Project report | IS 805 Submitted by Hasan Mahmud Prottoy

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Understanding the perspective of environmental justice activists of Bangladesh towards digital technology.

1. Introduction

Advocating for environmental justice is generally defined as the efforts toward eradicating unequal distribution of environmental resources, unfair exposure to environmental pollution, hazards, and destruction to communities [1]. This injustice is a pressing issue in the current world system of which digital technologies are an integral part. In this project, I want to understand from the perspective of activists who are working to address environmental justice, how they view and use digital technology and how that is assisting or hindering their efforts. In this report I would be focussing on the perspectives of the activists from Bangladesh. Bangladesh is one of the most vulnerable countries in the world to climate change [2]. Due to its comparatively weak position in world power and influence, colonial past, and local complexities, activists from Bangladesh (also other countries in the global south) may provide us with a different and valuable perspective on the subject matter.

I aim to answer the following research question at this phase of the study:

RQ: How environmental justice activists from Bangladesh use and view technology for their activism?

As an HCI researcher, I believe that, given the importance of addressing environmental injustice in today's world, understanding the perspectives of activists from a global south country would assist the HCI community, technology designers, and policymakers in better addressing environmental injustice through design and policy. It would also broadly work to reduce the global imbalance of power, wealth, and vulnerabilities.

2. Background

Literature related to sustainable HCI, design justice, postcolonial computing inform us how rooted, the issues related to environmental justice are in local and global power structure, distribution of wealth, historic processes like colonization and how technology design and policy is related to all those [3,4,5,6]. These literatures also highlighted some instances of grassroot movements and community efforts that played important roles in creating resistance to environmental injustice [4,12]. We also know, Bangladesh is one of the most vulnerable countries for global phenomena like climate change [2] for which the very people who are affected the most are not responsible. Thus, environmental justice activism in Bangladesh, has to deal with both global and local factors. There is a lack of systematic understanding of how

activists are managing that challenge and how digital technology is assisting or hindering their efforts, while the control of technology design and policy is largely concentrated in the other part of the world.

3. Methods

The overarching goal of this project is to understand the perspectives of persons who are involved in the efforts towards environmental justice. When thinking about appropriate methods for doing that, I had to make a number of decisions from epistemological stance to data analysis techniques. The research falls under the qualitative research paradigm (opposed to quantitative) which is appropriate for understanding the perspectives, experiences, ascribed meaning of a social phenomenon, more specifically, the 'how' and 'why' questions. As a result, the stated goal of my research necessitates the use of qualitative methods. I will describe my choices related to epistemological leanings, methodological approach, data collection and analysis techniques within the qualitative research paradigm in the following paragraphs.

3.1 Epistemological leanings

Epistemologically, for this research I am taking an interpretivist orientation for approaching the subject. Interpretivist stance assumes that reality is socially constructed, and there is no single, observable reality. Thus, in this epistemology, rather than finding knowledge, researchers want to construct or interpret knowledge by engaging with people in different ways. In this study, I am trying to better understand the perspective of a group of people who have a common interest (environmental justice) and working in a specific country. I am assuming that their perspective is socially and historically constructed and due to their position in a specific geographic and political context related to the subject matter, their perspective and experiences might be different than other groups. This epistemological stance also emphasizes centrality of context which is important for my inquiry. As a HCI researcher, I aim to build a shared understanding with environmental justice activists which is why I take an interpretive epistemological stance.

3.2 Methodological approach

For adopting an approach within the qualitative research paradigm, I have decided to go with the basic qualitative research approach for addressing my research question. My research question asks the question, "how environmental justice activists from Bangladesh use and view technology for their activism?" So, my inquiry emphasizes on understanding how people interpret their experiences, and what meaning they attribute to them. The basic qualitative research exactly aims to do that. It is also possible to adopt a critical approach as the subject matter (environmental justice) is related to the power structure of the current world system and there are opportunities for using critical theories like critical environmental justice [8]. But for this stage of the study, I want to focus on understanding the current status quo, practices and perspectives from the participants rather than taking a critical stance or aiming to make change. Being said that, due to the subject matter's relationship with power, a critical perspective on environmental justice activism, digital technology, and current world system was reflected in the data and results to some extent. Due to the nature of the subject matter, its significance in

today's world, and possible impacts on many marginalized communities, I recognize that it might be important to adopt a critical lens- questioning the existing power dynamics and aiming to make change. So I want to gain an understanding from this stage of the study by adopting the basic approach and then to bring the critical approach in a later phase.

