REPORT OF THE

BREAKOUT GROUPS OF THE CULTURES OF CLIMATE CHANGE WORKSHOP

HELD ONLINE ON 25 MARCH 2021

AS PART OF THE SERIES OF EVENTS ACCOMPANYING THE LAUNCH OF THE MONSOONAL MULTIPLICITIES EXHIBITION BY THE ERC FUNDED PROJECT MONSOON ASSEMBLAGES

RECORDING AVAILABLE HERE:
https://www.youtube.com/watch?v=xsEkRdYhLWw

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BREAK OUT GROUP 1 : GEOPOLITICS

FACILITATORS	Harshavardhan Bhat (MONASS)
	Ignasi Torrent (Universityof Hertfordshire)
RAPPORTEUR	Alcan Zeika (University of Westminter)
ATTENDEES	None

QUESTION

What geo-political and financial interests are driving urban development in your region and what impacts are they having on monsoonal patterns and people's lives?

DISCUSSION

1 Legal battles
The monsoon is changing geopolitical relationships.
Bangalore, has a diverse ecology, a fairly modern town, formed from colonial cantonments.
The city goes through water shortages, share a river with Chennai. There are legal battles, supreme court matches, political processes. A fight for water.
Water is agriculture, sanitation, it is life!

2 Local Narratives
The previous point was presented as a logic sequence of events, a story. The description of the monsoon. What is the grassroots understanding of the monsoon in those regions? How do non-informed people weather the monsoon? How does it affect their lives?

The word monsoon is a political construct, for the weather. So in different cultures it has different names, but goes back to Arabic (where it means season). But the British developed the terminology as part of their colonialism in the subcontinent. And so it has ended up being associated with South East Asia, (even though monsoons occur globally). In local languages, the monsoon has different names for different kinds of Monsoons; rains that destroy crops, or homes, or other things.

3 Colonial heritage
The history of vaccinology, bacteriology, hydrology, water management, have all been influenced to some degree by the controlling of monsoonal water. What fascinated monsoonal scientists was how to govern water and air in climates where it is very different to European weather. They tried canals and dams and cross pollination of ideas. It is not that Monsoonal cities are not clean or dealing well with water management, but it is a different type of water management from European weather, different demands. The Indian subcontinent is the most geoengineered continent for water management! Ahoska, Mughals all had water systems. But Colonials are interested in extractions and acceleration (cash crops), rather than developing a system for life/ the people.

4 Capturing Data
In the face of modern empirics to capture the monsoon, this project shows how that we cannot parametrise everything. The monsoon breaks the fallacy! It is not that the English (Colonialists) arrive and want to mould with what they see, they tried to mould and shape it in their own way. Intentional eradication of things they didn't understand.

What about vernacular water management on the subcontinent?
Existing water architecture/engineering?
There are ideas and knowledge systems that are lost through the intervention of colonialism and other power systems.
Would we have a monsoon without a state? Would we build those dams?
When we talk about the monsoon we are talking about life and therefore about the parties involved and then politics!

5 Other Ideas (Time, Weather & South Asian Monsoon)
Monsoonal space time frames. General people think it is a very specific space and time occurrence. But it is a very wide process that originates beyond those boundaries. There is a c ertain geopolitical interest to centre that as a problem only in the subcontinent.

Wind reversals galvanise the monsoon on the subcontinent. South Asian Monsoon is unique because it is the only place where the convergence of these forces happens over land rather than sea. This makes it immensely difficult to map scientifically. There are loads of super computers running the equation to predict the future, it is a best guest. Instead we need to understand the wider system, the El Nino.

Climatology, Climate in Motion (Deborah R. Coen), the history of groups as trying to politicise and maintain power. Hundreds of kingdoms in the Indian subcontinent used their own methods to do so.

'Weather and Time' in Romance languages are interconnected. Very interesting!

Modern science will be a tiny moment in the whole history of humanity. It is only a couple of hundred years old. And therefore there will be new ways to represent information.

Time has only recently been measured, and so the climate was a way of measuring time.

