



From Anxiety to Hope:

Building Emancipatory Climate
Futures Literacy in Young People

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EXECUTIVE SUMMARY

We think about the Future all the time, yet we don't think of the Future enough. For young people, thinking about the Future, as we have seen from the ground, generates a lot of anxiety. The Future exists only in imagination. While some trends may be used to predict the Future, we know from events such as the pandemic and exacerbating climate crisis that we will never be able to determine the Future accurately. This is the starting point of Futures Literacy - The fact that the Future is uncertain, not predetermined, and everybody can imagine the Future. Futures Literacy enhances this capacity to imagine. Further, Instead of looking at the Future from the present, it asks us to consider the Future and shape the present to build the Future we want.

Our key argument in the report is that when safe, creative, critical spaces are created for young people – they can move from anxiety about the Future to consider the Future more intentionally and feel more confident to respond to risk and uncertainty. And, additionally, derive pathways to act based on the identified preferred Futures. Futures Literacy is thus a capability that allows us to determine our desired Futures. It then asks - is it the Future we truly want, or is it drawn from social norms, state or media-led narratives? It gives tools to question your desired Futures and asks if it is a true choice, thus opening up alternatives that do not borrow from dominant paradigms. Through the process, it invites us to identify true desired Futures. Finally, it asks us to 'use' the Future in the present to create the preferred Futures.

While Futures Literacy is identified as a critical skill for the 21st century by UNESCO, in India, Futures Literacy initiatives are nascent and need to be more present. This research report outlines the process of building Futures Literacy with over 500 youth in 36 districts of Odisha, Assam, and Gujarat in India. While climate change was a critical variable considered to build emancipatory climate Futures Literacy, it is vital to note that the process may be used for interventions with differing aims, including gender interventions, health-based interventions, and even with stakeholders who work with youth. This research report is aimed at educators, leaders, organizations, and government representatives who work with young people on varied issues and can use this process to open up alternative imaginations.

In this report, we foregrounded climate and utilized Futures Literacy for young people to consider climate Futures in the Futures they imagined, which we call Climate Futures Literacy workshops. Climate Futures Literacy brings together the central ideas of Futures Literacy and contextualizes them through a climate lens for learners. In the Indian context, from what seems like an impossibility and a hopeless scenario against the climate crisis it builds avenues of hope that can propel action, bringing back agency.

The climate Futures Literacy workshops that we conducted were done in open creative spaces, prioritizing the following skills and dispositions:

Imagination:

While imagination is innate to the human condition, accessing one's imagination is a skill. One can get better at it, provided constraints and connections "imposed by the real world" are removed. Further, by being curious about our envisioned Futures and identifying assumptions of inhibiting internal stories we tell ourselves to be true, it is possible to open up our imaginations further and identify a preferred future that is not borrowed from social norms or past experiences.

Being curious about the future:

This is identified as a disposition where students can move beyond their immediate present concerns, consider a future, and identify ways to evaluate actions in the present to create the future they desire.

Reflexivity:

While closely linked to critical thinking, reflexivity speaks more to the critical reflection around whether the future that one desires is truly one's own and assesses if it is informed by dominant narratives or what is considered a given.

Critical Thinking:

The conception of critical thinking highlights varied, complex, and distant social relations that young people will have to factor in to make sense of climate crises in relation to their own Futures.

It enabled us to tell students to "consider issues from multiple and sometimes contradictory perspectives, to consider how power structures, including class, race, and gender inequalities, shape social realities, and to assess how proposed solutions to social issues can differentially harm or advantage different social groups."

Cognitive Flexibility:

This is the ability to appropriately adapt our thinking processes and behaviour to face new and unexpected conditions in the environment. This includes the ability to both address and interpret the new situation and restructure our thinking in order to adapt our behavioural strategies accordingly (Life Skills Collaborative Glossary, 2021).

Empathy and Interconnectedness:

Empathy and interconnectedness are the abilities to connect to others' experiences and make room for others in the Futures that one creates.

These skills are not viewed in silos but as mutually interdependent and connected. The understanding is that critical thinking will require reflexivity, curiosity about the Future will require creative thinking and imagination, and so on. While Futures Literacy requires these vital skills, it is essential to note that having these skills does not presuppose being Futures literate. There are different orientations of the Future that one may have. Some of these may be that you have no agency over the Future, that the Future is just a continuation of the present, or that the past determines it, as we have shown through examples from learners we engaged with during the duration of the research. The central feature of being Futures literate is first to enable one to think about the Future more with more agency and through the process, build hope. The second is to break through given or borrowed imaginations determined by one's structure and social position or imagination borrowed from state or media-driven narratives. Thus through creative processes Futures Literacy enable opening up alternate imaginations to arrive at true desired Futures. The below process enables this while foregrounding the the above mentioned skills.

A Snapshot of Our Research Process

▶ Introduction to Futures:

Personal Futuring - Here, students were asked what they imagined their Futures to be at a future date. This allowed them to break through their resistance to considering Futures in the present.

▶ Community Futuring - Here, students were asked what they imagined the Futures of their villages, districts, and communities to be, at a future date.

▶ Back to the Present:

Here, students were brought back to speak to the present challenges they faced so as to articulate felt injustices.

▶ Opening the Future:

Scenarios and nudges - Here, exaggerations of challenges presented by students were provided, or dystopian or utopian scenarios were built to open up their imaginations.

▶ Staying in the Future:

Even when some of these scenarios brought in discomfort and dismissiveness, students were encouraged to stay with the discomfort so as to move on to the next stage.

▶ Moving towards agency and preferred Futures:

This was the final step of the process, where students were encouraged to move beyond a fatalistic point of view towards adaptation strategies and systemic solutions to identified challenges.

Some of the key principles through the process that enables opening up and alternative imaginations are:

Creating a dialogical space that prioritises the following:

- ▶ Openness - where the group feels safe to articulate experiences and express diverse points of view for young people.
- ▶ Have a diverse group of people where multiple perspectives and collective sharing is prioritised.

Articulation of injustice is important:

Acknowledging injustices and knowing that the world is unfair is always the first stage of opening up possibilities for the future (Inayatullah, 1998). When we discussed personal futuring and community futuring and asked about their challenges, it provided students with a space for articulation for felt injustice. Once this space was made available, they had the emotional and cognitive space to think about other imaginations.

The personal and community futuring exercises began with challenges that they faced, giving them room to articulate injustices. E.g., It was not uncommon for girls to break down during the discussions - In Kokrajhar, Assam, a young girl cried while speaking of how it was not possible for her to take a course in computers. In Silchar and Majuli, Assam, students were concerned about unemployment and considered corruption to be one of the reasons why they could not get jobs easily. The provision of this space allowed them to process some of their deeply felt anger.

Introducing anxiety towards building constructive hope:

By introducing expert voices and introducing dystopian imaginations as a method - it allowed students to consider climate Futures. While students display optimism about their Futures even in the face of climate change which we identify as hope based on denial and unrealistic optimism leading to inaction (Ojala, 2015). On many occasions, faith in scientists and institutions only meant that they did not see how they could build more pathways of action. As Ojala further notes, "to face the negative is the beginning of constructive hope" (Ojala, 2015). When students stayed with the anxiety as they speculated on the expert voice narrative, we were able to shift their thinking to a place of constructive hope.

Making alternative perspectives visible by challenging deep stories and assumptions held as true:

This can be done by actioning the following:

- ▶ Presenting information that challenges the current understanding and shifts emotional stories and assumptions that keep only borrowed or what we have identified as used e's future imagination in place.
- ▶ The information may be introduced by the facilitator
- ▶ New information is presented by other students in the group
- ▶ This process must then foreground key skills such as imagination, critical thinking, empathy and interconnectedness, and cognitive flexibility.

Making constructive hope possible:

We identify the emergence of alternative stories as hope that leads to pathways for action. Through the workshops, students shifted their perspective from saying that scientists will figure technological solutions or that other people need to change behaviors — to

- ▶ Critically thinking through some of the proposed solutions;
- ▶ Look at how critical stakeholders like governments and communities held key responsibilities
- ▶ Look at themselves as actors with agency

Being Futures literate allows one to expand one's imagination where one is better able to use the future to determine one's actions to make the future a reality. The process itself may be contextualized to learners and remains flexible to be used for any outcome-based intervention. In an increasingly uncertain world that the youth will occupy, it gives them the skills to navigate this world confidently and feel more agentic and hopeful about their Futures. Through this research report, we bring a climate-focused Futures Literacy - one of the firsts in the country and invite collaborators to build Futures Literacy - a critical 21st-century skill so the challenges of the future do not deter the youth from imagining a new world for themselves and their communities.

A PROVOCATION: WHAT WILL THE FUTURE BE LIKE?

Barpeta, Assam

**Scenario:
Rising water
levels and
floods**



Assam may submerge; it might probably turn into a river. A heart-sinking premonition shared by many of us. Should it become our reality, we will have no choice but to migrate. I can foresee the actions that people will take in the throes of desperation—photographs of raging floods will be uploaded online, and people will make money selling these stories of our woes and painful realities. Given how precarious the situation is, perhaps Elon Musk's efforts to find us homes on planets afar might just come true!

But those with limited financial resources will continue to struggle. By way of migration, they will need to look for homes at higher elevations. When entire villages move, conflict rises too. With fewer resources and limited access, conflict is inevitable. Migration will become commonplace, with migration advisors guiding people on where to go.

To maintain peace, we will need leaders who can inspire and motivate—someone like Gandhi.

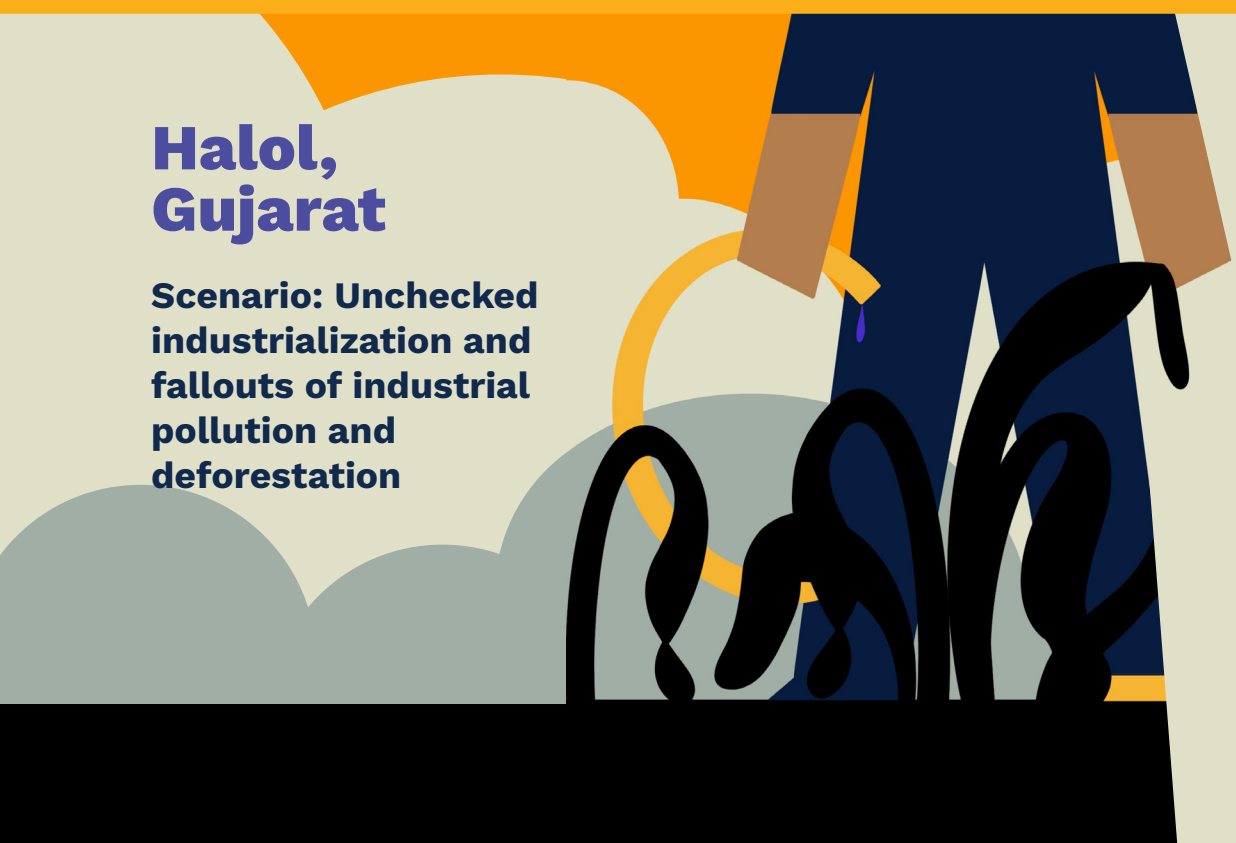
Talcher, Odisha

Scenario: Effects of Coal Mining

I can picture the enveloping white smog. It will affect visibility to a great degree. As the water would be contaminated, we'd face water woes too. Access to drinking water will be affected.

While picturing this scenario is scary, I am strangely hopeful too. Hopeful, because even if coal production were to increase in the next 10-20-30 years, there will come a point (possibly 30 years from now) when the supply of coal will be exhausted, and we can then aspire for a good life from that moment on.

Another possibility is that the local residents will move out of Talcher. While immigrants from outside of town may continue to stay here, they'll stick around temporarily to earn more money. Once they've accrued the profits, they'll be out of here too. Leaving all of this to mining corporations, and subsequently they will exit too, wiping Talcher off the map entirely.



Halol, Gujarat

Scenario: Unchecked industrialization and fallouts of industrial pollution and deforestation

Our village today is surrounded by lush, green trees. But industries will rapidly expand, and our land will be appropriated, leaving no room for more trees.

In twenty or so years, industrial air pollution will increase. The Goma River, which provides for our water needs, will become contaminated by the chemical waste that industries will discharge into it, endangering the lives of those who will consume this water. And pollution levels are only expected to rise, unchecked by the government.

The government may choose to shirk its responsibility, but in the absence of the people, they'll be left wanting for their vote bank.

While we need employment and development in the form of industries, keeping a check on pollution is just as critical.

THE BIG QUESTION

How do students imagine their Futures with respect to the climate crisis?

This question took us to three Indian states, where we spoke to the youth to understand how they imagined their Futures. We engaged with young people across the states of Assam, Gujarat, and Odisha, engaging with over 500 of them in 36 districts. We supplemented this effort with community immersions and educator interviews.

In a nutshell,

States Covered: Assam, Gujarat, Odisha

Regional Spread: 36 districts

Total Outreach: 500 youth in the age group of 14 to 29 years

Research Methodology:

- Focus Group Discussions with Students
- Community Immersions
- Educator Interviews
- Expert Interviews

1.1

A Variable Hidden in Plain Sight: How our Approach Evolved

We began our research by understanding what informs the aspirations of the youth, with a specific focus on what they expected their careers to be like. We endeavoured to inquire about the factors that influenced students' aspirations for themselves and how they informed their ideas about their future selves.

While we got started with a research design that focused on questions around the social production of aspirations (Hujismans et al., 2021) and factors informing careers, we realised rather early that the climate crisis was a lived reality for many students. It was an inalienable part of their daily lives. We were quick to acknowledge that the climate crisis was a potential variable that would affect their Futures and, in turn, their aspirations.

The young people we worked with already led precarious lives with intersectional vulnerabilities of caste, class, and gender. In the face of issues around relevant employment opportunities, students found themselves anxious about their Futures in terms of unemployment, distressed migration, uneven development, and financial insecurity.

Climate change tends to aggravate their situation further, beyond their pre-existing vulnerabilities and limitations.

A girl student from Nuapada had to endure quite the struggle to convince her parents to get her to enrol in an Industrial Training Institute (ITI) course. Apart from gender, an additional layer of vulnerability was the caste that she hailed from. She worked for a year to earn INR 3,000 to get to the ITI of her choice and register for the course. Her parents and community members kept trying to dissuade her from studying further, citing that she was of marriageable age. She didn't back down, stood her ground, and enrolled to train as a Fitter.

Her challenges did not end there, though. Earlier, a hand pump close to her house adequately catered to her family's water needs. But as the pump dried up and lay defunct, villagers needed to source water from a considerable distance. The logistics of having to fetch water for her family are now taking up the time that should ideally be spent on her studies. Punishing heat notwithstanding, the girl must walk the distance multiple times a day to support the family. She also has the responsibility of other household chores, meaning that her personal priorities, including her education, get deprioritized.

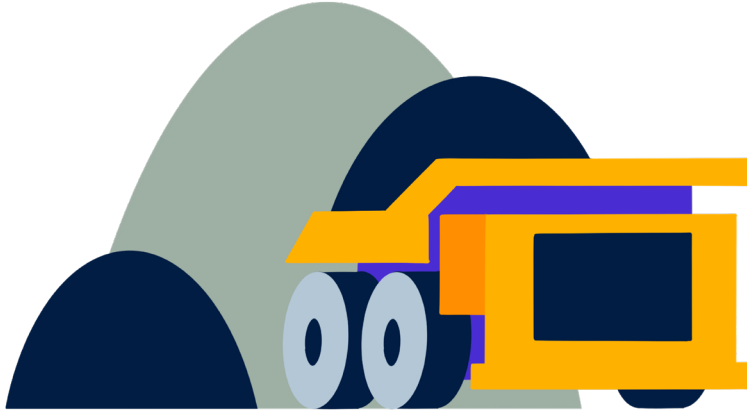
As scarce rains and drought-like conditions persist in her village, she continues to feel deeply uncertain about what the future holds for her.