For implementing the basic qualitative research on understanding the perspective of environmental justice activists, I have decided to design an interview study. Interviews are particularly useful for gaining insights about someone's feelings, thoughts, and intentions which cannot be observed directly. As I am trying to get insights into the perspectives, views of a group of people who have a common interest, it would be the best choice to engage in conversation with them related to the subject just like how interviews are used in qualitative research. Interviews also give opportunities to know about past experiences and practices which might be useful to know for the purpose of the study. For structuring the interview, I have decided to keep that semi-structured guided by an interview guide. Semi-structured interviews give a fair amount of flexibility by using followup questions, clarification, adjusting probes and questions between participants, and a balance between replicability and richness. Participants for my study are likely to have access to the internet and good digital literacy, so it is possible to conduct virtual interviews. So, I have used available web conferencing tools like zoom, google meet to conduct the interviews with the participants.

3.3 Data collection

I have interviewed four adult participants so far who have a considerable amount of experience of working on environmental justice related issues in Bangladesh. Before approaching the participants, I have explored the ecosystem around environmental justice related activism and involved individuals through social media searching, going through websites of climate action or environment related conferences at Bangladesh, joining Facebook groups related to the issues. listening to podcasts and live streams of related issues to identify some potential participants and stakeholders involved in the scenario. I have identified some key areas from which it would be useful to recruit participants to incorporate a comprehensive set of opinions. Some of the key areas are local and international NGOs and development organizations who work in this field, researchers and academicians, artists, young leaders involved in climate and environmental actions, legal and policy advocates. Then I thought of potential participants from these areas with whom it would be possible to establish connection to. I start with people I have access to, for reaching out. The first participant I interviewed was a friend of mine whom I know have experience of working in this area. The second participant I reached out to through another mutual friend. I was referred to the third and fourth participant by the first participant but they have a different background than him. So it is a combination of informally exploring the ecosystem, feasibility/convenience, and snowball sampling which played a role in participant recruitment so far. The recruitment is ongoing and I would be relying on snowball sampling mostly for further recruitment. Here are short introduction about the participants interviewed so far-

P1: Worked with the internally displaced population (climate migrants) in Bangladesh.

Collaborated with BRAC and Wateraid in works related to policy advocacy for environmental issues and digitalization. Currently pursuing graduate education as a Commonwealth Scholar at UK.

P2: Community architect, leads a team of designers and architects who are working towards addressing housing related issues in low income settlements in Dhaka, Bangladesh. A large portion of the communities they work with are migrants due to environmental disasters.

P3: Young leader, involved in climate action and ensuring environmental sustainability. Founded a youth led organization which initiated climate awareness, adaptation based projects in twelve countries of the global south including Bangladesh.

P4: Young leader, leads a group of activists who are raising awareness about climate justice. Coming from the coastal region of Bangladesh, he was personally impacted by adverse effects of climate change. Collaborated with different development organizations, BD government, and local stakeholders.

All the interviews were conducted in English using web conferencing tools available to participants like zoom and google meet and they are audio recorded in accordance with participant's permission. The interviews lasted from 60 to 90 minutes.