BREAK OUT GROUP 2 : ARCHITECTURE, LANDSCAPES, SETTLEMENTS

FACILITATORS	Saif ul Haque (Bengal Institute of Architecture, Landscape and Settlements) Arfar Razi (Bengal Institute of Architecture, Landscape and Settlements)
RAPPORTEUR	Tumpa Husna Yasmin Fellows (University of Westminster)
ATTENDEES	Zachary Lamb (UC Berkley) Maddalena Laddaga (University of Westminster) Sudarshan Pani

QUESTION

How can hydro-geographic concepts such as basin, watershed and fluvio-geomorphic region be the basis for the design, planning and management of megacities in monsoonal climates?

DISCUSSION

1 Bengal Institute Introduction
Water is the priority for planning: detailed hydro analysis can help support planning of mega-city. There is a vision for the mega-city of Dhaka. How we think and plan around hydro-geographic concepts.

Ganges Delta studies: the reason behind this kind of study is for planning, to easily identify problems and solutions. Database study - fluid flow in Bangladesh. Monsoon flooding - huge rainfall in this region, vast areas of Bangladesh is overflowing with rain and flooding.
Regional analysis: how the basin and fluvial catchment analysis can help the planning of mega city. How the water flow will reach out. How the landform and how the land is situated.

When the rain falls, its flow is defined by the terrain so it is very important for the region to analyse the watershed of that stream. How is the watershed informed? In a river basin there might be several watersheds, e.g. Mississippi watershed. How can this fluvio-geomorphic region be the basis for design, planning and management of megacities in monsoon climates?

We can think about the boundaries of planning? Administrative? Basin boundaries?
What strategy should be kept in the mind while designing? Flood level? Drainage network? Should infrastructure float while the terrain is flooding? What should be the management approach? Prohibition of land filling?

2 Zachary Lamb
Raised the question of the disconnect between dynamic and seasonal variations and the static development of urban planning. It is a bit of a crisis moment because of the capacity of humans to manipulate the landscape. Basing urban landscape on the pattern of landscape. We the designers have for a long time recognised there is a problem of disconnect. Why is it happening? It lies on the commodification/cost of land.

It is an opportunity to think with a dynamic conception of properties e.g. Char dwellers whose lives have been intertwined with the dynamic elements of landscape. But it is also about social structure.

3 Sudarshan Pani
Referenced design solutions not focused on how to plan but rather how to take into consideration the changing dynamics of a region. Accommodating the concepts of changing monsoon in urban related studies. Housing units on flood plains - we think about housing on stilts, but people in the Sundarbans build with thatch, changing their buildings seasonally. It is not only about how we can design but how communities can build. Getting their perspective as in my project in Sundarban, why they don't build on stilts.

4 Maddalena Laddaga
I am involved in working in Africa. Monsoon climate scenario exists there. How can we consider building for protection against mosquitos and floods?

4 Zachary Lamb
The idea of where not to build and how not to build is critical to consider.
Where urbanisation planning is under extreme pressure. Planning is not always honoured.
Infrastructure of cities in a more proactive way, where and how buildings can proceed. It's about facilitating rather than strictly prohibiting.

5 Tumpa Yasmin Fellows
Reflecting on the MONASS virtual exhibition, the importance of recognising the coexistence of human and non-humans adapting to the changing monsoon.

6 Saif ul Haque
Limitations that designers have. How much can we do? It is the land value that determines the decisions. At the same time do we sit back, that's not going to be the appropriate approach. The kinds of activity of MONASS and the Bengal Institute brings into focus the pressures of development. The more we talk about it the more we can look forward to the change. We need to take active actions and the more research takes place the closer we get to a change. Change take time. We have to undo – eg. industrial revolution is taking time to undo. There are also practicalities that need to be addressed.

BREAK OUT GROUP 3 : MAPPING + DATA

FACILITATORS	John Cook (MONASS)
	Raphael Ascoli (Blue Temple)
RAPPORTEUR	Ben Pollock (4D Island)
ATTTENDEES	Mohamed Amdan (National University of the Maldives)
	Suhaa (National University of the Maldives)
	Sudipta Maitra (Indian Ocean World Centre)
	Victoria Marshall (Singapore University)
	Karl Beelen (Germany / Chennai)
	Jonathan Cane (University of Pretoria)

QUESTION

What is the agency of data + mapping in addressing climate change?

DISCUSSION

1 Representation / Communication
What types of data and means of communication (visual or otherwise) do you encounter to communicate monsoonal dynamics and/or climate change? How effective are these, and how do/ should these change with their audience?