Our research approach was further enhanced during our visit to Telangana as part of another project. We met with girl students in Grade 9 from a village near Hyderabad. They eloquently spoke about their aspirations to become a cardiologist, a doctor and a software engineer respectively. With support from their parents, they were passionate about realising their dreams and opting for these careers in the future. Some of them have begun researching online (on platforms like YouTube) about the best way forward to accomplishing their goals. This intrigued us, and we set out to understand the various factors that informed students' aspirations and inspired and enabled them in pursuit of their ambitions.

We broadly defined aspirations as an **orientation towards a desired future (Hujismans et al., 2021)**. This led us to create a research design that allowed us to make sense of the aspirations students held for themselves and their communities. With this research design in place, we visited Assam. Our rationale for choosing Assam stood in stark contrast to Telangana. While Telangana was a predominantly industrialised state (being an IT hub), we chose a state that was much less industrialised. Hence, Assam.

The state is largely agricultural, and what came to the fore were:

- ▶ Concerns around unemployment.
- ▶ Pleas for development and industries.
- ▶ Climate crises effects that include flooding, soil erosion, and an increase in temperatures.



Seeing students grapple with the effects of the climate crisis as part of their daily lives compelled us to change our research design. Having factored in conversations around climate change as an additional variable in the study, we zeroed in on three states with medium to high vulnerability to climate change.

After Assam, the next state we chose was selected based on the dual considerations of levels of industrialisation and climate vulnerability—Gujarat. Students in Gujarat were able to articulate the effects that industries had on the environment and their communities alike. The third and final state to make our research shortlist was Odisha. It is a predominantly agricultural and mining state where the youth experienced uncertainties caused by cyclones, floods, and droughts, even as their mining districts were making headlines for record-high temperatures.

Students in all three states suffered from anxiety brought on by a variety of problems. Across state lines, their on-the-ground issues may not be perceived as similar. But in essence, the larger developmental issues, which range from land grabs by corporations to displacement caused by dams to climate-induced migration to gender discrimination, resonate with these young people at different levels.

With rapid industrialisation, advances in technology, and a changing political climate, the youth of today have inherited a somewhat volatile world. The climate crisis being added to the mix only intensifies these uncertainties, directly impacting their education prospects, triggering distress migration, and affecting their aspirations. While they may be aware of it, at the outset, most students were not able to highlight the climate crisis as a systemic issue that was intrinsic to their lives and choices. Labelling it as “an act of God” or “a natural occurrence”, not everyone was able to integrate or foresee the impact of the climate crisis in the Futures they imagined for themselves.

1.2

Holding a Mirror: Acknowledging the Impact of the Climate Crises in One's Future Narratives

With a view to introducing the climate crisis as a pivotal variable affecting diverse future scenarios, we employed climate Futures Literacy workshops. This was a pedagogical tool to aid students in imagining a desirable, achievable future:

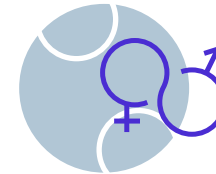
- ▶ We started off by urging them to think about the Futures they want for themselves and their communities
- ▶ We introduced fictional climate crises scenarios that enabled the students to acknowledge the discomfort they experienced within the narrative
- ▶ We then got them to identify how they would move from helplessness, denial, or dismissal—to agency and hope for action.

With this report, we have documented the process of these contextualised climate Futures Literacy workshops, the research outcomes therein, and their subsequent findings.

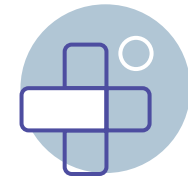
While we have foregrounded climate-focused Futures Literacy, it is important to note that the process of Futures Literacy itself can be used in multiple contexts:



▶ Aspiration-centric work



▶ Gender and caste interventions



▶ Health-based interventions among others

Futures Literacy, in this context, is a process that enables and expands our imaginations of the future. It aids in opening up possibilities for alternative Futures by challenging the assumptions that inform our ideas of our Futures. It allows us to question internalised narratives, which may not always serve us well. The students viewed this process as insightful. It helped them articulate some of their concerns that they may otherwise not have reflected on within the confines of their conventional learning institutions.

UNPACKING FUTURES LITERACY WITH CLIMATE AT ITS CORE

“

What is the most that could happen in my future? I will have a new name, a new identity.”

— A young girl student from Junagarh, Gujarat (possibly alluding to marriage being the next milestone in her life)

She's not alone in thinking this way. For many young people across the states who we engaged with, marriage or finding a decently paying job was the inevitable progression. For others, the future was just an extension of the present.

The older the students were, the more likely they were to lose access to ‘imagination’—one that could conjure up creative, innovative worlds and ways of living. Similarly, the greater their marginalisation, the greater the likelihood that they thought in terms of “survival” and “finding a job”.

Keeping this in mind, it is imperative to underscore the need for structural changes with respect to better economic opportunities and better living conditions. But there is an imminent need to couple that with getting young students to imagine and harness newer, more empowering possibilities for their Futures—to unbridle the chains of the past and imbue them with a spirit of freedom in thought.

2.1 What is Futures Literacy?

While 'Future' is thought of as an event set within a period at a later point in time, critical and speculative Futures scholars speak of how it needs to be seen as:

- ▶ An array of possibilities
- ▶ A disposable construct - therefore allowing it to be made and remade continually. When seen this way, we are not attached to only one future and bound by its outcomes alone but can respond to creating multiple Futures. Especially when working with young people, this is crucial so we don't get fixated on the future alone but can be flexible and resilient when someone's preferred future does not come to fruition. Such thinking then allows for resilience, flexibility, and a pathway for hope.
- ▶ An intervention in the present to realise the imagined preferred future.

UNESCO defines Futures Literacy as "a capability that allows people to better understand the role of the future in what they see and do. Being Futures literate empowers the imagination, enhances our ability to prepare, recover, and invent as changes occur". By calling it 'literacy', it positions it as a critical capability that youth must possess in this day and age. Futures Literacy does not look at the concept of the future through a 'temporal' lens but sees it as a 'space of possibility'—where anything may occur. Uncertainty then holds opportunity and no longer needs to be an unknown phenomenon to be afraid of.

Futures Literacy: A Snapshot

Futures Literacy equips us to take a step back and reflect on the following:

- ▶ It acknowledges the future as uncertain and therefore opens up possibilities and rescues it from 'given narratives' of what it would look like. These given narratives may be defined by social norms, the state, or the media. E.g., Girls must always be assigned household chores (drawing from patriarchal social norms) or climate change can only be solved by reducing consumption-based behaviours.
- ▶ It asks us to consider what our assumptions may be when we think of the future. In doing so, we are able to recognise them, and are able to shift, change, or revisit our assumptions so as to create new Futures.
- ▶ It enables us to build multiple alternate preferred Futures.
- ▶ It speaks to how one can realise this preferred future by taking action in the present.

Delving further into these conceptual frameworks, futurists have identified four classes of Futures¹ -

Possible Futures:

This includes all the combinations of Futures that are possible, however far-fetched they may seem in the present. This could include options that do not necessarily follow from our current knowledge or understanding of the world.



Plausible Futures:

This class of Futures covers the Futures that could happen and that do not necessarily fall outside of our current knowledge.



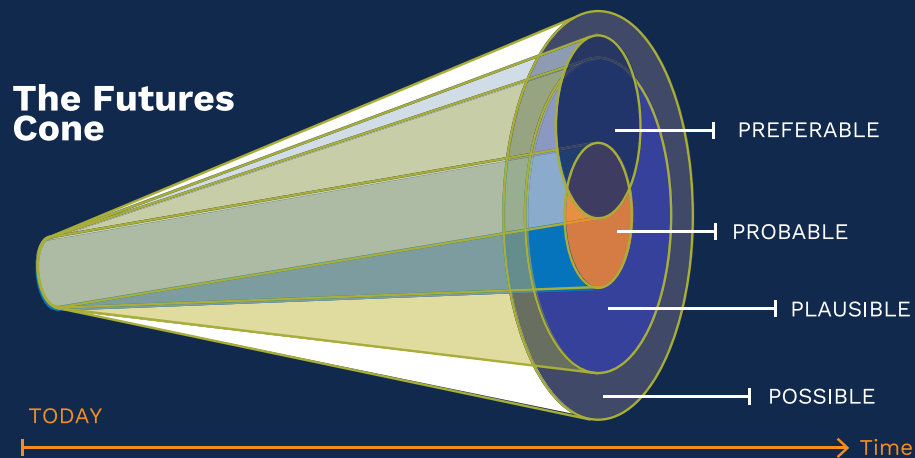
Probable Futures:

This comprises Futures that are most likely to happen based on our past experiences.



Preferable Futures:

Preferable future: These are the Futures that we want, are largely subjective in nature, and may fall under any class of Futures.



The central idea of Futures Literacy is to open up Futures beyond what we think is probable for ourselves to be true in the current context. This is done by identifying a preferable future that does not essentially draw from our current knowledge and circumstances. Thus allowing us to choose a different future for ourselves.

1. <https://thevoroscope.com/publications/foresight-primer/>

2.2

Climate Futures Literacy in the Context of our Research

Climate Futures Literacy brings together the central ideas of Futures Literacy and contextualises them for learners through a climate lens. In the Indian context, from what seems like an impossibility and a hopeless scenario against the climate crisis, it builds avenues of hope that can propel action, bringing back agency. We borrow from Emirbayer (1998) to posit agency as “the ability to imagine alternate Futures and further to see avenues of hope in what is possible.”

The climate future literacy workshops that we conducted were done in open creative spaces, prioritising the following skills and dispositions:

Imagination:

While imagination is innate to the human condition, accessing one’s imagination is a skill. One can get better at it, provided constraints and connections “imposed by the real world” are removed (Kind, 2022). Further, by being curious about our envisioned Futures and identifying assumptions of inhibiting internal stories we tell ourselves to be true, it is possible to further open up imaginations and identify a preferred future that is not borrowed from social norms or past experience.

Being curious about the future:

This is identified as a disposition where students would be able to move beyond their immediate present concerns, consider a future, and identify ways to evaluate actions in the present to create the future that they desire.

Critical Thinking:

Borrowing from Lim (2015, cited in Oberman & Sainz, 2021), this conception of critical thinking highlights varied, complex, and distant social relations that young people will have to factor in to make sense of climate crises in relation to their own Futures.

It enabled us to tell students to “consider issues from multiple and sometimes contradictory perspectives, to consider how power structures, including class, race, and gender inequalities, shape social realities, and to assess how proposed solutions to social issues can differentially harm or advantage different social groups.”

Reflexivity:

While closely linked to critical thinking, reflexivity speaks more to the critical reflection around whether the future that one desires is truly one’s own and assesses if it is informed by dominant narratives or what is considered a given.

Cognitive Flexibility:

This is the ability to appropriately adapt our thinking processes and behaviour to face new and unexpected conditions in the environment. This includes the ability to both address and interpret the new situation and restructure our thinking in order to adapt our behavioural strategies accordingly (Life Skills Collaborative Glossary, 2021).

Empathy and Interconnectedness:

Empathy and interconnectedness are the abilities to connect to others' experiences and make room for others in the Futures that one creates.

These skills are not looked at in silos but as mutually interdependent and connected. The understanding is that critical thinking will require reflexivity; being curious about the future will require creative thinking and imagination; and so on. While Futures Literacy requires these key skills, it is important to note that having these skills does not presuppose being Futures literate.

Being Futures literate involves:

- ▶ Considering and identifying the future one wants.
- ▶ Analyzing if they are borrowed from dominant or borrowed imaginations.
- ▶ Shifting assumptions that keep borrowed/ dominant imaginations in place and reimagining multiple alternate preferred Futures
- ▶ Taking action to make those Futures a reality in the present.

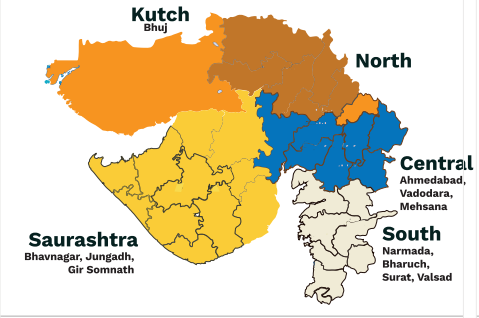
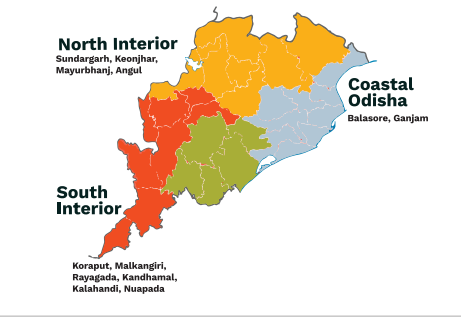
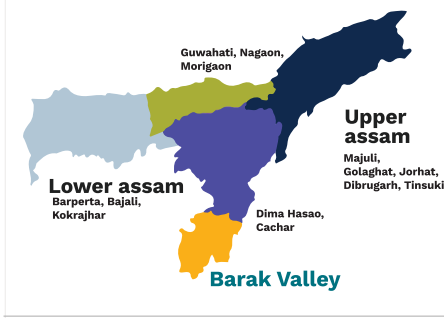
Through this process, however, employment of these skills and dispositions: being open to the future, imagination, critical thinking, reflexivity, cognitive flexibility and empathy, and interconnectedness is crucial.

Chapter 3:

RESEARCH METHODOLOGY

The geographic scope of this research covers medium-to-high climate vulnerable states as identified and categorised by the Council on Energy, Environment, and Water (CEEW) as part of their work on India's Climate Change Vulnerability Index (2021).

A snapshot of the research sample:

GUJARAT	ODISHA	ASSAM
		
<p>Climate vulnerability index: 0.280 RANK 16</p>	<p>Climate vulnerability index: 0.368 RANK 10</p>	<p>Climate vulnerability index: 0.616 RANK 1</p>
<p>Districts covered: 11 Kutch, Bhavnagar, Junagadh, Gir Somnath, Ahmedabad, Vadodara, Mehsana, Narmada, Bharuch, Surat, Valsad</p>	<p>Districts covered: 12 Sundargarh, Keonjhar, Mayurbhanj, Angul, Koraput, Malkangiri, Rayagada, Kandhamal, Kalahandi, Nuapada, Balasore, Ganjam</p>	<p>Districts covered: 13 Barpeta, Bajali, Kokrajhar, Guwahati, Nagaon, Morigaon, Dima Hasao, Cachar, Majuli, Golaghat, Jorhat, Dibrugarh, Tinsukia</p>
<p>Communities: Vasava, adivasi, Kachchi, Dalits, Muslims, OBCs, UC</p>	<p>Communities: Santhal, Adivasi, Dalits, Kondhs, OBCs, Upper castes</p>	<p>Communities: Assamese, Bodo, Dimasa, Missing, Bengali muslims, Dalits, tea tribes</p>
<p>Climate crisis effects: Gujarat's maximum temperature is increasing exponentially. Saurashtra region is the most exposed to droughts and cyclone events. Kachch, central and south gujarat and lower Saurashtra are more prone to floods.</p>	<p>Climate crisis effects: Odisha is India's cyclone capital. Odisha's coast is exposed to extreme and compounded flood events. South interior zones are prone to droughts. The coastal Odisha is highly exposed to cyclonic events. Cyclone hotspots also will face droughts.</p>	<p>Climate crisis effects: Assam is India's flood capital. Tinsukia and lower assam are prone to floods. Barpeta Cachar and Morigaon are drought hotspots.</p>

A qualitative approach was taken largely using focus group discussions with students from the age group of 14 to 29 years. This was supplemented by teacher interviews and community immersions. Apart from this, interviews with four experts were also conducted:

- ▶ Sohail Inayatullah, UNESCO Chair in Future Studies
- ▶ Nicolas Balcom Raleigh, PhD Scholar at Finland Futures Research Centre
- ▶ Kwamou Eva Feukeu, Anticipation Specialist and Futures Researcher
- ▶ Adam Sharpe, UNICEF Youth Participation Specialist

The focus group discussions were iterated and revised through the research to take the form of what this report identifies as **Climate Futures Workshops**. Here we foregrounded the dialogue, which was facilitated by a teacher or facilitator. Each session comprised a diverse mix of students who were engaged as part of a format largely resembling a focus group discussion (FGD). Diversity was key because students brought their own experiences to these conversations and could challenge each other's world views based on their lived realities and perspectives. This further enabled them to question their own assumptions as well. When relevant, the facilitator supplemented these sessions with examples shared by students in other districts or marginalisations. This was to provide students with a wider set of circumstances to question their assumptions and unlock more diverse, critical, and reflective perspectives from them.

To further enable creativity, we used the scenarios method. We introduced utopian and dystopian scenarios to help them envision Futures by making them overlook or remove real-world constraints - thereby laying the groundwork for them to be more imaginative.

Thinking through utopias and dystopias can enable individuals to disrupt the status quo. It is “an analytical and political method”, and it involves “the construction or constitution of society as it is, as it might be, as it might not be, and as it might be hoped for or feared.” (Levitas, cited in Morell 2012) To get them to work on these scenarios, we used nudges.

