SPECULATIVE DESIGN WORKSHOPS
Building Bridges for Flooding Cities

Santosh Kumar Ketham

Abstract: The impact of climate change on cities is multifold and critical; one of them is flooding. The aim and objective of this article is to speculate how the needs of flooded cities are addressed using the method of speculative design. This technique involves various actors, disciplines, local, and international participation in brainstorming and generating scenarios, discussion, and reflection. It is practiced through workshops, competitions, and exhibitions. This article showcases the speculative design practice of the non-governmental organization (NGO), Thinking Hand, and Ketham's Atelier Architects; which takes a bottom-up and collective approach in Hyderabad, in India. Their work attempts to bring different concerned groups into a conversation about climate change and flooding, some of which are not often included in urban decision-making processes. Owing to their greater responsibilities and participation, involving all stakeholders is significant in order to rethink policies for climate responsive architecture and urbanism.

Keywords: Flooding Cities; Speculative Design; Collective Workshops

Introduction

Climate change is no longer a future scenario that is going to happen in forthcoming years: It has already happened. Climate change in the form of flooding affects millions of people and urban infrastructures across the world, especially in densely populated coastal, riverside, and low-lying areas. It is affecting the environment, economy, and social and political relations. And the worst affected are the urban poor and neglected communities.

Countering climate change is imperative for flooding cities. In order to instigate positive change, cities have to be developed more coherently by including all inhabitants in a shared conversation where all stakeholders participate. I put forth that one way to achieve this is through a design practice with speculative means. In this article, I will present parts of my own work

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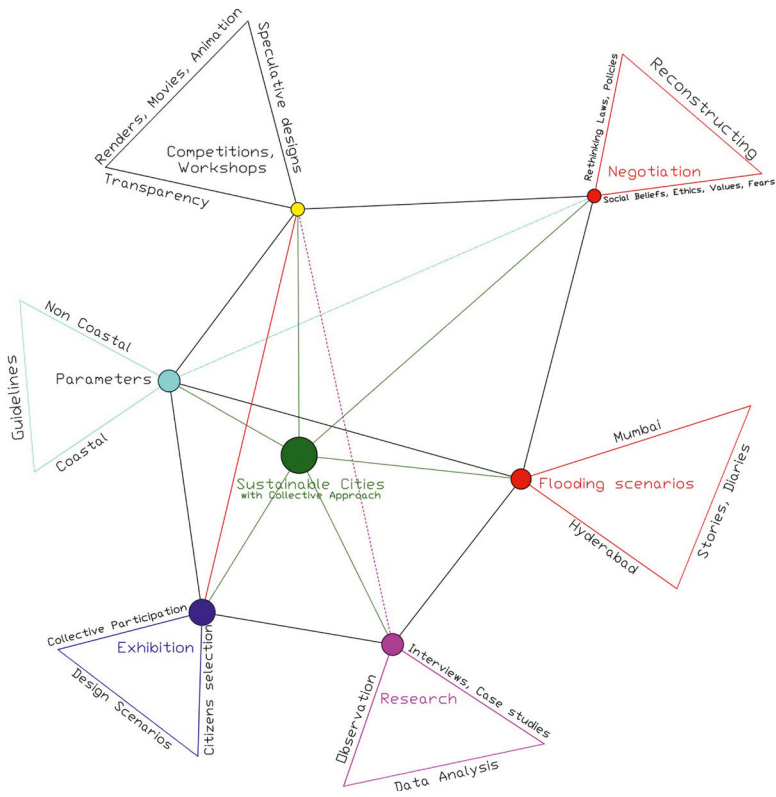
conducted in my studio, 'Ketham's Atelier Architects' with the NGO 'Thinking Hand' that I co-founded in 2015 in Hyderabad, India.