- Monsoonal events translated to GIS - capturing effects and extents.
- Use of historical data (typically colonial to the region), then using other GIS processes to colocate and reference.
- Government agency - historic charts and over time
- Historic missionaries / travels - text written experiences of locations or travel
- Military events and descriptions of them.
- Indian Ocean World Center (website) (IOWC) McGill University. https://indianoceanworld centre.com/
- Localised data and the change in scale of large scale mapping and where an individual point 'hits the ground'. A local scale of 1km x 1km and the lived history (Victoria Marshall, PHD project just complete)
- Singapore wetlands, the smaller site and its impact on the wider environment (ecologically and socially). offering soft edges to what is otherwise an urban and hard edged city state. It's a powerful contrast.

2 Community Empowerment
How can digital mapping be used as a tool of community empowerment in the face of climate change? What kind of data should be harvested and how should they be redistributed? What techniques could be used to democratize data in order to augment public engagement without jeopardizing the livelihood of remote communities?

- Raphael Ascoli: distributing and democratising data to be a conversation starter; mapping energy and night time lighting for micro grids; Hackathon to develop platform and maps for conversations.
- Mohamed Amdhan: Maldives students. Mapping resilience and vulnerability relating to population decentralization and disaster resilience; Uncovering social factors leaving to further problematic realisations around the impacts of disaster. Student work and platform will be updated and published here https://ds5-21.tumblr.com/

- Suhaa: “We are students from Maldives National University, and we are architecture students, 3rd year. We are working on a design project focused on disaster resilience. we are trying to prepare separate master plans in which we are trying to look into solutions on how to be more disaster resilience. for example in my plan, I’m working on 2 parameters. better resource allocation and better politics. In better resource allocation, I’m saying we have many excess resources (many uninhabited islands and all islands surrounded by abundant sea life). Under politics in saying we need a better framework to follow while making policies which work for the benefits of citizens and allow transparency in the government and I’m saying that working with these 2 parameters this way will bring in more wealth to the nation and this way we can reduce the nation’s vulnerability and make us more disaster resilient.
- As a process, producing base maps of local environments to get people initially interested in maps and their language.
- Discussion over these as an initial starting point: Not everyone is familiar with mapping vocabulary or even the view point. This is where the ‘visual’ is important to consider as a design exercise.This needs to be locally contextualised or understood to be effective. Experiences of issues of graphics being too complicated to the unfamiliar viewer. Or different perceptions of local understandings of colours and graphical symbols.
- Accessibility of smartphones and the platform of this as a mapping tool but also medium and platform of conversation (peer to peer and decentralized).

3 Participatory Mapping
What participatory mapping techniques are / could be used to map everyday experiences of the monsoon in your environment?

- Disembodied vs lived data and its effect on mapping and perception?
- Participants ability to communicate deeper and extended cultural or local knowledge on the physical & non-human.
- Expertise vs novice // messy vs structured data ?

4 Participants Notes/Examples:
- Sudipta Maitra: Gathering historic Indian ocean data, plotting to GIS in combination with machine learning techniques to inform future development/management (https://indianoceanworldcentre.com/) [McGill University?]
- Victoria Marshall (singapore University): - 1km x 1km study of water logging and urban expansion (Work to be published soon).
- Karl Beelen - Studying Chennai and its variable retreating monsoon through material deposits (sludge/soil/sediments) and their displacement through time.
- Mohamed Amdhan / Suhaa - Students of the Maldives creating mapping informed masterplans bringing disaster resilience to the forefront (ds5-21.com)

BREAK OUT GROUP 4 : MONSOONAL ECOLOGIES

FACILITATORS	Beth Cullen (MONASS)
	Jayshree Vencatesan (Care Earth Trust)
	Anjana Vencatesan (Care Earth Trust)
RAPPORTEUR	Keerthana Krishna Kumar (Care Earth Trust)
ATTENDEES	Franz Krause (DELTA Project, University of Cologne)
	Naiza Khan (Artist, MONASS Artists Residency)
	Sheila Ghelani (Artist, MONASS Artists residency)

QUESTION

How are monsoonal species in your city or region changing, and what are the implications for human and nonhuman life?