Explained:

Q. What is a nudge?

It is essentially a problem statement constructed as a “what if” statement or a “did you know” question that aims to challenge existing assumptions and mental models.

Nudges in Action - To understand how nudges were utilised as part of our workshops, here are some examples:

Khadsaliya, Bhavnagar, Gujarat

Here, students were introduced to new information, which included statements like:

“According to reports from NASA, Bhavnagar would be submerged 2,100 feet underwater by the year 2100.”

“Coal production in the Angul district in Orissa is likely to peak in the next 10 years and then sink post 2040.”

In places like Barpeta, Assam, where constant floods are already a reality, or Sanand, Gujarat, which is rapidly industrialising - students were asked how they imagined the future of their towns or cities without the use of nudges or prompts of any kind. This approach at times resulted in unique utopias or dystopias of its own. The process of the workshop was then optimised to help move students beyond these imagined scenarios to envision more hopeful future possibilities.

From a process-orientation standpoint, we borrowed from Inayatullah's **Causal Layered Analysis** (Inayatullah, 1998) and **Stage Theory of the Future** (Inayatullah, 2022), where he prioritises the articulation of injustice as an important factor in moving towards preferred alternate Futures. This was coupled with Miller's Anticipatory Assumptions Models (Miller, 2018), and the content was revised to some extent and adapted to suit the contexts of the students we interacted with. These approaches were also optimised in accordance with the realities of the climate crisis scenarios taken into consideration. The overall process was iterative and refined through the course of the research.

A Snapshot of Our Research Process

1. Introduction to Futures:

- ▶ **Personal Futuring** - Here, students were asked what they imagined their Futures to be at a future date. This allowed them to break through their resistance to considering Futures in the present.
- ▶ **Community Futuring** - Here, students were asked what they imagined the Futures of their villages, districts, and communities to be, at a future date.

2. Back to the Present:

- ▶ Here, students were brought back to speak to the present challenges they faced so as to articulate felt injustices.

3. Opening the Future:

- ▶ **Scenarios and nudges** - Here, exaggerations of challenges presented by students were provided, or dystopian or utopian scenarios were built to open up their imaginations.

4. Staying in the Future:

- ▶ Even when some of these scenarios brought in discomfort and dismissiveness, students were encouraged to stay with the discomfort so as to move on to the next stage.

5. Moving towards agency and preferred Futures:

- ▶ This was the final step of the process, where students were encouraged to move beyond a fatalistic point of view towards adaptation strategies and systemic solutions to identified challenges.

Through the five stages of openness to the future, Imagination, Critical thinking, Reflexivity, Cognitive Flexibility, and Empathy and Interconnectedness were prioritised.

More details on the process are captured in Chapter 5.

CLIMATE CHANGE -THE LIVED EXPERIENCES OF YOUTH

“

We can feel climate change, but we cannot see it.”

— A student from Bhawanipatna, Kalahandi, Odisha

Climate change is not an abstract concept but a lived reality for many young people. Being the most significant developmental challenge of our times, it is often characterised by terms like “extreme” or “freak events” (Mehta, 2022).

The 2018 IPCC report suggests that if global temperatures rose above 1.5 degrees Celsius, many parts of India would be hit by extreme climate shocks, rendering some areas

potentially uninhabitable by 2050 (IPCC, 2018). The report also highlights that if the temperature rose by 2 degrees in India, occurrences like the heat wave of 2015, which killed 2,500 people, could become an annual occurrence by 2050 (IPCC, 2018). In the coming decades, climate change is likely to make rainfall erratic, cause sea level rise, and accelerate the frequency and intensity of droughts, floods, and heatwaves (IPCC 2018).

Data suggested that in 2020, 75% of districts in India suffered from climate extremes, with a spike in climate change events from 2005 onwards (Mohanty, 2020). The three states that are in the purview of this research have been severely affected by climate change shocks and stressors.

Explained:

Climate change shocks - extreme events that occur over a short span of time and thwart the prevalent way of life. E.g., heat waves, flash floods, and cyclones

Climate change stressors - events that affect ways of living over a period of time. E.g., Drought, rising temperatures, and erratic rainfall activity

A State-wise Look at Climate Change Vulnerabilities

Odisha

Odisha is no stranger to natural disasters and a host of climate vulnerabilities. It ranks 10th on India's Climate Change Vulnerability Index (CEEW, 2021).

On April 13th, 2023, Baripada in Odisha's Mayurbhanj district recorded the highest temperature for the day at 43.5 degrees Celsius - earning the label of the world's hottest place on said date. Due to soaring temperatures across the state in the summer months of 2023, schools pulled up their annual vacation timelines two weeks ahead of their original plan and further extended them for an additional two weeks towards the close of the school vacation period.

Odisha is highly prone to cyclones, carrying the tag of India's cyclone capital. Back in 2019, Cyclone **Fani** hit the state, causing large scale damage. By some accounts, it has been considered the worst cyclone to have struck the state since **Paradip**, or the **Super Cyclone** of 1999 (The Hindu, 2019)². Cyclone **Amphan** struck Odisha in 2020, causing significant harm to both life and property.



With an extended coastline in the east of India, Odisha's coastal districts are extreme event hotspots. The following is what India's Climate Change Vulnerability Index, 2021, says about specific regions in Odisha:

- ▶ Puri and Khorda are classified among the top 20 extreme flood-exposed hotspots of India
- ▶ Nayagarh, Puri, Khordha, Cuttack, Baleswar, Gajapati, and Ganjam are highly exposed to extreme cyclone events and their compounding impacts and fall under the top 20 cyclone-exposed districts of India.
- ▶ Further, Gajapati, Ganjam and Baleswar are extremely sensitive to flooding events
- ▶ Gajapati, Ganjam, Baleswar, Khordha, and Sundargarh are extremely sensitive to droughts.

Gujarat

Gujarat ranks 16th on India's Climate Change Vulnerability Index (CEEW, 2021). Gujarat has the longest coastline in India and has experienced its fair share of destructive cyclones. Cyclone **Biparjoy** struck Gujarat in June 2023, causing unprecedented, widespread damage, and back in 2021, it was Cyclonic Storm **Tauktae** that displaced over 200,000 people and caused immeasurable destruction.

It's not just cyclones but also heat waves that rattle parts of Gujarat. Bhuj and Rajkot recorded a significant rise in heatwaves, according to an IMD report (Times of India, 2023)⁷. In April 2023, news reports mentioned instances where roads were melting on account of rising temperatures in Gujarat. Temperatures are expected to increase by 2.0-2.5 degrees Celsius in Kutch, central, and north Gujarat, and by 1.5-2.0 degrees Celsius in Saurashtra and the south Gujarat region.



What India's Climate Change Vulnerability Index, 2021, says about specific regions in Gujarat:

- ▶ Rajkot is the most drought-exposed district in India
- ▶ Kutch, Anand, Sabarkantha, Rajkot, Bhavnagar, Banaskantha, Jamnagar and Surendranagar are extremely sensitive to flooding events
- ▶ Kutch, Rajkot, Bhavnagar, Banaskantha and Jamnagar are extremely sensitive to droughts
- ▶ Jalor, Kachchh, Ratnagiri, Rajkot, Bhavnagar, Jamnagar and Porbandar are prone to cyclones

Assam

Topping India's Climate Change Vulnerability Index is Assam. Labelled as the flood capital of India, Assam receives torrential rainfall year-on-year, causing an increase in the water levels of the river *Brahmaputra*. This leads to devastating floods in multiple districts of the state. In the month of June 2023, over 34,000 people found themselves homeless because of the floods (NDTV, 2023)⁴.

Climate change in Assam has manifested diversely - from volatile, erratic rainfall to a severe rise in mean temperatures, which in turn causes catastrophic floods, landslides, and soil erosion. Studies have shown that landslides have been increasing over the years in Assam (Hindustan Times, 2023)⁵. In the summer of 2022, the town of Haflong was swept away by landslides on the back of what was termed "development" (Down To Earth, 2022)⁶. A breach in the dyke of the *Barak* river caused extreme flooding in the valley around Silchar, and the region remained submerged for eleven days.

Soil erosion is another one of Assam's big problems, as the width of the Brahmaputra increases every year, severely impacting the agricultural economy of the state.



What India's Climate Change Vulnerability Index, 2021, says about specific regions in Assam:

- ▶ Dhemaji, Dhubri, Dibrugarh, Barpeta, Golaghat, Nagaon and Lakhimpur are in the top flood-exposed districts whereas Tinsukia, Dhemaji, Kamrup and Lakhimpur are the most sensitive to floods
- ▶ Further, Goalpara, Morigaon, Barpeta and Cachar are highly susceptible to droughts

With each of these states being exposed to such climate shocks and natural disasters, a key consideration is how the climate crisis does not impact everyone equally, nor does everyone share an equitable responsibility for it. Recent studies have shown that the growing middle and upper classes have carbon footprints that are seven to eight times higher than those of poorer communities (Lee, 2021). In terms of the demographics of those who get affected, it turns out that children are among the most 'at-risk' to the impacts of climate change (UNICEF, 2021).

4. <https://www.ndtv.com/india-news/flood-situation-remains-grim-in-assam-heavy-rainfall-predicted-4139063>

5. <https://www.hindustantimes.com/india-news/floods-landslides-caused-damage-worth-10-000-crore-in-assam-officials-101657635344296.html>

6. <https://www.downtoearth.org.in/news/natural-disasters/assam-s-haflong-swept-by-landslides-activists-blame-development--8289>

4.1 In Perspective: Climate Change Experiences, Lived and Vocalised

For local communities, climate change presents ‘radical uncertainty’ because of its intersection with other kinds of changes that push people to their very limits of coping. This causes maladaptation and more vulnerabilities (Shilpi, 2022).

On ground - Khadsaliya, Bhavnagar, Gujarat

The youth in Khadsaliya face radical uncertainty on account of rising sea levels, changing patterns of rainfall, and an increase in temperatures. Their situation gets further exacerbated by the open cast coal mines in the village. These mines affect the air, water, and soil quality in the region.

“We can access water only once every 8 days, and it is the company that supplies it to us,” said a boy in an upper primary government school in Khadsaliya, alluding to a coal mine in the vicinity. Adding to his observation, another girl then mentioned, “There’s no water that is supplied to my house because I am from the Koli caste. I have to walk to the pipe to source water”—demonstrating how caste was a determinant for access to water.

Children who worked on agricultural land, supporting their parents in farming work, observed changes in rainfall patterns and spoke about how an increase in heat hinders their work. “The harvest is not very good. Dust from the mines affects our crops’ growth. This year, the rainfall deficit affected our yields and harvest.”

Another layer of complexity affecting how the youth in Khadsaliya made sense of their realities (which informed their perspectives on how they envisioned their future) was the fact that many families had sold their lands to the mining companies. This meant that the youth could become landless labourers in the future with no land to their names. Pervasive unemployment was another glaring reality in the district.

“I don’t even know if I will be able to work on my land in the future. The land belongs to the company, and we can work on it until such time that they allow us to. I don’t know what will happen in the next few years”, said a local youth.

The youth in the district face compounded uncertainties that intersect with pre-existing socio-political oppressions.

Explained:

Radical uncertainty - Situations where the past is no longer a good guide to what the future may look like. (Borrowed from Shilpi, 2022 and Kay and King, 2020)

Shared Pains, Varied Articulations

Even though youth across state lines are facing uncertainties every day, the articulation of climate change is very different for them. E.g., some students in ITIs who have attended global warming seminars were able to label the changes in the weather in terms of rain and heat as 'global warming' but mostly the articulation of climate change happened through terms that directly captured the associated natural phenomena or impact on daily life:

- ▶ "The sun has become harsher."
- ▶ "It does not rain when it is supposed to."
- ▶ "The harvest is getting affected due to excessive rains."

Nudge: "What angered you this year?"

Summary response: Concerns around heat and floods were among the most frequent answers received.

Examples:

In Bhojava, Gujarat, students spoke of how incessant rains angered them

- ▶ "I get angry when it rains heavily because I cannot reach the school."

In Valsad, Gujarat, students spoke about how flash floods have become more frequent now. Their anger was focused on flooding - especially as part of responses from girls whose mobility was restricted on account of it.

- ▶ "We feel very bad when it floods because we cannot leave our homes."

In Barpeta, Assam, where floods were commonplace, students said that it led to boredom because they had to stay indoors at home, move to rehabilitation centres, or stay on the roads.

- ▶ "I get very angry at water because it disturbs me when I am studying."
- ▶ "There was water everywhere. I lived on the streets - we used to live in a camp." Others spoke of how it was humiliating for them to leave their house to move to the rehabilitation centre.

Without electricity for days and not meeting their friends, they had a tendency to become spiritless and had no choice but to wait for the waters to subside.

- ▶ "We have become habituated to the water, but when it floods, we are not able to do anything. The telephone lines are shut; we get extremely bored," said a student in the 8th grade in Pathshala, Assam.

4.2

The Embodiment of Climate Change

Climate change can be seen as a bodily experience felt deeply, but in the current discourse, it has come to be known only through science (Verlie, 2021). This has led to approaches to public engagement that are “highly disengaging as well as ignoring the emotional pain of those concerned”. This underscores how climate change is an embodied experience and our “capacity to feel is rarely acknowledged”.

The climate crisis was embodied differently across different geographies:

Assam

On Floods

In Assam, where floods are seen as a natural phenomenon, a girl in Moregoan, Assam, had this to say about the flood water:

“It is dirty water, and that is why we feel very dirty.”

Odisha

On the Environmental Degradation due to Coal Mining

A boy in Talcher, Odisha, observed the environmental degradation caused by the coal mines and shared,

“I have developed breathing-related issues. I also have a dust allergy for which I am undergoing medical treatment. My father advises me to use roads and streets that are less polluted and dusty. But if I have to make that choice, the distances increase. What takes 5 km to cover using the dusty road ends up being relatively cleaner but a longer, 8 km route. I feel angry at people and companies alike. I feel that dust (pollution) is due to the trucks on the roads, which makes me annoyed at the people responsible for it. I don’t think it’s the mines that are causing as much dust. It’s the trucks that people earn money from.”

Young girls in this mining town in Barbil highlighted day to day challenges due to the mining in their towns -

“We can’t even dry our clothes properly - if we hang them outside, they turn black (owing to the layer of coal dust that forms over the clothes).”

Another boy said,

“It is so hot. We can’t go out to play. There is a lot of dust flying around. We feel dirty.”

On Rising Temperatures

A boy in Talcher commented on the environmental degradation and the subsequent increase in heat,

“I feel very itchy, and it gets really hot. I feel like bathing all the time, but there isn’t enough water for that.”

Gujarat

On Unseasonal Rains

Girls in Bhojva said,

“When it rains, I get angry because I cannot get to school, and there is a lot of mud everywhere.”

On Cyclones

Students in Khadsaliya, Bhavnagar, shared,

“We were very scared. We were sleeping at night when it hit us. We were wondering if we would live or not. We couldn’t get our wheat ground; the mills did not run because there was no electricity for nearly three months.”

In their articulation of their experience of climate change, students sometimes positioned it as an inconvenience and at other times as a disruption to their everyday routines. Some categorised them as bodily/physical experiences that they had to endure. A student from Bhawanipatna, Kalahandi, Odisha, summarised this emphatically by saying,

“We can feel climate change, but we cannot see it!”

4.3

Intersections and The Lived Experience: Beyond Climate-led Phenomena

The effects of the climate crisis get exacerbated when they intersect with the social position of the youth (Verlie, 2021). People are affected differently based on gender, caste and class, as well as the geography and political economy of the states they live in.

Class

One's social category can complicate and affect their lived experiences. As our research indicates, the effects of climate change on women are often compounded and exacerbated. An ecological crisis may not be separated from social crises and mapped on to existing social inequalities and uneven development (Escobar, 2018). This is not lost on young people - A young girl in Bhawanipatna, Kalahandi, said,

“My friend fainted due to a heat stroke and had to be hospitalised. While her parents had the financial means for it, my parents could not possibly afford to have me admitted to a hospital”.

Another respondent mentioned, “It is hot, and we don't even own refrigerators to drink cool water”.

For young girls in the drought prone district of Nuapada in Western Odisha, they had to travel miles to get water for cooking, cleaning, and bathing. They would go to fetch water more than five times a day (depending on the need). This would sometimes include an afternoon trip at 12 p.m. or 2 p.m., when the temperatures would be at their hottest. They would be able to carry only three buckets or pots at a time and lamented about the long wait time as they queued up at the handpump or by the water tank.

Gender

In Talcher, Odisha, girls had to ride bicycles to cover long distances. This continued even after the government mandated a change in timing to ease the effects of the heat. They highlighted that it felt impossible for them to travel to their educational institutes - a very telling example of how movement is affected by multiple factors - in this case both climate and gender.

Caste

In Bhojava, Gujarat, Dalit students spoke of limited access to water supply in their village. Piped water supply was only extended to upper caste households. The upper caste families typically laid claim to the water before members of other castes and marginalised communities could get an equitable share. Frequent fights broke out over water access. The water supply would get cut periodically in the Dalit neighbourhood on account of upper caste residents attacking their houses.