Currently, I am also pursuing a doctoral thesis project that is concerned with reflecting upon and theorizing the speculative design method we have developed in our work in the atelier, as well as in the NGO. In my thesis, I am redefining my ongoing practice with various community groups, together with multiple actors, to further emerging common narratives, with a larger impact to combat climate change. I claim that our method can act as a catalyst for collectively reviewing our relationship to the reality of rising sea levels. It is based on the assumption that a collective method in practice can make a difference and open up new ways of thinking together through scenarios concerning climate change, and especially the flooding of urban areas. It aims to create formats that collectively speculate, negotiate, and finally, reconstruct cities prone to flooding for more hopeful futures.

The work I pursue with the NGO Thinking Hand is based on spatial learning by collectively drawing, modeling, presenting, discussing and assessing »what-if« scenarios in workshops and design competitions, and disseminating the work to a wider public through exhibitions and in my doctoral thesis. I use a number of cities, such as Mumbai and Hyderabad, as case studies. In this article, I will reflect on the mediating formats of our practice: namely collective workshops.

Speculative Design

»Speculative design«, a concept which is often attributed to the British designers, Fiona Raby and Anthony Dunne, encourages designers to think further ahead and widen the possibility of design by going beyond merely finding solutions to problems and asking different questions (Dunne/Raby 2013). In Dunne and Raby's terms, speculative design combines design-thinking methods with storytelling and future-world-building techniques from speculative fiction to produce prototypes and experiences. These may take the form of a physical or digital product, video, documentary, book, manual, website, sculptures or other form of art. Their purpose is to generate discussion, debate, and awareness beyond projected or plausible futures so that designers, companies, and the public are not only aware of how their actions contribute to manifesting certain futures, but that they can also begin to imagine and articulate preferable futures (Lutz 2020).

1.

Research diagram: Santosh Kumar Ketham.

»Futures are stories we create to analyze, plan and build consensus«, according to design researcher Elliott P. Montgomery. His »narrative futures cones« represent the subjective limits of our capacity to envision probable stories; they are often just one alternative to earlier representations that suggest a singular present, linear past, and infinitely expanding futures (Montgomery 2020). In speculative design thinking, however, ideas of possible futures can be used as tools to better understand the present and discuss the kind of futures we need to create for our survival.

The communications scholar and participatory designer, Sasha Costanza Chock, also reminds us that design is something far more pervasive and profound than is typically recognized by designers, cultural theorists, philosophers, or lay persons; »designing is fundamental to being human – we design, that is to say, we deliberate, plan and scheme in ways which prefigure our actions and makings ... we design our world, while our world acts back on us and designs us« (Chock 2020:13).

»Wet« Design Approaches in India

Architect and landscape architect, Anuradha Mathur, and the architect and planner Dilip da Cunha, both currently teaching in the USA, pursue an activist and critical design practice. They have introduced pedagogical initiatives to explore the problem of flooding, along with other concerned actors in numerous cities, mainly in India and the USA.
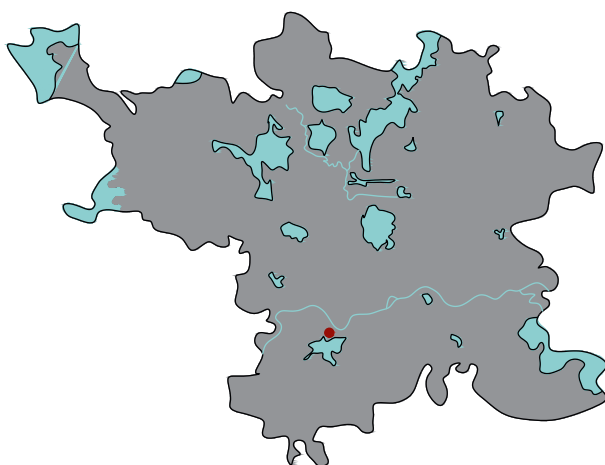
In the largely normative milieu of professional practice, the work of Mathur and da Cunha has been recognized as notable for concentrating less on client-driven commissions than on issue-centered public investigations; »they work to identify not conventional solutions but rather a range of possibilities, points of departure for transformative projects« (Ward 2010). They see a need for architectural practices to change in order to address flooding, and they describe the difference between a concerned design practice and a mainstream professional approach by stating: »An activist practice means first that we are initiators. Rather than waiting for a commissioned project, we ask the first question, frame the issue and propose possibilities. Our purpose is to affect change, from policy to pedagogy right down to how people image and imagine environments, both built and natural« (Mathur/da Cunha 2010). Their design practice includes writing, imaging, teaching, and the use of a variety of artistic media »to produce works and pedagogical processes that strive to draw out the material complexity and inherent dyna-

mism of places«. Their collaborative work imagines new possibilities for designing the built environment and explores the lines separating land and water, and urban and rural environments (Mathur/da Cunha 2017).