DISCUSSION

1 Question for those who live in monsoonal regions:
How do you experience the monsoon? Has it changed in recent years and if so, how do you know it has? Feel free to use references when discussing this question – a photograph, an object, a plant, a food etc.

Naiza Khan, Pakistan: I come from a monsoonal region, living in Karachi, a port city in Pakistan, for many years. As a port, Karachi gives a very particular experience of how the forces of climate and monsoon impact such a large city. Experience of rain and monsoon, and the chaos it brings is one aspect of living in that condition. An aspect of the website which chimed with her own experience was how different people perceive and view the monsoon, often very differently perceived in South Asia than in Britain. Also a difference between its impact and what it actually does and people's memories. Rains are often received with a lot of joy and celebration and it is a very generative process. Personal work has been about ocean and land, and there is the space of the atmosphere which pulls the two together, often comes back to clouds! Went back to some drawings done ten or twelve years ago called "iron clouds" which came out of the sensation and experience of heavy clouds just before it starts to pour, they are almost like steel or metal, and they are so huge, solid and heavy with rain. Used the term iron to convey how heavy they are compared with clouds we might see in London. Many things from website pulled her in, complex drawings of weather conditions are really beautiful and interactive visualizations were great. Dragonflies give a sense of how something so small can link to planetary scale ideas and conditions. How the dragonfly is pushed by the wind and traces circulations of the atmosphere is very beautiful, notion of multi-generational journeys also resonated.

2 Question for those who do not live in monsoonal regions:
What section of the Monsoonal Multiplicities exhibition did you relate to most or had the most impact on you?

Franz Krause, Germany: interested in multi-species and animal work, particularly work on fish, a species he is particularly interested in; found work on dragonflies to be a great example of how the monsoon creates connections beyond what happens in a particular city. Dragonfly also an important figure in chaos theory: e.g. idea that when a dragonfly flaps its wings in one part of

the world it causes a cascade of atmospheric events that cause a tornado in another part of the world. Wind flapping of dragonfly is immersed in a larger monsoonal world – not just a thing that has an agency, but that agency itself is facilitated by all sorts of flows and movements. The monsoon is an entanglement of strong movements and dynamics. Exhibition is very inspiring for someone who is not living in these places.

Sheila Gheilani, East-Midlands, UK (not a monsoonal region): found it difficult to choose one element of the exhibition, so much extraordinary stuff! Really interested in the 'creatures' section, intrigued by comment from Beth about following a creature and allowing that to unlock different histories and to learn about monsoon or climate, something very useful in terms of storying; as an artist she is trying to find ways to talk about climate through her art but in a kind of beguiling way or in a way that engages people. Looking at creatures really unlocks something, dragonflies really stood out and snakes as well. Really enjoyed those and had a desire to hold a snake in the palm of her hand too! Enjoyed the quotes, language and poetics of the website.

3 What nonhuman species (flora / fauna) are monsoonal indicators (or weather indicators) in your city or region? What species suggest disaster? Is the behavior of these species changing and if so how and why? What are the implications of these changes for human and nonhuman life?

Naiza mentioned that in Maharashtra, in local indigenous culture there is a bird (Perti Wha) which is the harbinger of the monsoon and when it comes you know the monsoon is coming, enables farmers to predict the monsoon (Pied Cuckoo).

Jayshree Vencatesan commented that most farmers use fauna, especially those that migrate as indicators for the monsoon. A belief held by many ecologists, is that lower organisms (in classificatory terms), the better an indicator it is. Mammals are normally not used as indicators of natural phenomenon. Birds, reptiles, amphibians and insects are generally used. So it is not a surprise that all over the world people use dragonflies as an indicator for monsoon, it is scientifically very accurate.

Beth spoke about the Pied Cuckoo also being related to the Globe Skimmer dragonfly, during research on the globe skimmer found out about complex aerial assemblages that occur along the migration routes with insect eating birds following dragonflies, revealing aerial ecologies. Skies are full of life that we are often not aware of, aerial movements and conditions create a space for many species to exist.

Jayshree felt this was significant - many interconnections between these different species, which are also linked to humans. Certain species important for livelihoods, particularly seasonal livelihoods. Mentioned communities in southern India which specialize in these things.