Owing to water scarcity in Nuapada, Odisha, students spoke of how people dug borewells. Digging borewells meant that they had to incur costs, and only the upper caste and affluent families could afford to take this on. As such, even during a period of extreme water scarcity - when the families that owned borewells allowed people to fetch water from their borewells, Dalit families would not be allowed access. Thus divorcing them from local solidarity groups within villages.

Students in Kalahandi shared,

“Castesim is evident in our village—there are two or three families that are conservative. Water that has been touched by a Dalit is off-limits to us. They do get water, but it is very limited. They are always separated from the rest of us.”

Oppressions get compounded based on the intersectional disadvantages that one must bear. Additionally, the infrastructural failures of the state and uneven development further exacerbate the ecological crisis. A young boy from Nuapada, Odisha, spoke of how the increase in temperature and the drying of the rivers (where people bathe) - restricted one's ability to take multiple baths, the heat notwithstanding. Infrastructural failures have worsened the ecological crisis for young people who depend on the commons for their everyday needs. E.g., No access to piped water.

Geography and Uneven Development of the States

Students already had an aspiration for each of their districts or villages based on another district or city, mirroring the effects of uneven development. E.g., Students in Talcher compared themselves to Dhanbad and said that probably mining was better regulated there. A lot of students from Singimari and Sukmanah spoke of how they wished for their towns to become smart cities like Guwahati. For several others, the political economy and topographies of the state were realities they had to contend with. E.g., Floods in Assam were already seen as a factor unique to the state. In Kalahandi students spoke of how resources are currently taken from Kalahandi but the gains from it are given to other districts which have industries and generate employment. A local student shared, “The paper mill industries are in Rayagadha, but the eucalyptus trees are grown here. These trees absorb a lot of water and this affects us. We have to bear the brunt of this. As Rayagadha does not have enough water, eucalyptus is grown in our district. However, no profits come to us. We feel very bad. Our people should get jobs there. There should be reservation in these industries where people from our district get jobs.”

In the largely extractivist economy of a few districts in Odisha, students came with the mindset that there was no future beyond mining. This was a common trend observed through the interviews, with opinions like,

“Where there's mining, there's money.”

Given that young people are already in the thick of climate change, our central engagement was around how we would approach critical pedagogy and combine it with Futures Literacy to realise and imagine more hopeful Futures for themselves and their communities.

4.4

Making a Case for Emancipatory Climate Futures Literacy

Climate change is a complex phenomenon. Here are some key considerations we worked with:

- ▶ Climate change is primarily considered anthropocene - resulting from human activities (IPCC, 2013).
- ▶ Scholars like Oberman and Sainz (2021) note that climate change is socio-scientific, multidisciplinary, scientific, environmental, social, economic, political, and affective/emotional.
- ▶ Moreover, most importantly, climate change at its core is also a social justice issue - one that exacerbates vulnerabilities, as we have shown in the earlier section, and threatens to change the lives of people who have no part to play in causing climate change (Ribot, 2014).

Building on these elements, we drew from emancipatory and liberatory pedagogy.

Emancipatory and liberatory pedagogy borrows from Friere's work to understand emancipation - primarily as making the structures of power that hold society together visible. The attempt was to help students acquire knowledge while also making them aware of systemic relations.

- ▶ Additionally, since the right approach to solving climate change itself is under debate - with one school of thought making the case for limits of

growth and the necessity for degrowth and another speaking to techno solutionism, among other views under consideration (Kopnina, 2014), the focus of climate Futures Literacy is to bring these counterintuitive views to consider and co-exist with a belief in child's capacity as an autonomous thinking individual to draw their inferences.

- ▶ Further, borrowing from Verlie's work, we argue that creating spaces for dialogue where students may articulate social injustices and ways climate change is affectively experienced allows students to process some of the complex emotions related to climate change (Verlie, 2021).
- ▶ Taking this argument further, we draw on and rely on Futures Literacy as a way to open up Futures—where students may build desired Futures and see alternate Futures. This is based on Amara's three laws of Futures (Amara, 1981):

1. The future is not predetermined
2. The future is not predictable
3. Future outcomes can be influenced by our choices in the present

Based on these disciplines, therefore, and through an iterative process of working with young people, we drew from critical Futures Literacy and critical consciousness for inculcating what we call emancipatory climate Futures Literacy in students.

The next section details the process of achieving such emancipatory climate Futures Literacy.

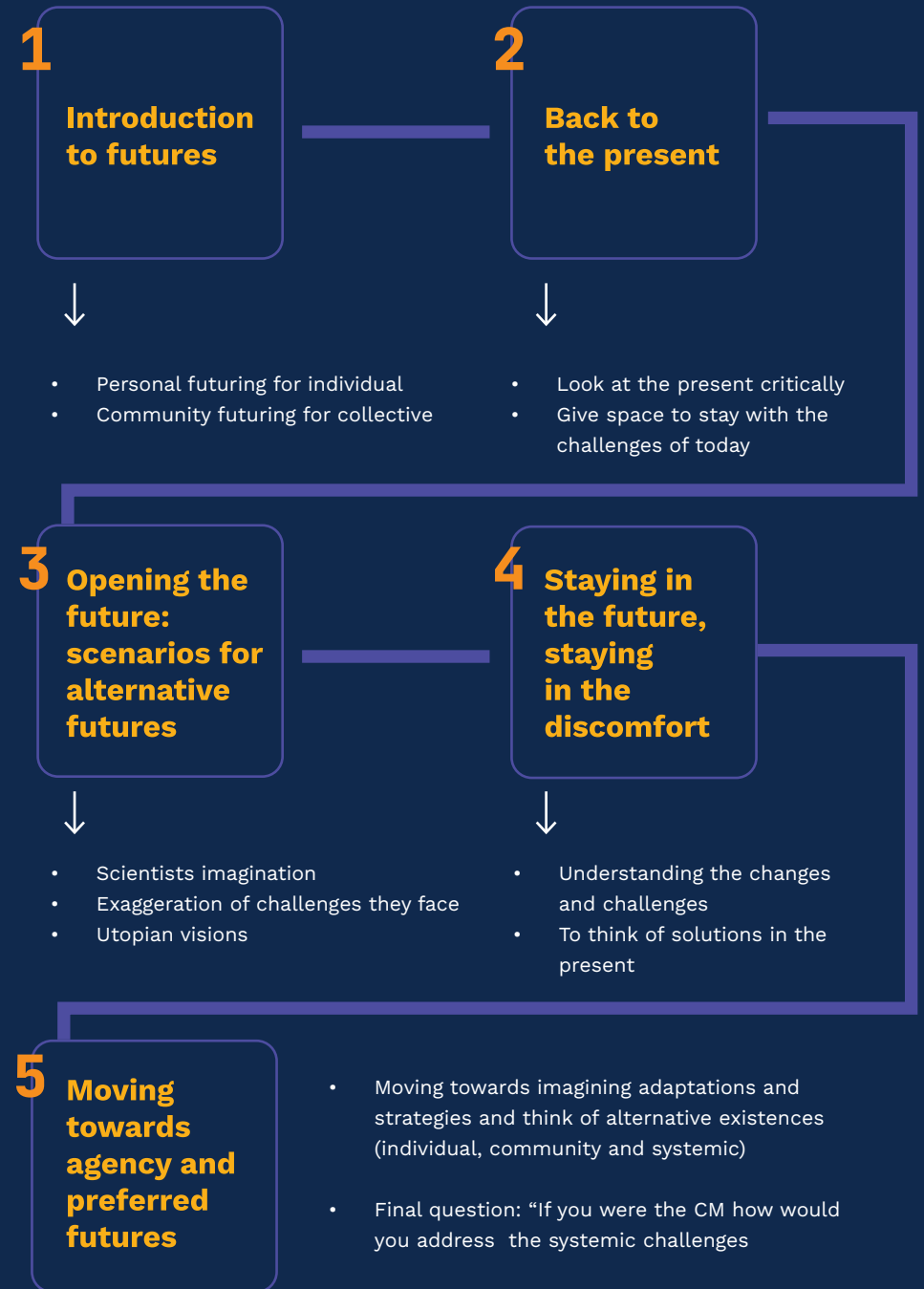
Chapter 5:

THE PROCESS

Uncovering how young people conceptualise their Futures

The climate Futures Literacy workshops that we conducted were built over multiple iterations. Specific to this research, they have been imagined as a process and a journey that students will take to move from passivity to action. We aimed to enable students to make sense of the possibilities and discomforts they could envision in their Futures and help them move towards thinking about the Futures they wanted.

How do people conceptualise their Futures? Generally, they have disjointed ideas of the future, and such was the case with our student groups too. There was a separation between their ideas of their own personal future and the future of society. The process also brought the different strands of imagination for the future together to create a picture of the future as a whole. We sought to help them bridge the gap between the personal and collective Futures to help students find their place within the Futures of their village/city, district, and state.



5.1

Introduction to Futures

The journey started with making students think about their own Futures:

- ▶ How they imagine their own Futures,
- ▶ Their aspirations
- ▶ Their understanding of themselves

This activity helped students familiarise themselves with imagining the Futures they wanted to inhabit.

There were two parts to the activity:

1. The first was to imagine a future for themselves
2. The second was to imagine a future of their community/village/district

These activities were designed to get the students acquainted with the Futures they think are possible or will shape-up. Thinking about their own personal Futures and the Futures of their communities also helped the students look at the various aspects that can give shape to the future. It helped them articulate the kinds of Futures they would want for themselves and their communities.

The activity itself, though - having to reflect, visualise, and actively think about their Futures—was not particularly straight forward. Students found this difficult. In such cases, we had to ground the conversation in their current realities. We eased students into the activity by having them articulate how they see themselves and their villages in the present. Some examples follow.

EXAMPLE 1

Pranami, 14 year old girl in Kalarguri, Assam, describing what she does, what she likes - provides an overview of her village

Name: Pranami Kalita

Age: 14 years

- 1) I like to play.
- 2) I want to be a doctor when I grow up.
- 3) I am good at washing clothes.
- 4) I like reading stories too.
- 5) I dance well.

1. My village is called Kalarguri.
2. Most of the people in my village are good.
3. Most of the people in my village live in harmony.
4. The boys in the village have more freedom, but the girls are not so free.
5. My village faces the issue of flooding.

नाम - प्रणामी कलिता
उम्र - १४ व

१/ मुझे खेलना पसन्द है।

२/ मैं बड़ी होकर डाक्टर बनना चाहती हूँ।

३/ मैं कपड़े धोने पर अच्छी हूँ।

४/ मुझे Story पढ़ना भी पसन्द है।

५/ मैं DANCE में अच्छी हूँ।

१/ मेरे गाँव का नाम पुर्वे कलरगुरी है।

२/ मेरे गाँव के लोग नरामर अच्छे हैं।

३/ मेरे गाँव में नरामर लोग मिलझुल में रहते हैं।

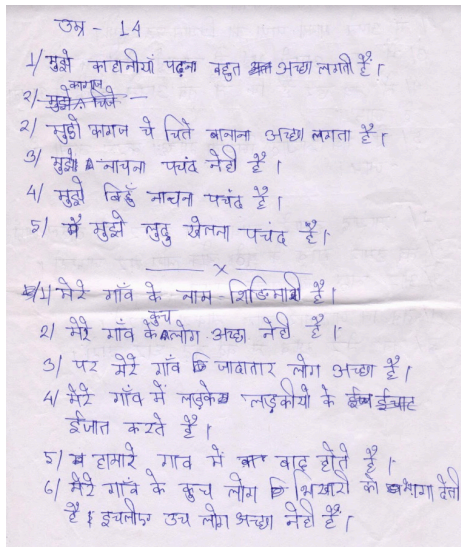
४/ मेरे गाँव में लड़कों को जरा आजादी मिलती है, पर लड़कों को जरा इतनी आजादी नहीं मिलती।

५/ मेरे गाँव में बाढ़ की समस्या है।

EXAMPLE 2

Another 14 year old girl from Paathsala, Assam

- I like to read stories.
 - I like making paper crafts.
 - I do not dance.
 - I like dancing the *Bihu* dance (regional dance form).
 - I like playing Ludo.
1. The name of my village is Singmari.
 2. Some people in my village are not nice.
 3. But most of the people in my village are good.
 4. The boys in my village respect the girls.
 5. We have floods in our village.
 6. Some people in my village shoo away beggars. Hence, they are not nice people.



5.2 Personal Futuring

We started most students off with this nudge: How do you imagine yourself in the next 20 years? What would you be doing in 2045?

If they needed more support to think through and reflect, we provided additional sub-nudges to get them going:

- ▶ What would you be doing in 2045?
- ▶ What would your work look like?
- ▶ Where would you live? Who will be in your family?
- ▶ Where would your parents be?
- ▶ What kind of person would you be in 2045?
- ▶ What would be important to you?

Some of these nudges and initiation questions would make some of the students giggle, some would feel shy and reserved to answer, while others would get started on thinking about their Futures.

As mentioned earlier, there were situations in which it was difficult for many students to imagine their own Futures. They were worried and scared to think about their Futures because of the radical uncertainty they were facing in terms of unemployment or the fatalistic Futures that awaited them. Putting this down on paper was also worrisome for them.

A student in Tinsukia refused to write his future -

“My future is as bright as this piece of paper; it is so bright that one cannot even see it.”

Similarly, a girl in Singimari expressed her fear and said,

“The future is in the hands of God.”

Many students noted that they were scared of writing their aspirations on a piece of paper because that would make them real. They felt pressured to either make it come true or worry about what would happen if that weren't the case. Others categorically noted that they were writing about the Futures they hoped to have and were not sure if they'd come true. There was an urge to not answer the question. E.g., A student from ITI Dibrugarh said,

“Ma'am I am not able to even think of anything.”

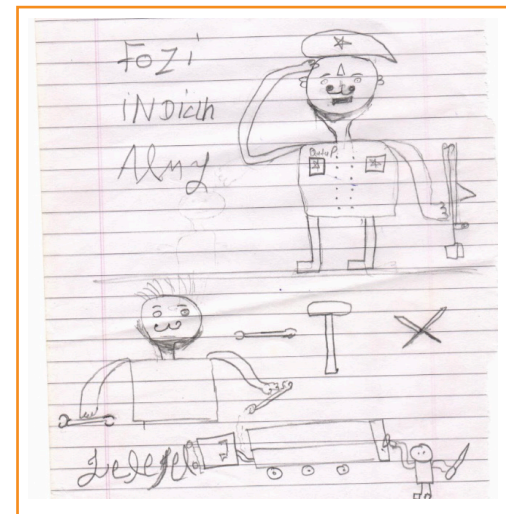
Initial inhibitions aside, students warmed up to the idea of writing about their Futures. But in most cases, once they started writing, they didn't want to stop. They went into considerable detail about the kinds of Futures they would want and the sorts of people they hoped to be.

They spoke about stability. A student from an ITI in Jorhat, Assam mentioned,

“Life will become more stable than it is right now. Currently, my life is unstable, but in the future, it will not be so.”

Students in ITIs were older and hence spoke more practically about their Futures with hopes of stability, security, and decently paying jobs. They wanted to provide for their family, their parents and, in some instances, for their communities as well. “When I have a decently paying job, I will also uplift my community. People don't care about their communities, but I want to make sure that I provide for them. I will start an NGO,” said a student at ITI Guwahati.

Whereas students in schools had greater ambitions for their Futures. A girl in Grade 9 in Bhavnagar, Gujarat, wanted to become an IPS officer, whereas a boy wanted to join the army. The girl wanted to become an IPS officer because she liked their uniforms. Whereas the boy in Grade 9 in Bhavnagar spoke about his dreams of becoming an army officer to “kill all the terrorists”. He wanted to be of service to the nation, even though he did not know how to attain the position of an army officer. But after some playful banter, he declared that he would just open a garage with another friend of his.



We share some examples of the outcomes of the personal futuring activity here.

Some wanted to do a day job and also run their own small business.

“

I want to finish the course at ITI and then work at a bank. But I do not know how to get a job at a bank. I will either get a bank job or learn how to stitch. So I can sit at home and sew. That way, I would not have to leave the house. I can establish a tailoring business. I could work at a bank and sew at night - pursuing both of these Futures. I will divide my time based on my day job at the bank, and depending on the quantum of clothes there are to sew, I can dedicate time for sewing beyond my work hours at the bank.”

— Bhavnagar, Gujarat

Some students had elaborate dreams of starting a business and ideas to help support their village/community:

Tinsukia, Assam

“I have a dream. We have a paddy field by the river. That’s why I want to become an agricultural entrepreneur. By the time I am forty, I will be actively engaged in farming. I will create a self-help group with my close friends. Some of them will be my team members. With their support, I hope to harvest vegetables on our farmlands.

We will then create a market for that. We will also provide employment to unemployed youth. By creating, developing, and expanding our market, we could also consider exporting our commodities abroad. With the use of digital technology, online marketing is also something we will actively take on. We come from a rural background, and this will help solve some of the financial issues as well.

We shall also support educational institutions as a form of social work. We will help the children of people who are not literate.”

Kalahandi, Odisha

“I want to become a responsible lady. I want to be responsible for everyone’s well-being, particularly my parents. While that might be possible only until I get married, I would still want to support everybody, after I am married too.