3.4 Data analysis

For data analysis, I have chosen to use thematic analysis [9,10]. This widely used technique of analyzing qualitative data is very useful for identifying, analyzing, and reporting patterns within data. The process of thematic analysis includes six phases including familiarizing with the data, generating codes, generating initial themes, reviewing themes, defining and naming the themes, then producing the report. Thematic analysis is good for the research questions which are looking at participants' experiences, views, opinions, and concerns. As my research question seeks to understand the perspectives, views and use of digital technology by the participants, thematic analysis can be a good fit for that. For coding and interpreting the data, I have chosen to adopt the general inductive approach. So far, I have read the transcripts produced from the conducted interviews multiple times to make myself familiar with the data. I have started initial coding on the transcripts but haven't constructed concrete themes yet. I would be presenting some highlights from the data which are interesting in this phase of analysis in the next section.

4. Preliminary Findings

I would be presenting some preliminary findings from the current phase of the data analysis in this section. The findings presented here are not concrete themes that emerge from the analysis process rather some highlights from the data that are interesting in this phase.

4.1 Use of social media and web conferencing tools

4.1.1 Social media for communication, organizing, collaboration in real time

The participants informed us that they heavily use social media for coordinating among themselves, also involving communities they are working with. A participant mentioned that how the messenger groups work as their office and how they can communicate, coordinate, and take actions in real time using these tools.

"And we also use social media. You know, so we are much active on the Facebook. So we put all the young people in a Facebook group and we segregated them in different units. Like we created a group which is only for Barisal. So all young people who are interested from Barisal and supporting us in Barisal are there. ... And we selected our coordinators from different units, they also included a central coordination group. So it is all in messenger. So it's our office. So a messenger group is our office. So we have a central unit in messenger, we have a facilitator group in messenger. So all kind of communication and all kind of decision making are occurring in the messenger groups. So we no need more physical office. And it's a very connected platform. And we can solve all concerns in the real time. Like someone gets some climate information from their community, from Rajshahi, he or she could share right now and we can learn right now and can react. So and for these regular communication, so they are getting more motivated. They are getting more inspiration to tackle climate crisis through different activism, strikes, advocacy. And they can learn more and they can share their experiences, their expertise in the groups." (P4)

Another participant was mentioning how they coordinated the tasks they were implementing with the communities during COVID period using communication tools and social media

"And then during the COVID time, it's mostly the communication tools. So all the messengers, Facebook messenger or Imo, Viber -These are the messenger tools we were using. I will tell you about some project that we were doing at the time. So we were constructing houses in Gabtoli, and then we were in a very strict lockdown for two, three months and we were very concerned about how are we going to monitor those works or do anything in the community. We couldn't go there for three months and then we were exchanging images. So the house owner or the builder of the house, they would take image and send it to us. Like, this is the progress of the house by now. And then if we had any suggestion, we would draw and then send them the image. And yeah, this is how we actually done all the work of our construction management team just through messenger communication. Yeah, right. It happened a little bit different than what we would have expected, but then we were very happy that this is a newly learned tool that people were used to using for the work other than the messenger. Now we are using a lot of Facebook groups so that they are also connected. Not only with us, but with themselves as well without visiting each other in the houses. And then now we are using meeting tools like Google Meet and Zoom." (P2)

4.1.2 Using social media as a weapon for activism and coordinating cross-country movements

Participants mentioned how they use social media platforms as a weapon for activism. For

example, P4 mentioned about an incident when they used online campaigns and offline protests parallelly which eventually led to a cross country collaboration movement.

"So we also use Twitter as a weapon. When the government announced ten coal based power plant after announcing planet emergency. So, declaring planet emergency and announcing ten coal based power plant is not right way. So then we looked for who are the investor for the power plant. We found that Japan is investing in the coal based power plant. Especially Matarbari 2 coal based powerpoint at Cox's Bazar. So then we started digital strike amid COVID 19 lockdowns. And we, we have tagged the Japanese prime ministers and different agencies like JICA that they can't fund or invest on fossil fuels especially on coal. And then we imported the cartoon character named Pikachu. Pikachu is a much popular character in Japan. So we worn that and stand up and in front of National Press Club, Then this action went viral in Bangladeshi media as well as in the social media and Twitter, then the Fridays for Future, Japan, they expressed solidarity and they felt ashamed that their government is destroying Bangladesh. So after this action, we build or develop a joint campaign with Fridays for Future. Bangladesh and Fridays for Future, Japan. We started campaigning, webinars. We are making the public opinion. And our colleagues from Japan, they went to the JICA office,... they handed over memorandum to JICA. And after that action, Japan were bound to phase out from Matarbari coal power plant- they stopped the funding. And Bangladesh government also phased out of this project." (P4)