Anjana relayed conversation with Beth about winged termites which are regarded as an indicator in India and Ethiopia. Jayshree mentioned that they have been keystone and sacred species status in India - the reason it has been given this status as a species is because it is linked to human lives and livelihoods.

Sheila spoke about Sulphur project, looked at sulphur butterflies which are migrating and moving up the country because of climate. Really interesting to think about all these species above us in the air. That is the only species she has done work on, but will look for more now!

Jayshree asked whether people are aware of changes in the plant world. Beth mentioned that oak trees are changing flowering patterns (and acorn production) in relation to changing weather in the UK – because they are keystone species it has a knock-on effect for other species. Seems like a lot of observations on changing plant behaviors (and other species) is fairly anecdotal, based on

people's daily observations. Not sure what's happening in terms of scientific monitoring?

Jayshree commented that there is not much scientific monitoring going on in India. Local people in Western Ghats that flowering schedules of bamboo changing – this in turn is linked to change in migratory route of elephants. This is largely anecdotal rather than hard science.

Anjana noted that traditional knowledge is poorly documented and largely ignored; in Geneva, a single tree has been designated as significant and scientists have been recording its cycle every year for decades (with a dedicated person to do it). Monsoonal regional knowledge is oral culture which is fast disappearing now.

Naiza comments that a lot of indigenous knowledge is overlooked, compared with the weight of scientific data. If you think about regions where monsoon is most felt and historically has impacted people and infrastructure, are places where oral cultures have always been strong but 150 years of colonial rule ruptured these cultures somewhat which affected the passing down of spoken cultural knowledge and understandings. There is a shift in the West to see and listen more closely to such knowledge, but don't know if that is something that is shifting generally?

4 Is academic or scientific research shifting towards valuing indigenous knowledge more and learning from the ground?

Beth mentioned her anthropological training and focus on indigenous knowledge studies, the use of participatory methods and the importance of paying attention to tacit and embodied forms of knowledge. Became interested in creative and participatory methods such as video, mapping and drawing as a way of engaging with other forms of knowing. Intuitive, creative and sensory methods are important to incorporate within academic and scientific work.

Jayshree commented that there is an advantage of being based in India where there is so much knowledge that is yet to be documented. Researchers in India alone cannot address such complex research questions effectively, it needs collaboration among specialists from different disciplines and geographies. This is something that India has resisted for a long time, but "large-heartedness" in research is absolutely necessary or we may end up losing some of this knowledge and understanding forever. Much is already lost, if this is to be reversed then we need collaboration.

Needs to be more interdisciplinary, creative, academic-artistic collaborations needed to take these understandings further. Storying is important and finding ways to do that in powerful ways. Difficult to comprehend the scale of changes that are happening and how to convey this effectively.

We have to soften the edges of the disciplines and make them more porous. Important to let go of ego as an academics, scientists or artists – need to be able to acknowledge that you don't always understand things and approach others to find out how things work. Karrabing Film Collective in Australia was mentioned as an inspiring example of working with indigenous philosophies and methods.

5 Main points learned from the discussion

- Monsoonal ecologies - species and its implications for monsoons and humans
- Most popular part of exhibition was the animals and especially the dragonfly - Dragonfly as a symbol of chaos theory to dragonfly being such a small insect conveying so much intricacies.
- Creatures evoke the question of how to talk about climate in a way that engages people - is following the creatures the best way?

- Monsoon as a symbol of joy and celebration in Pakistan
- Perti Wha (marathi) (Pied cuckoo) bird as a monsoonal indicator, which is used by farmers.
- A lot of life above us (aerial) from insects to birds and all tied to monsoon
- Winged termites- keystone and sacred species in India- linked to human lives and livelihoods.

Discussion then moved to valuing local and indigenous knowledge on monsoonal species.

- Monsoonal regions - most of indigenous knowledge is ignored; monsoonal region knowledge is oral culture which is fast disappearing now
- Is academic or scientific research shifting towards valuing indigenous knowledge more and learning from the ground?

Way ahead

- The need for research to be more porous and interdisciplinary and break boundaries to document indigenous knowledge; collaboration (and use of creative methods / storying) is the way ahead.