My brother is young, so I would have to do something for him as well. I like to travel, and wherever I may be, I will earn a lot. Like Rs. 30-40,000 to begin with and incrementally to Rs. 60,000. But first I have to find a job. I am open to working in the government and the private sectors. But these days, safety is a concern, so regardless of the sector, a safe workplace is important for women. I will remain in Odisha, but I want to travel a lot. I want to see the world.”

Many students had multiple options for their future, depending on various factors that they thought were beyond their control. E.g., A girl in Bhavnagar, Gujarat, said,

“If I do not become a doctor, then I will become a farmer instead.”

These showed the different kinds of Futures they imagined for themselves. They called it ‘dreams’. But not everyone’s realities were alike - For a lot of girls, getting married featured prominently in their future.

A girl student from Khadsaliya who wanted to be a dancer when she grew up, imagined being married and having a child in 30 years.



Viewing their Futures through a career lens

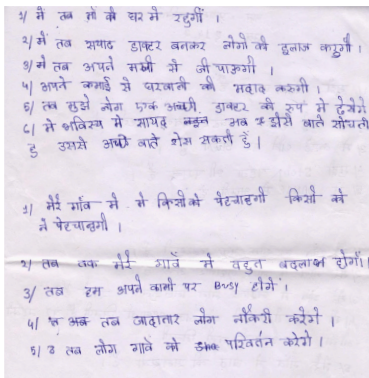
Students defined their careers in two ways:

- ▶ Option 1 consisted of an aspirational future for themselves that was defined as being a doctor, Indian Police Service Officer, etc.
- ▶ Option 2 alluded to largely probable Futures - something that was the most likely to happen for them. This was defined as being a farmer, enrolling in an ITI, and getting married. Many girls mentioned that they wanted a good partner.

Here's an example of how a young girl worked through a Personal Futuring exercise:

Pranami, age 14, wrote about the future she envisions for herself and her village:

- I will live with my mother then.
 - I might become a doctor by this time and treat people.
 - I will live according to my own will.
 - I will help my family with the money I earn.
 - By this time, I would have built a reputation for myself as a capable doctor.
 - In the future, I will think better than I do now.
1. I may not be acquainted with everyone in the village, but I may be familiar with some.
 2. By this time, my village would have transformed considerably.
 3. We will be busy with our work.
 4. Most people will be working by then.
 5. People will be working to bring about more change and development in the village



1/ मैं तब मेरे माँ के साथ में रहूँगी ।
2/ मैं तब ग्राम में डॉक्टर बनकर लोगों के इलाज करूँगी ।
3/ मैं तब अपने माँ के साथ में जी पाऊँगी ।
4/ अपने कामों से पढ़ाई के साथ में काम करूँगी ।
5/ तब हमें लोग एक अच्छी डॉक्टर के रूप में देखेंगे ।
6/ मेरे परिवार में ग्राम में बहुत अच्छे खाने खाते पाएँगे ।
7/ उससे अच्छे खाने भी खाएँगे ।

1/ मैं गाँव में से किसीके पेटवारी बनने के पेटवारी ।
2/ तब तब मैं गाँव में बहुत बदलाव दूँगी ।
3/ तब हम अपने कामों पर ध्यान देंगे ।
4/ मैं तब जहाँ जहाँ लोग नौकरी करेंगे ।
5/ व तब लोग गाँव के काम परिवर्तन करेंगे ।

This exercise helped students articulate the Futures they wanted to inhabit. Initially, it triggered feelings of helplessness and fear, but as they worked through their conceptualisations and reflections, these emotions turned into optimism. Many said this was the first time they had articulated the future they wanted. By providing a safe and open space for them to discuss their aspirations, they could mindfully contemplate the kind of purpose-led, hopeful Futures we expected the exercise would yield.

5.3

Community Futures

Moving on from the personal to the community, we shared this nudge with the students:

Now that you have thought about yourself in the future, how do you imagine your community, village, or district changing in the future? How will it look in 2045?

We also provided them with some additional questions for support if and when needed:

- ▶ What changes do you imagine will take place in your surroundings in the future?
- ▶ What kind of work will people be doing? How will people be?
- ▶ What will the surroundings look like?

Students were quick to call out the Futures they wanted to see for their communities. These Futures included:

- ▶ Considerable development and progress seen in their villages
- ▶ Better medical facilities in their villages
- ▶ More industries, wider and better roads, and more infrastructure development
- ▶ Better access to public transportation
- ▶ Less restrictions on women
- ▶ Reduction in conflicts and strife
- ▶ Mines shutting down
- ▶ Girls also made it a point to note that they will have to go to another village after marriage so they won't stay here

All of these responses were directly related to their desire for a better quality of life and factored in dominant narratives about development, the ideas were rooted in the current problems that students were seeing and hoping to eradicate.

An ITI student in Guwahati, Assam, said, “Everything will become smart. With smart cities already underway, villages are not far behind. But smart cities come at the cost of deforestation, and I don't want that. Assam will progress with access to a lot of facilities. Electric vehicles will become commonplace. Shops will be automated too. Automation and machine-run systems will be seen all around.”

For students belonging to communities that are acutely affected by climate change it was interesting to observe that the climate crisis or its effects did not feature in many of their responses. They were typically more focused on developmental progress and not so much on climate change.

Categories of Community Futures that students came up with:

1. Aspirational - inspired by other developmentally progressive regions
2. Solution-based - Futures that resolve problems of the present
3. Technology-based - transformation and evolution on the back of digital and technology-driven initiatives
4. No Futures - fatalistic view points based on current degree of marginalisation experienced

The kinds of Futures students imagine for themselves fall broadly into these categories:

1. Aspirational:

Students hoped to see their district as the next metropolitan area. Students who occupied less developed regions of the country aspired to see their regions as better developed having better transportation, industries and economic opportunities. The future then was to catch up to the present realities of other ‘inspiring’ or ‘leading’ districts and states.

Industrialisation:

For a lot of young people in Assam, the primary concern was the slow pace of industrialisation - unemployment and migration being the key considerations. Students from ITI Silchar lamented,

“We need to migrate to get jobs; having to move out of Assam. Either we have to go to countries in the Middle East or elsewhere in the country. Even if we wanted to work in BPOs, there are no BPOs here in the state. While there are MNCs outside, there are none here. Greater privatisation will bring us gains”.

The viewpoint was very different in Gujarat, which is highly industrialised in comparison to Assam. Here, the aspiration was for industries that provided them with jobs, but they doubled down on the need for regulations to mitigate pollution.

Smart Cities:

Several students from peripheral villages and towns aspired for their towns to become smart cities. Students at the ITI in Moregoan spoke of how their town will eventually become a smart city like Guwahati and claimed that India will be transformed digitally on the back of initiatives like **Digital India**.

2. Solution-based:

These were the Futures they envisioned based on the resolution of the problems they currently witnessed - issues such as transportation, medical support, education, connectivity, and infrastructure. Many young people we spoke to lived in places where ‘development’ had not reached yet.

“We don’t care which government is in power. We need development.”

In districts such as Majuli, Assam, students spoke of how they had to go to other districts such as Jorhat and Dibrugarh to access good healthcare.

In Singimari, Assam, young people imagined the future as a solution to the current challenges, largely framed as “communications”. They were of the view that increased

connectivity in the state would pave the way for industries and, thereby, employment.

Better roads and general infrastructure development featured high on the list of Futures mentioned by a lot of girl students. These stemmed from a personal concern about the lack of access to state-based delivery systems such as healthcare, water and sanitation services.

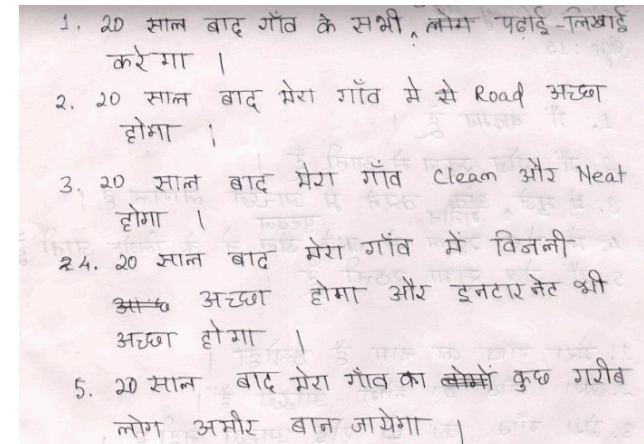
3. Technology-based:

Several students mentioned that they hoped for automation and technology-led solutions to enable progress and development in their communities, villages, and towns. They also touched upon the importance of app-based economies and hoped for their current areas of residence to become smart cities of the future.

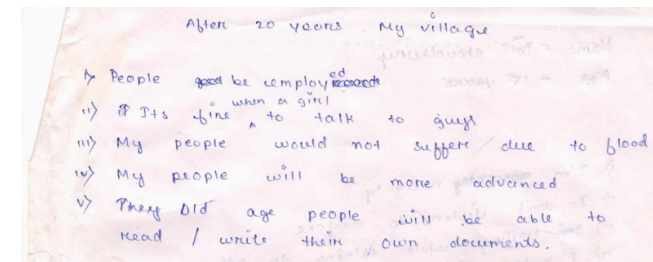
4. No Futures:

Certain highly marginalised youth could imagine no future at all for their communities, leaving everything to fate. They said,

“How can we predict the future? We will see what is to come. It is not as if the future is in our hands.”



- ▶ After twenty years, everybody in my village will be literate.
- ▶ After twenty years, the roads in my village will be good.
- ▶ After twenty years, my village will be clean and neat.
- ▶ After twenty years, my village will have better electricity supply and better internet connectivity.
- ▶ After twenty years, some poor people in my village will become rich.



5.4

Back to the Present

Having looked at personal and community Futures, we then wanted the students to take stock of the present. Our nudge to them was:

Now that we have thought about the future, can we think about the present challenges?

To help out a bit more, we also gave them these pointers to think through if they needed it:

- ▶ What problems do the youth face in your villages/district?
- ▶ What are the problems in your villages/district?

This was done to bring students back to the present and assess the problems they were currently facing. Initially, some students exhibited a degree of unwillingness and inhibition around being critical of where they were coming from. The research team presumes that this could be because they have a strong identity and ties with the place and did not want to showcase their communities or villages in a bad light. This only happened in a few districts. After some initial displays of inertia, students went on to mention the problems and challenges specific to the lives of young people. These were drawn from personal challenges in some cases, and for others, these were challenges they had seen/heard others contend with.

Students responses were as follows:

1. School to Work related issues:

Since the age group of the students that were part of the project was 14-26, it was a critical age for them to think about their school to work transitions. Many students spoke about the challenges they faced on this continuum.

Unemployment:

This was the single most important concern for students across all three states. In an ITI in Morigaon, Assam, students highlighted,

“Many people in my village have completed MA and BA degrees but they still work in tea gardens.”

Some mentioned that they were unable to migrate because they didn't have enough money to sustain themselves. A student at ITI Moregaon mentioned,

“Many of my seniors who completed ITI courses are working for Flipkart. If you deliver one parcel, you get a paltry sum. In Moregaon too, people are employed as Flipkart delivery agents—that too after completing a BA degree.”

Further lamenting on the quality and nature of available jobs, another student gave an example of his friend who worked with Amazon who did not get a fixed salary but got paid based on the number of deliveries he made.

Reducing number of government jobs:

Government jobs are aspirational for many students because of the security and status they promise. With its rising unemployment levels, Assam witnessed a heavy spike in the number of students vying for government jobs. A student in Tinsukia spoke of how there was a disproportionate number of applications for the recent Grade C and Grade D job openings - there were 13,00,000 applications for just 26,000 available openings.

Lack of industries:

In Assam and certain areas of Odisha like Kahahandi, Koraput, Nuapada, Bhavnagar, and Dediapada in Gujarat, students were vocal about the lack of industries. They felt that this directly translated to a lack of employment opportunities and was causing many young people to migrate to other cities. A student in Puri, Odisha, said,

“There are no industries here; that is why people have to leave to go to far off places, and so many of them don’t ever come back.”

Absence of or Insufficient Career Guidance:

Many students spoke about completing degrees in the hope of getting a job. A student in Baleshwar asked,

“Why don’t they tell us what to do? We keep meandering to colleges and ITIs, but we don’t know what this would translate into.”

2. Development related issues:

Many of the students we interacted with had grown up in villages and towns where they had to travel considerable distances to access basic facilities like hospitals and schools. They expressed their annoyance, as these were the challenges they faced on a daily basis.

Lack of medical facilities:

Students from several districts complained of the lack of hospitals and quality healthcare facilities. Some students in Singimari, Assam, spoke of how they would like to open hospitals to address this.

“The hospital facilities in Majuli will be improved. We have to go to Jorhat or Dibrugarh.”

b. Lack of educational facilities:

Students in Dediapada said that they did not have competent educational facilities to pursue science-related subjects as most schools only offered commerce and arts-related subjects. This situation, according to them, strongly hindered their career opportunities.

c. Poor waste management:

Students in towns and cities like Guwahati were concerned about the lack of proper waste management. It was a breeding ground for multiple diseases, according to them.

d. Poor connectivity (roads):

Development emerged as a prominent concern for young people. For most in Assam, lack of connectivity in terms of roads, was the main reason behind the lack of industries in Assam, causing unemployment.

e. Lack of public transport:

Students, especially girls, complained about the inadequate public transport, which hindered their mobility. They mentioned that it put them in precarious situations where they had to sometimes take unsafe modes of transport.

f. Poor drainage system:

In places like Silchar and Guwahati, students blamed ineffective and faulty drainage systems for flooding their surroundings. They alluded to poor city planning and the absence of government intervention as reasons behind the state of poor drainage systems.

g. Corruption:

Corruption was perceived as a critical concern for young people. In Majuli and Silchar in Assam, students spoke of perceived corruption in exams for government jobs and for opportunities in the petrochemical sector.

h. Poverty:

Financial insecurity was a critical problem that many young people faced. This pushed them into child labour or forced them to drop out of school even if they wanted to pursue further studies.

i. Concerns related to agriculture:

Several students highlighted concerns related to agriculture. They spoke about soil quality, how yields were affected, and increase in chemical and pesticide use. "Earlier pesticides were not used often. But now their use has increased and is affecting the soil and the harvests."

3. Restrictions on Women:

a. Girls' access to public spaces being restricted:

Mobility was the primary concern for a lot of young women across research sites. Generational labour as part of working in tea estates in poor, exploitative conditions was highlighted in parts of Assam. The primary concern for girls centred around not being allowed to venture out on their own.

A student at ITI-Dibrugarh, Assam, highlighted the personal battles she had to wage with her family to get their permission to attend this ITI. In Bhojava, Saurashtra, Gujarat, a girl student in Grade 9 told us,

“A lot of my friends are not in school but they work in fields”.

The distress brought on by patriarchal beliefs that restrict women’s mobility (often masquerading as security) was strongly expressed in a number of FGDs. This directly affected girls’ chances of accessing education, and participation in the labour force was severely constrained.

b. Lack of parental support in pursuing careers and early marriage:

Many women in ITIs and schools mentioned how their parents would often push them towards marriage rather than allowing them to study, upskill, and independently pursue careers. This was also seen in schools, where students spoke of how some of their friends were not allowed to continue schooling.

c. Restrictions on clothing:

Some girls mentioned that they felt constrained and judged by people in their villages or towns who would comment on their choice of attire. They said that they did not feel comfortable wearing what they wanted to as it would invite comments from their community members.

4. Climate change and environmental degradation related issues

a. Pollution:

Students living in highly industrialised areas and mining belts spoke about the environmental degradation of soil, air, and water. Students in Khadsaliya, Gujarat said that mine dust decreased soil quality, and students in the vicinity of stone crushers spoke of how noise pollution was a significant concern. Students from Talscher were acutely aware of the issues resulting from poor air quality. Several students in Gujarat and Odisha spoke of unregulated waste or chemical disposal into the rivers and the consequences thereof.

b. Climate phenomena:

As characterised in previous chapters, students were also able to highlight several on-ground challenges like rising temperatures, erratic rains, droughts and floods.

5. Intra-community problems

a. Selfishness:

Students from several districts spoke of how their neighbours or community members only thought about themselves and could not be accepting of other people getting ahead in life.

b. Non-cooperative/unreliable community members:

This also came in as a significant issue, where students spoke of conflict within the village and how they wished all community members would live harmoniously.

c. Intergenerational misunderstanding:

Students spoke of how parents or other community members did not understand their aspirations. For instance, in Kutch, Gujarat, while the father wanted the son to be a weaver like him, the son wanted to work in an industry, speaking of the freedom a job like that offered him.

6. Addiction related problems

a. Alcohol overuse:

Students spoke of alcoholism quite extensively in all districts and were vocal about hopes for banning alcohol in their villages.

b. Drug overuse:

Students in Angul, Odisha, spoke of how young students had already taken to drugs; highlighting associated risks and concerns.

By making them look at their present surroundings and lived experiences, students could critically evaluate their day-to-day lives and could identify the actual problems in their lives and within their communities. It rooted them in the current realities of their context. It gave them a chance to articulate the supposed personal issues they were facing and comprehend them through a systemic lens.

It opened up discussions on many of the issues that the students were facing, where they could speak to one another, and understand specifics about others' lives as well. They were also nudged towards thinking about why these problems were omnipresent and relatable to so many young people.