4.1.3 Using different platforms to address different stakeholders

The participants mentioned multiple instances where they intentionally use different platforms for addressing groups of people or stakeholders. They have to maintain and coordinate communication with the people in grassroots, local and international level NGOs and development organizations, government bodies, and academicians for their activism. The choice of platforms also depend on the type of content they want to propagate in a particular instance too. Some instances demonstrating this phenomenon are quoted below.

"I guess for Bangladeshi people it's Facebook that is very much popular. But if we also need to show solidarity, solidarity with the people from the other countries, then the Twitter is the best platform. While we do some tweet and even some representative from the developed countries....they also show the solidarity with us. They also get the information what's going on in Bangladesh. So I want to mention that Twitter is one of the best and strong tool for building the networking and having communication with the people from other countries..... So besides that, for professionalism or for networking and building a network with professional people. Then LinkedIn is the best platform. While we share our activity in our LinkedIn page then it become more easier to spread the news as with the people who are in development field." (P3)

"...in another way networking with the different NGOs, donors we used, you know, Zoom and also WhatsApp, Telegram, Slack. So different apps for different works also. So I have to maintain different apps, different platforms, different types of social media handle." (P4)

".. for the messaging option, The messenger t is not safe, you know. So sometimes we are using the you know, WhatsApp, but whatsapp currently is not, you know, safe or secured for us. So for some critical discussion or in fact sensitive discussion, we also using, you know, Signal and Telegram. So we have to maintain lots of social media and messaging platforms here to communicate" (P4)

4.2 Concerns for facing actions from government

Participants also mentioned concerns for facing actions from the government for their activism in social media. P4 was mentioning his concerns while talking referring to the 'digital security act' [12] in Bangladesh.

"So when I am making a tweet or demanding something, I have to fear- anytime, I can be a prisoned for my post or for my tweet. It's a breach of my freedom is speech and use of internet or social media. So it's not a privilege to raise voice, are making tweets. It's a fundamental rights of all humans being, right? When we raise voice against coal based power plant, so every time we were frightened or fear, any time we can be caught, any time we can be jailed. It's a huge mental pressure. We are brave, so we are optimistic. But when you are under the threat that you can be jailed. So activism is not terrorism, but sometimes some governments are treating young people and activist as the terrorist or opposition parties. So we are not the opposition parties. We are supporting governments, but we want to preserve environment. We want to defend the environment. We want to save the planet. Our agenda is, one, not creating pressure against government, right? So sometimes government treating as the opposition parties. And but we are not opposition. We on behalf of the people, we are for the environment." (P4)

4.3 Who is shaping what actions are taken: Influence in climate advocacy

The participants expressed some critical opinions about the climate action ecosystem in Bangladesh. In their opinion, working in this area has become very attractive due to the involvement and interest of big development organizations, international NGOs and donors which pushes the agenda in a top to bottom manner. This raises questions about the actual impact on the life of people who are affected. Some instances regarding this notion from the data are quoted below.

"Yeah. Honestly, yes this climate thing is a big thing now, and obviously in Bangladesh, it's, it's like a big thing,, what I have seen that when I worked these NGOs but I am also critical with their work. So, my position is that, like many of the works in this climate field or climate justice field actually like controlled or like, what do I say, like manipulated, I'm not sure if it's a right word or not, but they are like influenced by the donors where the funds coming from. Like, for example, now I can see when I'm in the UK and I worked with FCDO for another project, basically not climate related one, but I see that FCDO, which is a UK, UK's foreign aid organization, they fund, organizations such as Wateraid or BRAC, or like, I don't know, UNICEF has also received funding from those organizations. So FCDO has a mandate of climate action