BREAK OUT GROUP 5 : MONSOONAL RISKS

FACILITATORS	Anthony Powis (MONASS)
	Beverley Salmon (Doh Eain)
RAPPORTEUR	Constantina Avraamides (former DS18 student, University of Westminster)
ATTENDEE	Hamzah Al Asadulloh (Royal College of Art)

QUESTION

What networks exist or could be developed to build resilience to monsoonal risks in your community or neighbourhood?

DISCUSSION

1 Introductions to different monsoons

- Beverley Salmon: based in Yangon, community nature of the monsoon, monsoonal risks, and responses; collaborative nature of the communities
- Differences between Yangon and Malaysia monsoon - Malaysia constant, same time everyday / Yangon extended period without sun or blue skies, effects mental activity in addition to the physical impact of rain and what the monsoon brings
- In Yangon monsoon is seen as a relief from the heat - festival to celebrate the monsoon, dengue and other diseases prevalent at the end of the monsoon - Cycle of celebration
- Hamzah Al Asadulloh: based in Indonesia, direct relationship with monsoon, everyday reality, monsoon recently seen as a topic of research, (ZeroUrbanism while at University).

2 Risks

- Nice weather in Chennai is considered a cloudy overcast day - differences of cultural understanding of what is pleasant.
- Rainy season is getting shorter but more intense, floods are getting worse - devastating impact.
- Jakarta is the world's fastest sinking city, how people perceive rain varies from household to household depending on the economic situation of each household.
- Differences between north/south hemisphere as to how people acknowledge the monsoon moving into or out of dry season
- People's perception of water (not just the monsoon as an event)
- Yangon - people collect water during monsoon season which is used for drinking and domestic use up until December
- Blackouts at the end of the monsoon - no electricity power, people can't pump water from the ground/storage tanks
- Access to water varies in different groups in the communities
- Infrastructure/roads: drive to build more roads in Yangon, building them higher than the ground floor of people's houses, drains and infrastructure don't have enough capacity, therefore rainfall directly drains into people's houses. Vulnerable people suffer more as an impact of planning.

3 How do people respond to these risks?

Yangon

- The community is structured rigorously, there is a leader for every 100 households. This structure was originally based on a military system, is now a system of support for locals. There are no taxes but fees paid for sandbags etc.

- Each monastery has a reservoir and they sell water in cases where there isn't a piped supply in places
- Law changing to stop people from harvesting ground water – affecting less affluent communities the most
- Monsoon is unstable, people talk about it and compare to previous years when looked at locally on a day to day - looking at the bigger picture helps to understand patterns.

Chennai

- Attitude to water in Chennai - pushing water away - repetition of pattern in the UK, building roads around the Thames.
- Issue with storing water in Chennai and fluctuations of groundwater table
- Chennai Rainwater harvesting Law - every plot has to harvest water into the ground
- More affluent areas have better access can harvest water from deeper, get better quality water, less affluent areas are more reliant on stored water

Jakarta

- Colonial practices in Indonesia by the Dutch, building/separating neighbourhoods based around access to water/groundwater

4 Key Takeaways

- Similarities between Chennai(India), Yangon(Myanmar), Jakarta(Indonesia)
- Direct implications for households of planning decisions
- Roads being built up higher than ground level
- Development is built around groundwater access, linked to affluence
- Issues with access to drinking water during monsoon and dry season
- Importance of a collaborative approach between the community and government structures during the monsoon: providing drinking water (Yangon monasteries; new law introduced to safeguard groundwater as a result cut off less affluent communities that are reliant on groundwater for drinking water.

BREAK OUT GROUP 6 : COMMUNITY ADAPTION

FACILITATORS	Christina Geros (MONASS)
	Meghna Guhathakurta (Research Initiatives Bangladesh)
	Babul Sutradha (Research Initiatives Bangladesh)
RAPPORTEUR	Charlotte Birch (ACAN)
ATTENDEES	Sriram Ganapathy (The Hindu)
	Sekhar Raghavan (Rain Centre, Chennai)
	Zoe Goodman (University of Warwick)

QUESTION

What is the impact of the changing monsoon on your community and how are people adapting to it?

DISCUSSION

BS: Works with marginalised communities - the snake charmers, river gypsies live in boats and make money from snake charming, - livelihoods are dependent on water, need to work on climate literacy, governments should work with communities to improve climate literacy.