For the purposes of this research, it was important for students to be able to articulate the various kinds of challenges that they saw in the present. So that when the next nudge was given to them about a future where they would have to resolve these, they'd come with an informed point of view.

Upon completing this activity, students are also nudged towards thinking about why some of the challenges identified did not feature in their community Futures. For many students, Futures related to the climate crisis did not emerge in relation to their areas of residence or their communities. The reasons behind this have been covered in our previous sections.

In some districts, especially the industrialised districts of Gujarat and the mining districts of Odisha, students did highlight Futures where climate crisis related issues came to light. In the industrialised districts of Gujarat, students clearly mentioned that they expected pollution levels to worsen with greater industrial development. In the mining belts, students were aware that the heat and pollution that they experienced were caused by mining industries.

5.5

Opening the Future: Scenarios for Alternative Futures

Students were often stuck in used Futures—Futures given to them by the dominant narratives, and aspirations formed through the accepted societal narratives. The dominant narratives could be either fatalistic, influenced by the media, or state sanctioned.

They were given different future scenarios to encourage them to think about a future they might not have considered. These scenarios fell into three categories:

1. Creating a scenario through the exaggeration of the challenges mentioned by the students

Examples:

- ▶ If, in 2045, Assam remains flooded or submerged for six months every year, what will happen to those living in the state?
- ▶ If, in 2045, cyclones are a yearly occurrence in Odisha, what challenges or concerns do you foresee?
- ▶ If, in 2045, the heat in Kutch increases manifold, making it impossible to step out during the afternoon (between 12 p.m. and 4 p.m.), how will it impact life in general?

2. Creating scenarios by fictionalising scientific predictions

Examples:

- ▶ Scientists predict that Bhavnagar might submerge by 2040. If that is the case, what will happen to the people of Bhavnagar in the future?
- ▶ Scientists have said that the nitrogen dioxide (NO₂) levels in the air in Talcher are the highest in the world. If it increases in 20 years, what will change in Angul?

3. Creating utopian scenarios

Examples:

- ▶ In 20 years, there will be no pollution, and the weather will always be pleasant. The temperature doesn't rise above 35-38 degrees, and there are timely rains. What would have changed for this to happen?
- ▶ In 20 years, there will be an all-woman government. What changes do you think will be seen in society? How would the norms change?

These scenarios opened up the Futures for the students. It gave them options to consider that they hadn't considered before. For many students, the Futures that they imagined for themselves were not impacted by the climate crisis, nor were the Futures of their surroundings. As they considered the climate crisis to be natural, normal, or temporary, it was difficult for them to imagine it as a variable for the future. This nudge made the effects of the climate crisis real for them, and they were encouraged to imagine Futures where their way of life could be affected.

The initial reaction to listening to the first two prompts was denial. Many students rejected the idea that such a future could exist. One of the responses we received was, “This can’t happen, scientists say whatever they want to say.” A student, who was a chemistry graduate, in Talcher was adamant in the view that if the government knew about the levels of NO₂, then they would definitely have figured out its interaction with CO₂, and maybe the two together were creating a harmless gas. That is why there was nothing to be alarmed about.

Stirring the Unshakeable: Working through Belief and Faith Systems

Belief systems also had a unique role to play in students’ understanding and perceptions of what the future could hold. Students in Khadsaliya, Bhavnagar, Gujarat, mentioned, “There is a coastal temple near our village, and it is believed that till such time that the temple exists, the water cannot engulf us. The temple does submerge sometimes, but the water does not cross beyond that point. The temple will protect us”. When encouraged to reflect further, they said that if their village were to get flooded, they would run to raised areas or household terraces, but most likely they would all drown and die.

Similarly, students from Majuli, Assam, said,

“This land is a holy place; it cannot disappear. It will always live on. Floods keep coming and going.”

Beyond Denial: Submission and Dismissiveness

Denial was just one kind of reaction. Others surrendered to the situation and said that they would not survive. “We will all die then”, said students at a tea garden in Assam. This was echoed by students in Barpeta, Assam.

Some of the older ones, were prone to dismissing the scenarios by saying that such scenarios wouldn’t sustain as the government would address them one way or another.

In Guwahati, Assam students were self-assured that the problem of floods would be solved by the year 2050. They said,

“More dams will be constructed.
The floods will stop.”

But then, when they stayed with the scenario of the future as presented within the exercise, they acknowledged the possibility of floods increasing, leading them to completely overhaul their perception of Assam.

Before the nudge was given to suggest an increase in flooding, they had imagined Assam to be a highly developed state, powered by technological innovations with fully automated markets and stores, law enforcement with robots in their cadre, and a vision of every village becoming a smart city. But the moment the increase in floods as a scenario was introduced, students’ knee-jerk reaction was to dismiss it altogether. After staying with the scenario, the discussion moved to how everything would be engulfed in water.

Making Peace: How Acceptance Took Root

In certain situations, students considered the possibility of a dire future and accepted it.

In Dibrugarh, students first imagined a glorious Assam - almost like Gujarat. They mentioned the possibility of an IT boom in the state, an increase in the production of solar energy, an increase in tourism, and more manufacturing plants. A boy in Dibrugarh confidently said that there will be so many industries in Assam in the future that everyone will get employment, and migration out of the state will cease. Rather, Assam would become an employment hub.

Thereafter, they were presented with a nudge of a 20-year down the line scenario of Assam flooding every 6 months. The students accepted this provocation and concurred that Assam could keep flooding. They accepted the possibility that an increase seemed likely after twenty years, as the frequency of floods has been increasing in the past 100 years.

Embracing Utopia: Confusion makes way for Acceptance

When nudged with utopian scenarios, students felt confused, and their initial reaction was, "How would this happen?". In Barbil, Keonjhar, Odisha, which is a mining district, students considered mining and the presence of red iron dust normal in their surroundings. They understood it to be a byproduct of development and industrialization and accepted it. They imagined Barbil to have more of these industries and, in turn, more red dust in their surroundings, but were hopeful that in the future, the government would have worked out a solution to mitigate the pollution level.

They were presented with a scenario for 20 years hence, there would be no pollution and no red dust, the skies would be clear, and the temperature would not cross 38 degrees. Their initial reaction was disbelief, and they insisted that it wouldn't be possible as the mines would have to be closed down for this to happen. The closing of mines wasn't a possibility in their minds because the livelihoods of almost everyone in the district depended on the mines.

Scenarios at Work: Key Takeaways

All three categories of scenarios introduced a feeling of anxiety in students, with the first two causing more anxiety than the utopian scenario. After contending with initial feelings of denial and dismissal, students would often feel anxious about the possibility of the future they were being made to reflect on. The likelihood of such Futures coming to life put them in unprecedented, unique situations where they couldn't place themselves or their communities within these versions of the future. Typically, these scenarios were designed to not align with their own visions of their future, which inadvertently made them uncomfortable and anxious. The anxiety was channelled positively to enable the students to stay with the discomfort of a dystopian future, to personalise it, and to then think of alternatives that the youth would want for themselves and their communities.

While students were actively urged to not think about the solutions at this juncture of the exercise. Their solution-focused responses were problematised and they were pushed to stay in the scenario to imagine the challenges as well as be mindful of the differences between the future and the present.

After the initial denial, dismissal, and helplessness, students moved on to think about what they could do in the present to avoid the possibilities of these unfavourable Futures. The solutions they worked on in the present fell into these buckets:

1. Individual responsibility:

Planting more trees - Students spoke of how deforestation was a key concern. For example, students spoke of how communities fetched firewood from forests which they saw as contributing to declining quality of air. Planting more trees was one of the solutions they came up with.

Reducing waste - Waste seemed to be a considerable challenge for young people. Students from Bhojva, Gujarat, spoke of people mindlessly disposing waste wherever they wanted to without being mindful of how this was contributing to more problems. Strict regulation around waste was a solution proposed.

2. Reducing population:

Students in Assam spoke of how overpopulation was a key concern. Students in Kalahandi, Odisha, also spoke of how people should consider having fewer children. They were of the opinion that since the government monetarily incentivized the birth of girl children, people were motivated to expand their families. They further added that everybody should only have one child. But another girl in the group interjected and spoke about how the government should allow for at least two children, so if any one of the children is unable to take care of the parents, they could rely on the other.

3. Awareness programs:

Students quite strongly were in favour of awareness programmes as possible solutions. For instance, in Talcher, Odisha, young people spoke of using social media to raise awareness among people. A boy highlighted the widely prevalent use of social media in the current context and how that could be used to change and influence public opinion. Detailing further, he suggested that television commercials should have infotainment value - focusing on ecological messaging.

Without the context of how these solutions would actually impact people and society, students were only able to suggest solutions that they had previously heard of.

5.6 Staying in the Future; in the Discomfort

The students were urged to stay with the scenarios even when their initial instincts were to refuse, deny, and dismiss. They were urged to imagine:

- ▶ How would the world be if these scenarios were true?
- ▶ How would day to day life change?
- ▶ What challenges would people face?
- ▶ What problems do they envision in such a future?

Staying with an anxiety-inducing future scenario was quite discomfiting for students. A student in Talcher, Odisha, said,

“Thinking about all this is making me feel very scared about our future.”

Staying in a future scenario such as the ones mentioned above was to enable students to come to terms with the reality of the climate crisis, and imagine a world where such a reality could exist. They were encouraged to imagine the nuances of changes in agriculture, education, work, calendar, medicine, public spaces, industries, and household practices, among others, and the associated challenges that people might face across these parameters in such Futures.

Students engaged with the scenarios in depth and came up with detailed visions for the future. Some examples are shared below.

Imagined Future with Increased Floods

Dibrugarh, Assam

Nudge: In 20 years, if floods recurred every 6 months, how would this change Assam?

On Health: “If floods become a regular occurrence every six months in Assam, health issues and diseases

would become more chronic. The situation will be similar to the kind that was witnessed during the COVID-19 lockdown, but this will be permanent in nature.”

On Agriculture: “Soil erosion will increase. Tea gardens will be destroyed. There will be nothing to eat, as agricultural land will be lost. Those in villages will have more problems than the people of the city because they are dependent on agriculture. People will not be able to cultivate anything on their farms during the six months of intensive flooding. They will have to make adjustments.”

On Drinking Water Access: “Water scarcity will increase as we will not have enough potable drinking water. If we don’t have drinking water, then how will the hospitals function? Even they will shut down.”
On Affordability: “Prices of all commodities will increase.”

On Logistics and Resource Access: “People will not be able to commute because of the floods. The poor and marginalised will be disproportionately affected because their access to food and resources will be hampered considerably. The rich will not suffer.”

On Living Conditions: “Houses will be submerged; where will people then stay? People will move to places that are at higher altitudes, which will increase conflicts. If they can’t find a house, they will have to live on government land. People will have to change jobs or find new jobs. The government will have to provide relief like rations and other necessities.”

On Education: “Education will be deprioritised and eventually completely stopped, as no one could care about education at such times. Maybe students will study online for six months and then study in schools for the next six.”

On Development: “There won’t be any electricity for the flooded six months as well. Assam anyway does not have many industries, and if it floods for six months in the future, all the industries will exit. All the small businesses will definitely shut down.”

“Our economy will suffer.”

Imagined Future with Severe Heat and Unchecked Industrialisation

Dediapada, Gujarat

Nudge: In 20 years, there will be increased heat. How will it change Dediapada?

Note: Students enrolled at the ITI and Vocational Training Institute (VTI) in Dediapada who were from Adivasi communities had very specific, contextual imaginations for the future.

On Land Inheritance and Ownership: “The land that we have now will get reduced in size in the future for the succeeding generations because the land will get divided amongst the siblings.”

On Land Use: “We don’t get proper water supply anymore for the land, so in the future that will be reduced further. Our land presently produces a fine yield because it is highly fertile, but owing to rapid industrialisation in the future, the fertility of our land will be affected considerably. In twenty years, because of all this, the heat will also increase, which will affect cultivation. People will not be able to cultivate properly. The land will become parched; there will be drought.”

On the Effects of Industrial Pollution: “Industries will also cause a lot of pollution. We do so many things with our land. We have polyhouses, we practise drip irrigation, and we grow flowers, fruits, and different kinds of vegetables—but industries will affect all of these negatively. All these will stop flourishing.”

On Technology and Agriculture: “Even though there will be a lot of robots in the future, cultivation can only be done by humans. Farmers have a lot of financial problems, and this will continue to persist twenty years from now too. Robots don’t have any emotions; they won’t be able to work on the field. Due to the increase in automation in industries, people will not get jobs; they will have to rely on agriculture.”

On Health: “Industries will release a lot of chemicals into the environment, and this will cause diseases. Our forests will be felled as industries take over our lands, having a direct impact on oxygen levels. Rains will decrease because of deforestation.”

We get many ayurvedic medicines from the forest, but with forest habitats being razed down, all those herbs and medicinal plants will become extinct, and we will have to depend on western medicines instead. People's mortality will also reduce, and everyone will die by 60."

On Drinking Water Access: "We won't even have drinking water."

On Education: "Children and youth will have issues going to colleges and schools."

On Habitats: "All the animals will lose their homes, and that will increase animal-human conflicts."

On Belonging and Stability: "We are scared of losing stability in the future. We are not sure if we will even be able to live here in the time to come. Another Adivasi group was asked to move out of their homes because of a statue that was being built nearby. We keep getting messages on WhatsApp that Adivasis will be transferred, as we don't have a permanent place where we belong. The messages say that these are not our villages. We will have to shift if a new project, like a new dam construction comes up. So we are scared that we might have to leave our land and go settle somewhere else in the future."

"People can manage in heat right now, but in the future they would not be able to. People will die because of the heat."


Imagined Future with Increased Mining

Angul, Odisha

Nudge: In 20 years, mining will increase. How will it change Angul?

On Pollution: "In the future, in Angul, there will be white smog everywhere, and we won't be able to see anything beyond a point. All the water will be contaminated, and drinking water won't be available. We are able to adjust to this pollution right now, but after twenty years, we won't be able to. Whatever norms they have put in place to control the pollution, aren't working nor will they work in the future. If there is pollution, then there is money. If the pollution decreases, the money will decrease as well."

On Coal Availability and Extraction: The industries will keep coming to take the coal. This land has a lot of coal, so they won't stop till they take it all. And because there is so much coal here, it will last for 90-100 years. Even if they increase coal production for the next 20 years, at some point the coal will be exhausted. We can at least live a good life thereafter. They'll probably extract all the coal by 2070. Until then, our lives will be really bad, but at least after 2070, we will be able to breathe and live. If they increase the extraction by four times, people will leave. They will then come back after 2070, once the coal finishes up; they will rebuild it from scratch.



At least whoever can leave will leave. Whoever dies, will die. The rich will survive – they will make profits from the coal and leave the place.”

On Health and Mortality: “Diseases will be widespread. Even the trees and other fauna will die or barely survive. There will be no food. People will struggle to eat.”

On Migration: “People who come from outside to work in these mines will go back or go somewhere else after twenty years. Everyone will leave one by one to save their lives; only the people of Angul will remain here and suffer. Everything is going to become hollow; everything will sink. Talcher will vanish from the map.”

On Employment: “Mining cannot be abruptly halted. Everyone here works for the coal companies, either directly or indirectly. Many of us wish to work in these mines. If these companies are going to stop or move away, all these people will become unemployed; they will have no work.”

“Everyone is dependent on coal; what will they do?”

When students stayed with the scenarios presented to them, they could assess how the future world would be different from the current world. They could imagine how various aspects of the world in that particular scenario would affect people and the challenges they would face. From a micro to a macro lens, from an individual to a systemic perspective, students were able to understand how a climate shock or stressor might affect different aspects of society.

5.7

Moving towards Agency and Preferred Futures

Students, while staying in the future, could elaborate on the challenges individuals, institutions, and systems might face if the scenarios presented to them were to occur in the future. Spending time with the scenarios helped them imagine the different kinds of solutions and adaptation strategies that the communities, systems, and institutions have to consider in order to ensure that the people of that time are not rendered helpless and hopeless.

In many workshops, students mentioned that people will not die, migrate, or face challenges on a daily basis but will adapt—their lives will be completely different. In other workshops, this nudge was provided to them to imagine the different strategies that could be employed.

As part of this exercise, we attempted to help students move from a fatalistic point of view and start thinking about the actions to be taken against a problem that may be seen as natural, normal, or temporary. This activity helped them gain a sense of agency and think about how the challenges would be resolved. Instead of treating the problem in the scenario as something beyond their control (or falling back on the dominant narrative solutions), they were asked to think about how people could adapt to the changes brought about by the scenarios presented to them.

If students were not able to think from a systemic lens, they were given a nudge to imagine themselves as the Chief Minister of their state and think of the solutions she/he/they might implement. This helped students think from the perspective of a decision maker who had the power to address these challenges and effectively problem-solve.

The following are some solutions that students thought about:

Water Bank (Bhojva, Gujarat)

In a scenario where water would be scarce, a water bank system for districts was suggested. This would be run by a water management committee elected by the people of the district. The water will be stored through rainwater harvesting methods and sourced from the closest water bodies (in this case the Arabian sea, which will be subsequently filtered). Each family will be allocated a certain amount of water every week, depending on how much water the bank has.

A Dalit girl in a school in Bhojva, Gujarat, foresaw problems with access to water for different castes. The situation was tense with water access even in her current reality, and she imagined that in the future it would only worsen. She expressed concerns around how the committee will allot water and expressed the need to have equitable representation in the committee.