The work of the Thinking Hand NGO has largely been inspired by Mathur and da Cunha's imaginative speculative design practice, as a way forward in counteracting climate change and dealing with flooding cities. In six years, the organization, which consists of NGO members and volunteers, and the author, all of whom have experience in both architectural practice and architectural education, have developed a bottom-up approach which we call a collective speculative design approach. The name »Thinking Hand« is associated with the idea of thinking and building simultaneously, and emphasizes a hands-on and careful approach to the built environment. It is an effort to create awareness about environmental issues through design and its processes by collaborating with local communities and organizations, and building in the scale 1:1. We claim that doing such collective speculative design workshops and exchanging experiences and launching competitions to encourage original thinking, while creating exhibitions to share ideas with a wider public, can advance a new way of thinking about, and building, cities as an innovative way of dealing with crises and challenges (Thinking Hand/ Ketham's Atelier 2015).[1]

Our collective participatory format aims to bring actors from various sectors, disciplines, and communities together, including students, professionals, and experts, who are rarely able to meet to discuss the issues and problems neighborhoods and cities are facing. It addresses these through speculating, thinking, constructing, narrating, and ideating future possibilities and probable solutions which contemplate and adapt to the local culture, material, climate, context, community needs, and socio-economic realities, together. We use the term »collective« as metaphor – directly and

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1 Thinking Hand is a non-profit organization I established in 2015 with colleagues and students of the Planning and Architecture Institution in Hyderabad, India. The Thinking Hand NGO is registered under the Telangana Societies Act, 2001, and has seven members: Santosh Kumar Ketham (President); Varalakshmi (Vice President);Mamatha Vani (General Secretary); Vijay Prakash (Treasurer); Padmaja Rudroj (Executive Member); Mohamed Sulaiman (Executive Member); Prudvi Raj Reddy (Executive Member) and 20 volunteers: Praveen Kumar Ketham; Ravi Kumar Rudroj; Ali Hashmi; Rasha Fathima; Kubra Anjum; Deepak Thapa; Rasha Fathima; Zebunisa, Ameen Siddiqui; Mohamed Anwar Mirza; Yoganand Naidu; Tejaswini; Mohamed Asim Shareef; Mohamed Irfan Khan; Ifthikhar Ahmed and Rakshaan Fathima.

2.

Maps of India, with the city of Hyderabad and the region Telangana, and the city with the neighborhood, Kishan Bagh. Drawings: Santosh Kumar Ketham.

indirectly inspired by speculative design, as a method and tool to collectively document (case studies), to collectively speculate on futures (in workshops and competitions), to collectively evaluate (in exhibitions and discussions), and to collectively reform cities (through building with community participation).

Case Study: Kishan Bagh – Collective Speculative Design Workshops by the Thinking Hand NGO

Kishan Bagh is a neglected community in Hyderabad, India, with a population of around 7,000 inhabitants; of which 3,000 are children from the ages of five to fifteen. Most of the women there are widows or single mothers. On average, a family consists of five to six members. There are some who stay in a single room tenement, and in the whole community, less than 100 children have completed their schooling. Of those children, only three girls in the whole community have graduated. Surveys show that the main reason for children not attending school is poverty, and the lack of awareness shown by their illiterate adult guardians. A frequent problem in the area is flooding from Musi River, which runs through the city.