SG: 3 years ago there was not much warning of cyclones - it was only people who had access to newspapers who received warnings. The 2004 tsunami devastated the coast in Tamil Nadu. Since 2004, with technology advances more people get more warning. A recent cyclone the authorities had time to evacuate people however they did not have time to move boats away so there was a lot of civil damage - mainly fishermen were affected by this. There needs to be more continued improvement on communication is vital.

CG: As weather patterns continue to change there are more evolving technologies to monitor them and better communication with people. With Babul's river gypsies they are very reliant and more concerned on the everyday flows of the rivers rather than climatic events even though of course they are affected by events as well.

ZG: observed in Mombasa how changing weather patterns have reinforced or changed social boundaries. Observed that there is an inland Kenya vs coastline Kenya divide - inland kenya are blamed for overdevelopment and developing in the wrong places - there should be more community engagement to understand each other, each other's experiences and discuss improvements and drainage understanding.

MG: River communities are affected by flows of the river which change frequently due to weather patterns, sometimes positive and sometimes negative - for example the river flows can bring sand soils which are good for certain cash crops like peanuts - people can suddenly benefit/ change their profession and people can suddenly be put at a disadvantage which can create an imbalance in communities

SR: Chennai is a coastal town - there is a lot of not very good development - a lot of communities that have learned incorrect practices - it is difficult to get people to unlearn bad practices and relearn new ones - you can not educate the educated

MG: She has found that with community engagement it is easier with farmers than to work with doctors etc. People who are less highly educated are more willing to learn new things whereas educated people its difficult to get them to unlearn what they think they know and introduce new idea3

SG: There needs to be awareness of drainage systems - a lot of underground drainage can get blocked and cannot absorb or hold the monsoon waters which causes unnecessary flooding where people have to be evacuated by boat. Awareness of climate change is getting better - we are seeing the recent flooding in Australia and more climate related disasters. Peoples access to water is limited which has created a divide during covid - they can't wash their hands all the time.

CG: The monsoon impacts Chennai and Dhaka in such different ways. The divide of social boundaries heightened through changing weather patterns and blaming and othering was seen a lot less in Dhaka but a lot more in Chennai because of the marsh network. There would be a lot of blaming of poor water management because of new people that had moved into the area and that they don't understand how this marsh works - they might have moved from another marsh area very close by but each area has differing and intricate systems.

Notes on attendees:
Sriram Ganapathy (Journalist for The Hindu focusing on sewage manage
ment, water management, sanitation management)
Sekhar Raghavan (Chennai, Rain Centre focusing on rainwater harvesting)
Zoe Goodman (Anthropologist with University of Warwick - Research work
mostly working in Mombasa, Kenya.

BREAK OUT GROUP 7 : CULTURAL AND ARTISTIC PRACTICES

FACILITATORS	Corinna Dean (MONASS) Seetha Gopalakrishnan (Care Earth Trust)
RAPPORTEUR	Georgia Trower (ACAN)
ATTENDEE	Uthra Radhakrishnan (Down ot Earth)

QUESTION

Are artists and cultural practitioners well placed to explore environmental issues and climate justice? How can art open up conversation about art and climate justice?

DISCUSSION

Seetha began the discussion with talking about the clay pottery method from the Brahmaputra in Bangladesh and West Bengal, where people hand beat clay and are completely dependent on post monsoon clay. The Salmora area is inhabited mostly by potters who practice a traditional form of hand beaten pottery. Women are in charge of making pots, the men are responsible for selling them. Pots are left underground to cure - after that they use driftwood to fire them. This centuries-old art form is being threatened by the erosion of islands in the river, which get eaten away very time the river floods. The island riverbank where the silt is taken from for the ceramic pots is called the Majuli, which is a large island on the Brahmaputra, in Assam where the erosion is rapid and has left many people homeless. It is now one third of its original size, probably because of global warming. Artists barter with tribal groups for clay because of the looming threat of space. The government has spent a lot on anti-erosion measures, but it hasn't helped much. The river is not what they remember, the manner in which these changes re coming is intensely fast. During the Ganesha festival, local communities smash them on the embankments of water tanks.

Centralised management approach - are people allowed to collect the silt themselves?
There is some amount of illegal sand mining that happens, there is a law that says the silt from the water tank should not be taken beyond 5km radius - stays within that ecosystem - in Chennai those in the catchment areas are able to use it in construction. Not sure if this is a practice still exists.