People's Movement/Agitation (Halol, Gujarat)

"I believe that if a lot of industries are set up here, resulting in unchecked pollution, then we should all come together to appeal to the government and agitate asking that these industries be shut down. They can set up industries on highlands and not take up agricultural land."

Agricultural Training for Youth (Halol, Gujarat)

"The younger generation will need to be taught and trained to farm in smaller areas, so they are up to speed before actively pursuing agriculture and related trades. ITIs will also have agricultural training courses."

Water Absorbent Roads (Sanand, Gujarat)

"Roads that can completely soak surface level water will be introduced. Such roads already exist in the United States of America. It soaks up water instantly. That way, flood water would not cause waterlogging. Underneath the road, there will be a mechanism that will filter this water, making it potable and drinkable. A well-like system under the roads will also exist to help refill the groundwater."

Farming within Industrial Spaces (Sanand, Gujarat)

"Dedicated spaces for farming will be provided on rooftops of industrial buildings. This will decrease pollution as well. If the government mandates it, then they would have to follow the rules."

Carbon Tax (Angul, Odisha)

"We should levy a carbon tax on items like alcohol, cigarettes, and anything that is injurious to health. We should decrease taxes on essential commodities. Mining companies will have to pay higher taxes, and this will serve as a deterrent. The money collected through taxation will be used for our benefit."

Closed-colony with an Ozone Layer-like Protection System (Angul, Odisha)

"For a dust free society, we can make colonies that have a protective cover like an ozone layer. This can be made with the use of technology - it will have new styles of architecture. Dust won't float through the layer."

The truth is that the rich do not face any problems, even now. It is the middle class and poor who bear the brunt.

Within this colony, the poor will sell vegetables and run the food economy. This will be a self-sufficient colony, tending to the needs of all its residents. The colony will be fully air conditioned. This will be funded by mining company owners and the government. They have taken our lands, and now they can do something for us in return.”

Skin Care Vaccine Cream (Kalahandi, Odisha)

“Companies will make skin care vaccines that can help us bear the heat. Just as the vaccines for COVID-19 were provided by the government, this medicine will be made available in the same way. It will be sold like an ointment.”

Clothes that Help Beat the Heat (Kalahandi, Odisha)

“When we leave our homes, the clothes should keep us cool.” “There should be clothes with in-built cooling systems.” “With such clothing options, I feel that the expenditure on clothing will be less than that on ointments, medicines, and vaccines.” “Companies will also invest in designing stylish clothes that help keep us cool.” “School uniforms will also be like this.”

Temperature controlled polyhouse (Kalahandi, Odisha)

“Heat-controlled platforms for cultivations can be devised. Dedicated zones will have to be earmarked where heat can be controlled. Some agricultural land can be used for these platforms. To decrease the temperature, a covered, tent-like structure will be erected under which agricultural activity can be done.”

Timing Changes/Shifts (Kalahandi, Odisha)

“People will work during the nights and sleep during the day.” Students discussed considerations around women’s

safety and aligned on the need for safety norms and allied services for women like pick-up and drop services.

Farming as a Government Job (Kalahandi, Odisha)

B - “With rising unemployment levels, farming needs to be classified as a government job. New trades like agricultural technologists need to be introduced in ITIs.”

Foldable house (Jorhat, Assam)

“In some places, people are making foldable houses so that whenever it rains, they shift to other places.”

“There are folding homes around Nimati which are like tents. They make them just like we do here, but they take all their stuff along (as much as they can). They go to places that are on higher ground.”

More People taking up Agriculture (Tinsukia, Assam)

“Everybody will move towards agriculture. Most people are going to be farmers. They will adopt new methods like farming atop raised platforms, which will be funded by the government. Soil erosion can be managed this way. Harvests from the farms will be directly taken to the markets - such systems will be introduced. But the farmers would not have to do all of this themselves. It will be done through a digital app. There will be a digital market where the farmers will upload their harvest. When someone wants to buy something, the government will provide transportation support.”

“Lack of water will not affect farming. There will be no seeds. New forms of agriculture will be introduced. Only six months of agricultural work will ensure food and financial security for the rest of the year.”

Community Banks (Tinsukia, Assam)

“Resources need to be properly collected and stored so that they can be used for six months at a time. A bank-like entity will be created near the village where people can collect essentials like food and water. Everyone will have an account, and when it floods for six months, the resources at the bank will be equitably distributed.”

Beyond these artefacts, we got students to prioritise key skills enlisted below to question dominant paradigms.

Empathy and Interconnectedness:

We worked with students to help them look at situations from diverse perspectives to build empathy and interconnectedness. This enabled students to ideate proactively and even consider “others” in solutions. When presented with such information through their peers or the facilitator, they were able to factor in other actors in their solution—thinking through alternatives such as fair compensation or questioning if an alternative solution was feasible.

A discussion on whether dams can resolve severe flooding

In Majuli, a group of students spoke of building dams to help solve issues owing to the floods in the district. When presented with the fact by the facilitator that Manas and Kaziranga parks were at risk of submergence due to dams, they concluded that scientists must consider alternative ways of building dams.

Critical Thinking

While nudges served as ways to get the students to push themselves to dive deeper into scenarios, it was also interesting to see how students critically appraised the scenarios at hand.

A discussion on whether air conditioning may be the solution for extreme heat

As part of a group discussion, when students spoke of how the use of air conditioning would become commonplace, others questioned the fall-outs of its overuse, fostering critical thinking in these spaces.

“If the heat increases, everybody will own and run ACs in their houses. Currently, we don’t have an AC, but we will in the future. When we return from the fields, we will be able to sleep very well.”

“But an AC will stop functioning because of the heat. Our bodies have a limit for experiencing heat. Can we possibly sustain ourselves if that threshold is crossed?”

“AC will do more harm - it will increase the heat.”



A discussion on electric vehicles in Rourkela, Odisha

“Everyone will ride or drive electric vehicles in the future. This will reduce pollution. Solar panels should be installed all over Rourkela, and it needs to become a green city.”

“An electric bike does not have so much capacity. There are lithium factories, which are very polluting. Pollution increases as long as you increase mining.”

Cognitive Flexibility and Alternative Imaginations

Discussions of this nature unlocked a paradigm shift in the thinking of many students. It enabled them to think of solutions beyond dominant discourses. Beyond just narratives of awareness building, these discussions foregrounded cognitive flexibility and paved the way for alternative imaginations.

Something for everyone - a discussion in Bhuj, Gujarat

Students here came up with ideas for their district that they did not base on the logic of profit but instead centred them on what could be identified as a good industry and whether they were strongly regulated by the government across multiple parameters. To further elaborate on the idea, they spoke of having a large open space with increased tree cover, but access to this area could be ticketed (nominally) to generate revenue for the government.

Chapter 6:

MOVEMENTS - AN ANALYSIS

“

This process (Climate Futures Literacy) is making us think. I feel like it is my responsibility to do something; find solutions.”

— A student from Majuli, Assam

Through various segments of this report, we have time and again alluded to the concept of Used Futures. In this chapter, we have categorised some of the Futures that the students presented by detailing how the process enabled shifts and opened up their imaginations to envision various Futures for themselves and their communities.

We also sought to capture how the entire research process enabled the movement of thought from helplessness or powerlessness that these young people felt—to a transformative sense of agency powered by constructive, restorative hope.

6.1

Used Futures to Alternate Futures

Anticipation is how the future exists in the present (Miller, 2018). These anticipations may fall under two anticipatory assumption systems:

- ▶ They can be closed - dependent on past experience, or based on future trends.
- ▶ They may be open where the past or future forecasts have no bearing on them.

The central idea is that “imagination can only be elaborated based on assumptions.” When one is able to question and shift assumptions, that is when new imaginations emerge. Inayatullah, in his work on Causal Layered Analysis (Inayatullah, 1998), further speaks to the process of shifting these assumptions and opening up alternative imaginations. Causal Layered Analysis consists of four levels:

- ▶ Litany level is the immediate concerns observed and maybe issues based on the trends.
- ▶ Systemic view- Here, we identify social causes we think are the causes of the litany-level issues.
- ▶ The worldview level is the discourses, either state-level narratives or social norms, that hold the current understanding of the systemic causes in place.
- ▶ Finally, myths and metaphors are deep emotional stories we tell ourselves that hold our current imagination in place.

Therefore, the critical action is to “undefine the future” by moving through the above four levels to identify a preferred alternate future unhindered by social norms, state or media narratives.

Explained:

Used Futures: Used Futures are those that are borrowed. They do not prioritise one’s imagination and are drawn from state or media narratives or prevailing developmental trends.

Futures are infused with power - this is the centrality of his argument (Inayatullah, 1998). The important consideration in this case is to be aware of whose interests are essentially being prioritised. Critical Futures processes aim to disrupt power relations and shift paradigms of thinking to build alternate Futures. How does one categorise Futures that are rooted in traditionally dominant paradigms? Inayatullah termed them Used Futures. Used Futures are those that are borrowed. They do not prioritise one’s imagination and are drawn from state or media narratives or prevailing developmental trends. Used Futures also tend to make us believe that only one kind of future is possible and disallow a multiplicity of alternate Futures.

6.2 Adding Climate Change into the Mix - How it was Understood and Perceived

As part of personal and community futuring exercises, it was observed that students understood climate change in the following ways:

1. As Natural: Climate change was perceived as a phenomenon or occurrence induced by divinity. It was experienced as something completely outside of human control. Sometimes termed nature’s wrath. Within highly religious and moralistic societies, they even considered themselves deserving of it. While there may be reactive adaptation, there is a degree of helplessness in the face of climate change.

In Barpeta, Assam, the shifting riverine islands make livelihoods and access to land very precarious. As a consequence of the geographical conditions, communities have learned to adapt in ingenious ways - they chop bamboo and build makeshift boats; they increase the height of the cots they sleep in by placing bricks under them. While floods have a bearing on their livelihoods, they are also able to convince themselves over time of what seem to be silver linings in dark clouds. Some of them said that village ponds saw an increase in fish in the aftermath of floods. This meant an increase in the catch and profits yielded by way of fishing related incomes. In a sense, people have also learned to depend on floods to a certain extent as a way of adapting to their circumstances.

Some even claimed that receding floods enrich soil fertility and improve harvests and crop yields. And yet, data and scholarly research clearly indicate that floods in Assam have only increased, causing unprecedented damage to life and property. While the people do understand the gravity of the destruction caused by floods and are aware that a lot rides on the vagaries of neighbouring countries' decisions on dam construction and usage, even so, the river and the yearly floods are seen as indictments of God.

In Singimari, Assam, community members and teachers said,

“Floods are natural. They come and go, and the people have no role to play. The government does what it can every year.”

In a village in Odisha where the government was acquiring land to broaden highways to enable efficient transportation of coal, a group told us,

“There is no water; all the wells are drying up. There has been no rainfall since last October. The heat has increased manifold.”

And as they continued to list the various climate change phenomena, a man interjected and advised the group that less rain and increased heat were acts of God, and these could be dealt with.

He advised them to instead focus on the issues caused by infrastructural development. He encouraged them to speak about the construction of a four-lane highway from Rourkela to a steel plant which meant that they would have to give up their lands for a price that was less agreeable to them. The takeaway is that climate change issues were not seen as “real” problems, and a sense of passive acceptance was commonplace.

2. As Normalised: Many young people are habituated to certain experiences that are climate change-related or induced. These experiences are then easily accepted and normalised. In some contexts, this could be viewed as resilience against what they think is beyond their control.

Talcher in Angul, Odisha, is home to the largest coalfield reserve for power grade coal in India. It is very common for coal dust to settle everywhere. At ITI institutes, students were used to cleaning a thick layer of coal dust that settles on an everyday basis. The thick coal dust and an economy around coal transportation have resulted in severe air pollution, with reports suggesting that Talcher has the highest concentration of nitrogen dioxide in the country. But this is how students discussed its effects,

- ▶ Boy 1: “I have breathing problems and get a lot of skin allergies.”
- ▶ Boy 2: “The coals are carried on trucks and then dumped. These vehicles generate a lot of dust. When I go on the road, just seeing the number of trucks makes me think I could die.”
- ▶ Girl 1: “There are a lot of earthquakes, but we are used to them. I feel scared sometimes, but what can I do?”

In Tinsukia, Assam, students spoke of how Assam was known for its floods, saying, ‘Flooding is quite normal here.’”

3. As Othered: In this case, climate change was seen as something that was caused by others—people from other social groups. E.g., several students spoke of how it was other people’s responsibility to not waste water or throw waste. In a few instances, some of them blamed people for overpopulation, as detailed in the scenarios section of the previous chapter.

4. As Temporary: This is when young people developed an implicit understanding or bias that climate change shocks were temporary in nature. For instance, in Halol, Gujarat, youth believed that flash floods were a new phenomenon and would only last for a short period of time, with no factual data to support this.

In Barpeta, Assam, when the floods inundated homes, people waited it out for the duration of the floods. Anticipating floods and preparing for them by stock keeping grains, raising cots, and waiting it out was their survival strategy, and they considered this to be temporary.

5. As an Accepted By-product of Development:

In regions where industrialisation or infrastructural development was rapidly on the rise, students internalised climate change issues as necessary evils when so much good was happening by way of ‘progress’.

Students in Sanand, which is a highly industrialised district in Gujarat, said that pollution would inevitably cause climate change, but it was also giving them jobs, so they couldn’t complain.

In Rourkela, Odisha students said, “Heat is a small price to pay for what our land produces”, alluding to the steel plants in their region.

Climate Change Futures

In essence, the way the students understood climate change was based on certain assumptions that made climate change unactionable. We dive deep into breaking this down.

1. When climate change is perceived as natural, the climate future is not actionable because of the underlying anticipatory assumption of having no responsibility and climate change being caused by divine intervention. There is a passive acceptance of the changes that climate change, as a natural phenomenon, will cause.

Climate Futures cannot be pictured in the Futures imagined and the future in this case is viewed as a better present.

Here, roads, electricity, and basic infrastructural needs take precedence, and rightly so, however they preclude alternative imaginations. The Futures of their surroundings are imagined as an extrapolation of what has happened by way of development or progress. They consider it to be outside one’s scope of concern and, in turn, action.

2. When climate change is perceived as normalised, the climate future is not actionable because the underlying anticipatory assumption is that these Futures need to be borne or endured. Climate change mitigation was seen as a responsibility of the state and was seen through the prism of disaster-based responses that the government would undertake. For instance, students spoke of the need for the government to make cash transfers for loss of livelihoods and better provision of food and groceries during disasters. It absolved the individual of any responsibility or action, and the students accepted the discomforts that came with their experiences of climate crisis.

Climate Futures are seen or pictured as a disaster-based reactive response. The future is mainly approached as a response to the past or present.

3, When perceived as othered, climate Futures are anxious and exclusionary Futures. In this case, the climate future is actionable, but when the 'other' is policed or controlled, the anticipatory assumption is that the others are responsible for climate change.

Climate Futures feature when high regulation of population occurs by the government. The future is determined when the freedoms of others are curtailed and strict rules are imposed.

4. When perceived as temporary, climate Futures are techno-scientific Futures. Here, climate Futures are actionable, but only by scientists. The underlying anticipatory assumption is that everything will remain the same, and can get better. There is an overdetermination around how technology would make lives easier and the responsibility would largely lie with scientists.

Climate Futures are the responsibility of scientists. The future could be positive and hopeful, provided certain criteria were achieved by technologists and scientists.

5. When no change is expected from how things are at present, climate Futures are essentially no Futures - The 'no Futures' option was articulated by several students who thought of the future as a continuation of the present. They had not experienced a positive change in their conditions. Here, climate Futures are not actionable. The underlying assumption is that 'change' is not possible.

Climate Futures appear as no Futures. The future is a continuation of the status quo.

However, we largely found that students were either unrealistically optimistic or felt powerless or hopeless in the face of climate change. Additionally, even while students were experiencing climate change affectively and held embodied knowledge of the climate crisis, concerns related to climate change did not appear prominently, nor did they attribute their concerns to lived experiences of climate change.

The factoring of climate change in their narratives and making multiple connections to how climate change affected their lives were dependent on several factors:

- ▶ Whether the individual was directly affected by climate change phenomena.
- ▶ One's proximity to a climate change site.
- ▶ If environmental degradation was visible or not.
- ▶ Preconceived myths and stories that normalise climate change.
- ▶ How social position and location enabled greater adaptive capacity to bear the consequence of climate change.

However, when they were able to factor in climate change, the attribution was in the form of internalised narratives of the state and media and did not stem from their lived experiences.

When one approaches this and maps it through the lens of Causal Layered Analysis, one is able to see this.

6.3 Causal Layered Analysis - Key Findings

Litany (immediate concerns)

- ▶ Pollution
- ▶ Heat Waves
- ▶ Temperature increase
- ▶ Floods
- ▶ Unemployment
- ▶ Land loss
- ▶ Loss of livelihoods
- ▶ Mobility concerns
- ▶ Erratic rains/No rains
- ▶ Less yield
- ▶ Cyclones
- ▶ Lack of water

Systemic Causes (causes identified as causing concerns)

- ▶ Other people's behaviours - For example - people waste water by not closing taps, throw a lot of waste, and are responsible for cutting trees
- ▶ Individual behaviours/responsibilities only
- ▶ "People have become greedy, the god is punishing us"
- ▶ "Industries that give us jobs will cause some problems"

Worldview (discourses keeping the current imagination in place)

- ▶ Environmental degradation as an inevitable cause of development and for generation of jobs.
- ▶ Either emphasis on individual responsibility or unhindered emphasis on scientists to tackle climate change.
- ▶ Linear model of progress.