and, you know, it works top to bottom. So when they decide that, you need to work with climate change, you will have to work with climate and you cannot leave it. Like, for example, I'm a Commonwealth scholar, and I'm working with climate change also. You cannot say that my decision is completely my decision. It is, it has been influenced by many of the factors like the, the, the ecosystem, like the donors, the, or the jobs or the industry, other things. So, you know, what it is like becoming, a big thing, but I'm not sure that whether it's a real big thing, because I saw many people who work with climate activism, I know some of the people who work as climate activist in Bangladesh, and I can also connect with you if you want, but they, do often they do things that they need to do it, but I, I'm not sure that how this impact has been being measured, or like, yeah. So like how much influential is this." (P1)

"Yeah, I've been working a little more than 10 years now. And I think people are way more aware of environment and environmental problems, environmental justice, these things. People are way more aware now and from very top of the decision makers to very bottom grassroot people. Everyone is pretty aware, though it's not equal in all parts of Bangladesh. So in in the bigger cities you go even to the slum areas or low income areas. They are also aware of this.It's because the development sector, which we have, which is comprised of a lot of NGOs, they are working in different sectors- for livelihood, for health, for education, and they are bringing in the element of climate justice in their activities. I think right now all the projects that are happening in Bangladesh, I just hear climate, climate, climate and this is good in a way that people are aware. But this is also right now, got a little bit confusing because now it has become a little bit like a buzz word as well that you can use it. In some cases, the development organizations or development industry do whatever they were doing before, but then they are like climate washing their narrative and their proposal and that's how they're working." (P2)

"But if I say, to be frank, like I'm not sure whether this happened with our organization or not. Not that maybe, not that perfectly. But I guess it's happening with other organizations-sometimes the developed organizations, they want to tokenize the young people. They will give the youth led organization. Maybe they cannot do this with us, because maybe now it is a number of people know us very well. So they can't do it with us, but sometimes with the local organizations who are working in very root level. So sometimes they just want to use the local people or the local youth for their own benefit. Maybe they need to have any project related to climate- so they need to show the donors that they have youth engagement there. Thats why they try to organize and they try to engage the young people from local community. But I really believe that, while they have to work with the local people. They also need to develop their own that capacity as well." (P3)

These instances and discussions may not be related directly to the use or views on technology, but it is important to take these into account while the same actors push for digitalization and use of technology in combating environmental injustice in an uncritical way.

4.4 Root causes

In the conversation with the participants, the reference of some of the root causes associated with the current world system for the current environmental crisis was brought up by the

participants again and again. For example is the following quote from P4.

"And we have to focus on the root cause. Of the climate crisis. The root cause is capitalism. Root cause is colonialism. Root cause is domination. Carbon emission is not the root cause. Carbon emission is the symptom."

5. Discussions

Though I have not analyzed the data in full scale, based on the preliminary findings that I have presented here, points towards a few interesting things. Practitioners working in the field of environmental justice in Bangladesh have to coordinate with a number of stakeholders including local community, national and international NGOs, development organizations and state actors. Digital technology has helped them to navigate, and coordinate with these actors, at the same time, they have to adopt certain strategies like using particular platforms for discussing sensitive topics among others. Participants also expressed concerns about being victims of governmental actions like the 'digital security act' in Bangladesh for carrying out environmental activism on the internet. The point related to the influence of big players in influencing the narrative and directing towards certain actions is an interesting highlight which needs to be investigated further. Finally, the root causes of the environmental crisis mentioned by the participants like global capitalism, colonialism reinforces the importance of strengthening our efforts towards changing the way of life fundamentally to meaningfully address environmental injustice. Emphasis on this notion was also highlighted in the literature as the vision of sustainable HCI [3]. Incorporating a critical approach for engaging in this subject matter can contribute to a more powerful impact which I discussed in section three. I aim to continue this work to that direction.