The neighborhood's built environment is provisional and of poor quality. There are few toilets in the community. One toilet is shared among ten families, while in some cases; a household of ten people has a single toilet (figs. 3–4). Earlier on, water from the nearby artificial lake, Mir-alam-tank, was used for drinking, but after the construction of a zoo adjacent to it, access has been denied. Now, the drainage water goes to Mir-alam-tank and contaminates it, while spreading diseases in the vicinity. Piped drinking water is only available for two hours once every two days through a community tap.

During rains, the community gets heavily flooded as there are no drains and roads in the neighborhood. Floodwater from Musi River enters most of the houses and remains for many days until rescue teams arrive. People lose their belongings, their work, and remain starving if help does not arrive in time. Even small rains cause pools in the area that can cause damage to the houses and belongings. Floods also raise frequent concerns about contagious diseases such as malaria and dengue fever.

With the Thinking Hand NGO we made an effort to raise the local residents' awareness of design and its processes through a series of speculative design workshops, an exhibition, open public talks by experts such as local and international architects, urban designers, and conservationists. The

3. – 4.
Interior of a dwelling. Photography: Ketham's Atelier Architects.

workshops involved building on-site, in collaboration with international and local student groups, and their teachers from several schools of architecture and planning[2], professionals, companies, and members and volunteers of other NGOs in Hyderabad.[3] The activities resulted in a site documentation that included interviews with community members, observation studies, photos, drawings, sketches, and maps. These were featured in Indian media such as Hindu, Eenadu, and Siasat Urdu newspapers.

From the January 12 to January 15, 2017, during the Sankranthi holidays (the kites festival), we conducted the first workshop called »Shelter in Need« for the flooded community Kishan Bagh on the National Institute of Tourism and Hospitality Management (NITHM) campus, in Gachibowli, Hyderabad.[4]

Over forty local students participated in the first workshop led by two tutors, Ravi Kumar Rudroj and the author.

The brief for the workshop »Shelter in Need«, asked attendees to design a portable shelter, which could be erected quickly, disassembled easily, and would be transferable to both cities and villages. The structure should also act as a pavilion to host different activities all year round. It may also be envisioned as a meeting point for different cultural and leisure circuits. The idea was to use the same space for a broad range of daytime and nocturnal activities that would cater to its surroundings. In four days, the local students drew simple structures that could be constructed quickly from found material. The proposals ranged from pop-up lightweight structures to floating platforms as infrastructures that would stay intact during the flooding season and help everyday life maintain some normalcy. An evaluation was conducted with local community experts such as architects, urban designers, graphic and product designers, and the faculty of the local schools of architecture, who acted as a jury to critique the students' speculative designs.[5]

In the same year, from September 25 to September 27, 2017, the NGO Thinking Hand joined forces with the University of Innsbruck to continue

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2 Involving JNIAS, JBR, JNTUA, Vaishnavi, SPAV, and CSIIT.

3 These included charity organizations such as Cherish Orphanage and Safa Baitulmal. Safa-Baitulmal has started a welfare scheme in which they aim to support single mothers. They work alongside the organization, Dear. The latter includes doctors, who campaign for free medical services.

4 The workshops were supported by Ketham's Atelier Architects.

5 The local community experts were Jothirmayi Mitta, Neelima Gudavalli, Shashidhar Reddy, Masood Shaik, Padmaja Rudroj, Avinash Raipally, and Santosh Sarkar.

5.
Site drawings of the hardscape (dwellings) and softscape (made of pools after flooding) of Kishan Bagh. Drawing: Ketham's Atelier Architects.

the work on speculative design proposals with the Kishan Bagh community in a second workshop, again at the NITHM Campus. The idea was to learn from others and through self-exploration. The workshop theme was »Climate Responsive Architecture« for Kishan Bagh. Over 40 students participated in the workshop; 20 students from architecture schools in Hyderabad and 20 students from Innsbruck University. As part of the workshop, students got a chance to visit the settlement of Kishan Bagh soon after the monsoons, the rainy season in India. The workshop was divided into lectures and tutoring by local tutors and international guest professors from various disciplines.[6]

In three days, workshop participants created speculative design proposals that ranged from roof solutions that collected rainwater to be channeled to Musi River, drainages, percolation pits and water storages for future use; dwellings adapted to the topography and with roof designs that protected houses from heavy rains; cross-ventilated dwellings that used local brick and construction techniques, and most importantly, maintained community spaces for interaction and social activities.