Myths and Metaphors (which build emotional connections to internalised stories)

- ▶ “Greater the pollution, greater the prosperity.” (specific to cases when the entire economy is coal dependent - as illustrated in certain Odisha-specific examples).
- ▶ “There is nothing one can do” (driven by helplessness and perceived lack of control).
- ▶ Driven by viewing climate change as identified earlier in the section as natural, normalised, temporary, or an accepted byproduct of development.

Borrowing from these, we also find that, as seen in the community futuring section under Process chapter -

Several of the Futures that they imagine for their communities and themselves fall under the category of ‘Aspirational Futures’. This is in line with the findings of the causal layer analysis as well as the specifics shared on community futuring in previous chapters. These Futures included:

- ▶ Wanting their region to be the next smart city
- ▶ Solution based Futures, which were seen as infrastructural asks
- ▶ Techno-based solutions with the view that technology may be able to solve for all current crises
- ▶ No Futures - where students saw no change possible

Even when thinking of their own aspirations under personal futuring we see that the aspirations may have emerged from

- ▶ Social norms,
- ▶ What is considered possible
- ▶ Restricting one’s aspirations if no solution has worked so far

We call these ‘Used Futures’ which borrow from dominant paradigms. There are three primary concerns:

1. One, that students were stuck in Used Futures,
2. Two, that the systemic causes or social causes didn’t map onto the issues identified at the litany level (immediate concerns) as shown in the case studies below

Thus being unable to make transitions from litany to systemic level effectively.

Case Study 1

Talcher, Odisha

When asked what the challenges were for a young person, the immediate response was coal mining related challenges that the community faces. Many young people looked at migration as a strategy for climate adaptation. Others spoke of:

- ▶ being scared by coal mining induced earthquakes,
- ▶ health concerns such as breathing problems and skin allergies
- ▶ groundwater contamination
- ▶ need for devising unique solutions like zoning of mining areas
- ▶ need for residential areas where people would live separately
- ▶ pollution filters

They also imagined a magnetic field powered coal transport system where trucks would not be used. They considered the transport of coal and the resultant traffic and dust as the causes of health concerns in the community.

However, without a nudge, when asked what they thought caused climate change, responses included the need to raise awareness among people. Students came up with ideas on how state sponsored advertisements need to be shown. They also came up with solutions to reduce the use of plastics which included a suggestion that the government should pay people in exchange for plastics (monetary incentive). While these remain brilliant ideas, they did not actively and mindfully connect their lived experience to the solutions. They did not make the correlation between what caused pollution (though they were fully aware) and the solutions they presented.

Case Study 2

Maliya Hathina, Junagadh, Gujarat

Students spoke of how cyclones affected them. They said, “Whatever we have in the house flies away. Trees become air-borne.”

“A lot of mangoes that were grown painstakingly fell to the ground and went to waste. My neighbour’s house also collapsed.”

They also spoke of how water would engulf houses and destroy the crops that were their source of livelihood.

Despite their lived experiences, when asked what caused climate change and what solutions they would suggest, their responses were largely unrelated. Here are some of them:

- a. The need for decrease in plastic use: “These days, plastic is being used a lot. This needs to be reduced. We shouldn’t use polythene bags. We learnt as part of a YouTube video that we should try and reuse plastic.”
- b. The problem of waste: Many students spoke about how waste needs to be tackled. “People waste a lot of water. Where I live, many students are getting an education, but they do not even close the tap properly.”

They viewed this rather simplistically and were not able to use a systemic lens to understand and mitigate climate change.

Finally,

What was holding them back were the discourses and the myths and stories that kept the current imagination in place, which, as identified earlier, describe climate change as natural, normalised, temporary, and an accepted product of development. How climate change was understood and experienced rested on stories and underlying assumptions and metaphors, which, when addressed and made visible to students, helped open up Futures.



6.4

Moving towards Agency and Preferred Futures

Through the process of climate Futures Literacy as outlined in the preceding chapter on our research process, it was possible to move students from a state of helplessness or inaction to shifting assumptions, mindsets, and mental models where they had more agency to define their Futures.

At times, we were able to shift the assumptions through the alternate worldviews of the students in the group, and at other times, the assumptions were shifted through the intentional use of nudges. For example, in several districts where climate change was normalised, students, through nudges, were presented with information based on scientists' information on how the climate crisis may increase. For instance, in Bhavnagar, where rising sea levels were a point of discussion, it helped break the assumption and worldview as a normalised take on climate change. In Rourkela, when students were presented with dystopian nudges - there was an initial dismissal.

This was then supplemented with some of the experiences of their peers concerning water scarcity in other districts. Presenting such nudges and information through them, helped shift the thinking of climate change as a normalised phenomenon.

After the initial dismissal, the facilitator encouraged them to stay in the discomfort. This allowed them to consider climate change seriously. After a moment of existential crisis, students could think through ideas for alternatives, as detailed in the Process chapter.

In Bhuj, students spoke of how the logic of profit needed to be changed. They built a new Bhuj based on three pillars:

- ▶ Green tourism that would generate revenues and contribute to the environment
- ▶ Good industries (which were only for essentials), which the government regulated; and
- ▶ Education, which would drive behaviors and mindsets

In parts of Gujarat, flash floods were not a regular occurrence earlier. Making this information available allowed them to shift the assumption that climate change is temporary. In Nuapada, Odisha, students spoke of how the lake in the city was polluted because of people throwing waste in it. One of the students questioned if it was only the people who were responsible for the degradation or if other actors like the municipality and government were to be held accountable as well. This led to a multi-stakeholder thinking and response to the cause, thus enabling a better connection between the problems they experienced and connecting them to the right social causes.

The process also helped them move from helplessness and assumptions that close action to a sense of constructive hope and agency among students.

Showcased below are also examples of how we enabled these movements

Movements

This snapshot is from Talcher, Odisha where students highlighted increased environmental degradation

What students said	Movement
Pollution levels will rise, but we need coal to sustain	Acceptance of Status Quo
We have become habituated	Environmental degradation experienced as normalised for students
We will have to leave and move away	Use of dominant narrative - migration as an adaptation strategy
Mine all the coal that you can, so we can breathe comfortably thereafter	Powerlessness
Nobody will come together	Helplessness
We need to ask mining companies to do better - close the dug earth and cover it with top soil. Many times, this is left open. We also need better regulation.	Shift from a normalised understanding to identification of multiple actors responsible for climate degradation

This is a snapshot from Climate Futures Literacy Workshop in Majuli, Assam

What students said	Movement
<p>Boy 1: We need to have discussion with people. We need to bring people together</p> <p>Boy 2: People will look at mobiles and do some google search and think that's the solution</p> <p>Girl 1: We have to do something. If we begin, more people will join us</p>	<p>Taking individual and collective responsibility. Thinking through participatory approaches.</p>
<p>When nudged and presented with information that Talcher has the highest levels of NO2</p> <p>Girl: How is that possible? The government would have thought of something - Probably, when we mix CO2 and NO2, perhaps something better can be made. Which will help reduce the concentration of NO2?</p>	<p>Questioning</p>
<p>Something needs to be done</p>	<p>Moving from passivity to agency</p>

What students said	Movement
<p>There are several entrance examinations. We will write some exam and get through.</p>	<p>Individual responsibility</p>
<p>We cannot say what the future may hold - everything is dependent on God</p>	<p>Fate-driven</p>
<p>There is a lot of corruption involved in getting a government job</p>	<p>Hopelessness</p>
<p>Jobs are dependent on government</p>	<p>Government Responsibility</p>
<p>If we work hard we can start our own business</p>	<p>Individual responsibility</p>
<p>We however need capital for it</p>	<p>Identification of Constraints</p>
<p>This is because farmers use a lot of pesticides.</p>	<p>Unable to identify accurate social cause</p>
<p>In Sivsagar, there was hail this year. This was unprecedented.</p>	<p>Experience of extreme weather events</p>
<p>It is because of car pollution. There should be less cars.</p>	<p>Unable to identify accurate social cause</p>

What students said	Movement
Majuli gets a lot of floods. We should have dams which will prevent floods	Solutioning
We need better science in building dams because the river can break through dams and cause havoc	Asserting the need for better scientific evidence without accepting dominant solutions
Majuli will get better - we will have better roads	Aspirational Futures
We also have to utilise our uniqueness to position Majuli better. We have a Padmashree awardee in Majuli. We are known for mask-making. Crafts work should be introduced in ITI	Alternative imaginations
This process is making us think that we only have to do something and find solutions to these problems	Looking at themselves as agentic actors

What can enable these movements in the Climate Futures Literacy Workshops?

While we have used these principles, keeping climate Futures at the center. The framework may be used for any future literacy workshop with young people.

1

Creating a dialogical space that prioritises the following:

- ▶ Openness - where the group feels safe to articulate experiences and express diverse points of view for young people.
- ▶ Have a diverse group of people where multiple perspectives and collective sharing is prioritised.

2

Articulation of injustice is important:

Acknowledging injustices and knowing that the world is unfair is always the first stage of opening up possibilities for the future (Inayatullah, 1998). When we discussed personal futuring and community futuring and asked about their challenges, it provided students with a space for articulation for felt injustice. Once this space was made available, they had the emotional and cognitive space to think about other imaginations.

The personal and community futuring exercises began with challenges that they faced, giving them room to articulate injustices. E.g., It was not uncommon for girls to break down during the discussions - In Kokrajhar, Assam, a young girl cried while speaking of how it was not possible for her to take a course in computers.

In Silchar and Majuli, Assam, students were concerned about unemployment and considered corruption to be one of the reasons why they could not get jobs easily. The provision of this space allowed them to process some of their deeply felt anger.

3

Introducing anxiety towards building constructive hope:

By introducing expert voices and introducing dystopian imaginations as a method - it allowed students to consider climate Futures. As discussed in the previous sections, students display optimism about their Futures even in the face of climate change which we identify as hope based on denial and unrealistic optimism leading to inaction (Ojala, 2015). On many occasions, faith in scientists and institutions only meant that they did not see how they could build more pathways of action. As Ojala further notes, “to face the negative is the beginning of constructive hope” (Ojala, 2015). When students stayed with the anxiety as they speculated on the expert voice narrative, we were able to shift their thinking to a place of constructive hope.

4

Making alternative perspectives visible by challenging deep stories and assumptions held as true:

This can be done by actioning the following:

- ▶ Presenting information that challenges the current understanding and shifts emotional stories and assumptions that keep only borrowed or what we have identified as used future imagination in place.
- ▶ The information may be introduced by the facilitator
- ▶ New information is presented by other students in the group

5

Making constructive hope possible:

This process must then foreground key skills such as imagination, critical thinking, empathy and interconnectedness, and cognitive flexibility.

We identify the emergence of alternative stories as hope which leads to pathways for action for climate change. As detailed in the Movements section, students shifted their perspective from saying that scientists will figure technological solutions or that other people need to change behaviours — to,

- ▶ Critically thinking through some of the proposed solutions;
- ▶ Look at how critical stakeholders like governments and communities held key responsibilities
- ▶ Look at themselves as actors with agency

6.5 Student Testimonials

This entire research endeavour has been a dedicated exercise in unlocking the possibilities that students had not even thought of and getting them to vocalise and critically reflect in a safe, encouraging environment. The students had a lot to say after the climate Futures Literacy workshops were concluded, demonstrating how far they had come in terms of perspectives and mindsets.

Some of these are captured here



Location	Student Testimonial
Kalahandi, Odisha	"I have been able to articulate all the frustrations that I had bottled up."
Majuli, Assam	"I feel like it is my responsibility to do something and find solutions."
Rourkela, Odisha	"I have thought and reflected so deeply for the first time. I feel a little scared, but I also feel that we can do something about this."
Kutch, Gujarat	"Why isn't this on the election agenda? Why haven't we been told about this? Why is the government not talking about this? We need to work on this together, everyone."
Dibrugarh, Assam	"Young people need to talk about this, but only to such a point that it does not frustrate them. If we discuss it further, we can do something about it; we can progress."
Talcher, Odisha	"Politicians and policymakers should listen to our voices and have conversations with us."

Student Reflection and Feedback from Tinsukia, Assam:

Boy - We felt good thinking about all of this right now, this early. Only if we think about it now can we do something about it in the time to come. Or else, in twenty years, if there are severe floods, we will be unprepared and unable to address the problem.

Boy - It is good to have young people think of these situations, because it is they who will have to face them in the future. Even if we don't have to, the people of Lakhimpur will have to come to terms with it. They have already been facing it (floods) for 1-2 months. We must think about how we are working and affecting the climate.

Boy - Just thinking won't do; we have to take action. If young people want to do something, they can. Some people will have to enter politics, and some will have to become activists. Whatever one chooses to do, one needs to do it well.

Boy - Thought processes today are different. People think about themselves more than others. This is a fact. People put themselves first and keep busy. They'll see the impact of the floods and might even feel sorry about it, but they'll not take any action. They won't proactively seek solutions to resolve the problems that exist.

Boy - Not just here, but this conversation needs to happen in every educational institution. These workshops need to be conducted everywhere, and the scope should not be limited to reflecting on the need to be done on not just floods alone but a lot else too.

Student Reflection and Feedback from Kalahandi, Odisha

Girl - Having spent some time thinking and reflecting on this, it makes me feel a little afraid of what will happen in the future.

Boy - I am thinking of how to avert this future.

Boy - I felt afraid to think that in the future our skin would burn and we could even die.

Boy - Firstly, I liked listening to what others thought about this topic—listening to others' points of view.

Boy - I liked the fact that through conversation and discussion, there is an exchange of knowledge. Our thoughts were so different from one another that they added to innovative ideas.

Boy - Yes, more such discussions should be held so that such problems don't happen in the future.

Boy - If any issues were to come up, we would be prepared.

Boy - Our minds have changed—whatever problems are to come in the future, we can think about addressing them.

Boy - Who knows, the government might see your project and think about implementing it! The ideas of the youth need to reach the government. We were able to think through so much today. This can be published on social media as well.

Girl - I have not thought of anything like this before.

Boy - When people from outside visited the school, we did reflect on similar lines, but not at such an advanced level.

Boy - Nothing of this sort was undertaken in our schools because we come from government schools. They never taught us anything like this in our schools, which is probably why we could not think of pertinent answers.

Girl - Such conversations and discussions should happen in schools as well.

Boy - I don't think that the issue of climate change can be completely resolved, but we definitely need to think about it.



CONCLUSION

The skills needed to thrive in the 21st century are rapidly expanding. Futures Literacy is being hailed as a critical skill for youth globally. UNESCO posits that being future literate is a necessary capability that everybody should acquire and is achievable for everyone. Further underscoring its criticality, UNESCO mentioned that it was as important as reading and writing for young people. As the world changes at a rapid pace, it poses significant challenges for the youth who inherit an uncertain and volatile planet.

Based on our observations from the ground, it is evident that the climate crisis is an inescapable reality, compounding vulnerabilities for students in the most precarious situations. Becoming climate future literate will enable them to factor climate change into their aspirations and give them the confidence and resoluteness of spirit to deal with the intangibles and embrace the unforeseen with a positive bent of mind. Climate future literacy also arms them with the foresight to actively shape their Futures on their terms. They are aware that they no longer have to be constrained by their circumstances or social norms or be influenced by state and media narratives.

The emancipatory climate futures literacy workshops that we conducted have been examples of how dialogical spaces can provide a safe, empowering haven for young people to articulate felt injustice. The workshops aimed to foster the necessary skills and dispositions in young people to be open to various future possibilities.

We observed that, from a place of experiencing anxiety and resistance, the intentional approach to bringing uncomfortable narratives to the foreground unlocked their ability to critically think through and question the dominant paradigms. We saw how empathy and interconnectedness got them to become more inclusive in their visions for a desired future where their peers and the disenfranchised/marginalised also found a place. They also demonstrated cognitive flexibility by allowing themselves to change their views, bringing alternative futures to light.

In essence, these workshops could instil hope and drive agency to build pathways of action grounded in the present to work towards articulated, desired futures. Climate futures literacy helped students shift from a place of unhindered optimism (sources of inaction and inertia) by developing a well-rounded understanding of the impacts of climate change in their lives—to a position of constructive hope, which opens avenues for action.

What kind of Futures do young people wish for?

Equitable Futures

“I feel most angry about poverty. Nobody should be poor or rich. Everybody should be equal.”

Futures with Equitable Access to Education

“People in our communities (Maldharis, Parwals) don’t permit their daughters to pursue schooling beyond Grade 8. But in twenty years, they will.”

Non-communal Futures

“There are people from different communities in India - Hindus, Muslims. Disharmony and conflicts do flare up sometimes. But this politics of hate will cease.”

More-Than-Human Futures

Every person has three phones each. The radiation is killing many animals and birds. We can already see that the number of birds in our towns are reducing considerably. We should consider the well-being of all animals and birds too in the future.

(Students from Bhawanipatna, Kalahandi, Odisha)

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