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Appendix

The interview guide:

I am a researcher, studying the relationship between technology and society. I am particularly interested in talking to you because of your work/activism which relates to environmental justice in many ways. I would like to learn more about your work and perspectives towards digital technology in this interview.

Introduction and background

- 1. I know you are involved in [activism / research / organizing / volunteering] for [their organization / initiative or what they are known for] and working towards addressing environmental justice / climate justice in Bangladesh for [how many] years. Can you tell me a little more about how your background and experiences led you to the work you do today?
- 2. What are some of your work/activism that you personally relate to addressing environmental justice?
 - Do you use the term 'environmental justice'? Do you prefer any other term to describe the focus of your work? (If the interviewee prefers any other term, I would continue with that)
- 3. Can you share when and how you first started thinking about environmental justice related issues?
 - a. How did you decide to start taking actions to address environmental justice? Was there any key moment / moments that you remember or want to share?
- 4. Has your understanding on this issue gone through any changes over time? If yes, can you tell me about those changes?
- 5. Who are the key stakeholders in your work?

Technological tools that they use

- 6. For your work/activism, what are some of the technological tools that you use? Such as devices, softwares, platforms etc.
 - a. Can you describe what is the role of each of these tools in your work/activism?
 - b. How did you choose these?
- 7. So you mentioned [some tools] you use for communication with your stakeholders.
 - a. Do you need to use different tools/platforms to communicate with different stakeholders? [If yes] Why is that?
 - b. What works well and what not? Do you wish something to be different in how you communicate with these tools?
- 8. So you mentioned [some tools] you use for designing flyers/ posters / reports / artworks / presentations.
 - a. Do you need to use these tools collaboratively with others? How do you do that?
 - b. What works well and what not? Do you wish something to be different in how you design/create these materials?
- So you mentioned [some tools] you use for documenting / storing your works.
 - a. Do you need to use these tools collaboratively with others? How do you do that?
 - b. What works well and what not? Do you wish something to be different in how you document your works?
- 10. So you mentioned using [some platforms] social media platforms.
 - a. Why and how did you start using these platforms for your work?

- b. Do you need to use different platforms for addressing different groups of people? [If yes] Why is that?
- c. What works well and what not? Do you wish something to be different about these platforms?
- 11. Do you connect, communicate or collaborate with people or organizations out of Bangladesh for your work/activism?
 - a. How did you get connected to them?
 - b. Are there any specific tools / platforms that specifically helped you to connect and collaborate with entities outside Bangladesh?
 - c. What works well and what not? Do you wish something to be different in how you connect/collaborate with entities outside Bangladesh?
- 12. Some of the issues that you address through your work (like climate change) are connected to the global scenario which is beyond Bangladesh. Do you need to consider that while you work?
 - a. Do you think digital technology provides you with enough support to have global impact through your work?
 - b. Is there anything that you wish to be different?
- 13. Do you have interest in some of the emerging technologies like artificial intelligence, virtual and augmented reality technologies, 3D printing or anything else?
 - a. Are you hopeful or concerned about any of the emerging technologies? Can you describe why?
- 14. What kind of role and say do you think the people of Bangladesh have in the process of design of technology?
 - a. Does that have any role in addressing the environmental justice issues for them? How so?
 - b. What do you wish to be different?

Challenges, strategies, hopes

- 15. What are the challenges that you think are unique to Bangladesh for addressing environmental justice issues?
- 16. How do you understand technology, its design and consumption in general to be related to these challenges?
- 17. Bangladesh is one of the most vulnerable countries for climate change for which it is not responsible. What should technologies that support justice look like in this context?
- 18. What are the strategies you think should be prioritized according to you to address the issues that you talked about?
- 19. What do you see as the role of policy in bringing about or preventing change?
 - a. Policy change in global level vs in national level which do you think is more important?
- 20. How do you see the role of technology in bringing about or preventing change?

Closing

- 21. What is your highest hope for ensuring environmental justice for the people of Bangladesh?
- 22. Is there anything else that you would like to share with us that we didn't ask about?
- 23. Okay! Thank you so much for making time for this interview.