small and big citizen of Mumbai has become a blackmailer, because he is in a position to take advantage of the legal system . . . (Even) the middle class people are (doing this). It's everywhere, at every level and completely normal.

Such narratives of neutrality ultimately crystallized in a moral ecological mode of belonging, one that mapped to the simultaneously technical and conceptual aspects of good design, but that completed its contours with repeated appeals to consciousness. Environmental architecture as good design—consciousness, critical mindset, and specific techniques—was a lens for assessing present eco-social dysfunctionality and working in anticipation of future transformation. It was the means for organizing one's understanding of the relationship between individual politics and commitments, professional choices and imperatives, and the sometimes Sisyphean task of environmental changemaking writ large. Good design provided a metric for personal integrity, bureaucratic transparency, and indictments of categories like builders, state agents, and municipal architects.

Considered together, these narratives of ecology in practice allow an extended consideration of the engaged, practical fate of RSIEA's good design training formulation. They demonstrate that it is not only too simplistic, but in most cases simply inaccurate, to suggest that architects graduate from RSIEA with delusions of endless and transformative agentive capacity. It is similarly shortsighted to assume that aspirations formed in training simply vanished over time or through the wear of experience in the complex of forces and structures that shape urban built form development in Mumbai. Many current and graduating students, as well as RSIEA graduates across the history of the program, described profound and resounding certainty in the inevitability—somewhere in the near future—of urban environmental improvement in Mumbai. Ideas about when, precisely, it would come about, and the exact scenario that would catalyze it, differed dramatically, though; so, too, did notions of what would become of Mumbai's built form environment, its biophysical environment, and its social worlds in the interim. The moral ecology of good design, resilient appeal of green expertise, and assured anticipation that the environment itself would set its stage, was almost ubiquitous. This was the basis of ecology in practice.