These ideas were presented to invited guests and the general public for them to discuss what the options and strategies developed for this particular community could be. The workshops speculated on and showcased potential ideas which could then be reflected upon and developed. The common activities raised awareness and provided a sense of responsibility, not only for the students and the experts, but also for the representatives of institutions and organizations, and the general public.

This workshops collaboration inspired us to make two calls for international competitions for innovative furniture for neglected communities (2018; 2020), which would be built 1:1 by Ketham's Atelier in collaboration with the Thinking Hand NGO. The competition call got an overwhelming response and received hundreds of design entries from the USA, Europe, Africa, and Asia. The winning projects were exhibited online and two were built 1:1 and shared with the community of Kishan Bagh.

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6 The workshop tutors were Stefan Holst of Transsolar, Volker Flamm of the University of Innsbruck, Rames Najjar, Oliver von Malm, and the author; and guest jury members included Ravindran K.T, Ateeq Mirza, Ravi Kumar Rudroj, the convenor of the Indian National Trust for Art and Cultural Heritage Anuradha Reddy, Shanker Narayan, Nitin Bansal, the Indian Administrative Service officer Nitin Singhania, and Praveen Kumar.

6.
*Workshop poster: Thinking
Hand NGO, January 2017.*

7.
*Site visit to Kishan Bagh with architecture and urban design students from the
Universities of Hyderabad and Innsbruck, September 2017.*
Photography: Ketham›s Atelier Architects, 2017.

Conclusion

This article suggests that communities and institutions need to collectively reflect on flooding scenarios to counter climate change in the long run. It presents the work of the Thinking Hand NGO, which conducts workshops together with vulnerable communities most affected by flooding and involves local organizations, international professionals, researchers, and students. Our collective method follows a bottom-up approach to study, think, build, evaluate, and negotiate the communicative formats of speculative design workshops, competitions, and exhibitions; starting small and thinking long-term through building social cohesion.

Speculative design workshops hereby give a chance to experiment with new concepts in design; they are a way to build future narratives and involve many. Workshops and competitions can bring creative and non-conformist ideas to the table, and provide an opportunity to test the possibilities and limits of what architecture can do for society; they challenge the profession, and politics, to create more dialogue with the parties most affected by climate change (Guida/Crossley/Gismondi 2017).

Through our collective workshops with local and international guests, creative ideas from various disciplines and backgrounds and from around the world could be tapped. They provided an avenue to evaluate different conditions and then experiment, play, and explore. I argue that they are an excellent arena for studying the multiple challenges of, and obstacles to, integrating diverse sources of knowledge on flooding cities. They are an attempt to make sense of deeply interconnected and interdependent problems through developing probable and possible scenarios; both theoretical and practical that envision change. I argue that speculative design workshops can bring transparency to issues and act as catalysts in negotiations. Furthermore, the workshops can bring a sense of responsibility to various communities and building professions.

In our activities, we offer a collective approach to design. We argue that such collective efforts can put pressure on governments and politicians to rethink climate issues and force them to take serious action on policy change, while integrating stakeholders and local actors in decision-making. These processes are complex, messy, difficult, and time-consuming. But we believe that, in the long run, only collective action from the bottom-up can have a strong impact on rethinking current laws, political and economic systems, social beliefs, and behaviors and that we need to develop communicative for-

8.
*Site visit to Kishan Bagh with architecture and urban design students from the
Universities of Hyderabad and Innsbruck, September 2017.
Photography: Ketham's Atelier Architects, 2017.*

9.
*Site visit to Kishan Bagh with architecture and urban design students from the
Universities of Hyderabad and Innsbruck, September 2017.
Photography: Ketham's Atelier Architects, 2017.*

mats like speculative design workshops to bridge the gap between, rich and poor, educated and neglected communities to help them grow together and bring about change.

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