There is a law to regulate the illegal sand mining, this affects local agriculture quite drastically. The farmers would collect the silt and apply it to their fields and the requirement for fertilizer is reduced and at the same time you minimise silt deposit in the pond, so you maintain the water table.

> With your experience or engagement with cultural and art practice how has Monsoonal Multiplicities been able to communicate environmental issues on a cultural and visual/ creative level in terms of performing as an online exhibition?

Post 2015 floods in Chennai, the Goethe Institute proposed to have an exhibition around that - was that seen as insensitive?

These are very practical issues we have to deal with, art comes further down the line.

If public understanding of environmental change is to be expanded can this be explored through cultural practice and if so are there any experiences of this you can share?

Corinna Dean referenced the Kochi Muziri Biennale as a platform for exploring cultural and environmental issues through creative platforms, referencing performance art. She also mentioned the Edible Archives (recalls folklore and tradition around indigenous rice dishes, to observe food through the lens of ethnography, pleasure and culture), a project by female chefs. Uthra responded that there is a long tradition of valuing food and culture and that the family connections are very strong in reproducing this. Along with the oral tradition of telling stories and singing to celebrate the arrival of the Monsoon.

BREAK OUT GROUP 8 : MONSOONAL PLANNING

FACILITATORS	Lindsay Bremner (MONASS) Chella Rajan (IIT Madras)
RAPPORTEUR	David Mathewson
ATTENDEES	Marie Braithwaite (University of Westminster) Raquel Falminia (University of Westminster) Joe Ravetz (University of Manchester) and one other from Dhaka

QUESTION

How can monsoonal thinking inform urban planning and governance, and if so, at what scales?

DISCUSSION

In general, the discussion centered on how fit for the purpose of responding to changing monsoon climates the contemporary planning institutions in the monsoonal regions represented are. What would have to change for the monsoon to be taken into account in urban planning and at what scale?

There is a problem of municipal or regional boundaries that are not necessarily aligned with river basins. This is a problem where water and other environmental systems are not delimited by territorial boundaries.

Questions of new forms of governance, nepotism, informality, new spaces for collaboration - often these are segregated subjects that are not considered holistically.

Discussion of the idea of 'adaptive governance' which often assumes 'everything will work out fine'.

Bureaucratic based planning is successful in some areas, e.g. state sanctions, enforcement, so-called 'known problems', but does not cope well with a comparative paradigm. Collective local intelligence - ability for anyone to learn, to think ahead, co-create, collaborate. We need ways to facilitate responses to integrated systems.

Singapore the 'poster child' for how to undertake planning in climatic ways, yet very paternalistic, top-down. In Bangkok development has historically been led by the monarch or the crown. Planning from the 19th century was Western-influenced, but ignored the indigenous water and environmental systems that had functioned for centuries. Also a top-down system, but results are entirely different from Singapore. In Lima, there are 49 district mayors, with no cohesive approach, canal infrastructure paved over - One canal was the focus of plans to block it, but no cohesive governance attempted.

How has Dhaka responded to the most recent disasters?

Governance is very centralised - all districts have migration to Dhaka; it swallows everyone from outside the city. The population is difficult to capture, there are many informal settlements, as

well as many who commute from towns and villages outside the city. Disasters are common, with interest immediately afterwards, but people quickly forget. Why is this not in the collective memory? Only when things happen does the media seem to cover them.

Adaptive governance: not all levels of government or ministries have the same level(s) of power. There is a lack of equal distribution of powers.

What about the role of NGOs?

Many in Dhaka - They have an important role for disasters. No one seems to be sure who is responsible for what in government. Who does one to talk to? Who should one see about specific problems? There is a disconnection between NGOs, institutions and people. The system works well in theory on paper but not in practice. Where is the city plan? It is not published in a digital format, it is not available to the public.

What about Jakarta? Informality?

The government in Jakarta has a poor historical track record with regard to informal settlements (kampungs), especially where flood-prone lands are concerned. Residents are still being evicted, due to problems with land tenure under the excuse for the need to build new or improve existing infrastructure. This continues to take place today and has proven controversial. Also a paternalistic, top-down system, but with poor results.

Different city regions have various institutional lock-ins and challenges.