Creating a Space for Tribal Sahariya Youth to Improve Access to Safe Water in Rural Rajasthan, India

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Abstract

Access to safe water is a fundamental human right, yet Indigenous communities, such as the Sahariya in Rajasthan, India, face significant challenges in securing this vital resource. This study examines the obstacles encountered by the Sahariya, classified as a scheduled tribe in India, within the context of the global water crisis, exacerbated by pollution, inadequate governance, and climate change. Despite Government of India initiatives like the Jal Jeevan Mission (JJM), aimed at enhancing rural water supply, challenges persist, particularly in reaching remote tribal communities.

The Sahariya community's struggle to access safe and reliable water is compounded by systemic discrimination based on caste, gender, and ethnicity. Government schemes frequently disproportionately benefit upper castes, resulting in inequitable access to water resources. This disparity significantly impacts Sahariya women and girls, who bear the burden of travelling long distances to collect water, impeding their well-being, education and economic opportunities. Historical displacements due to colonial and post-independence policies have further exacerbated these issues, with structural discrimination persisting despite policy attempts at equity.

Grounded in a critical research paradigm and employing participatory action research (PAR) as the methodology, this study explores the water access challenges faced by the Sahariya. It provides a platform for Sahariya youth to propose solutions. Influenced by critical theory, critical reflexivity, and an anti-oppressive approach rooted in social work practice, the study engaged 48 Sahariya youth participants. Participatory videos, focus group discussions (FGDs), resource mapping, and transect walks were utilised as data collection methods. Data analysis was conducted using a participatory data analysis approach, with participants contributing to the creation of a short film (https://youtu.be/AODuocliBOs) to raise awareness about their plight.

The findings revealed three primary strategies advocated by the Sahariya youth for positive change: community mobilisation, the formation of associations (Sangathan), and the creation of a film for awareness. This research enhances the understanding of the Sahariya's struggle for safe water access and advocates for their right to equitable water distribution. The study demonstrates the usefulness of participatory research in fostering community engagement, building capacity, and amplifying the voices of marginalised groups such as the Sahariya youth. By providing comprehensive training and technical support and fostering strategic partnerships with non-government organisations (NGOs) and policymakers for effective advocacy, participatory video can be a powerful tool for driving substantive social change.

The research underscores the necessity for inclusive and equitable policies that address entrenched structural discrimination within current water management systems. It stresses the importance of authentic, non-tokenistic participation, urging the government to recognise the rights of the Sahariya and implement equity-based and rights-based approaches to improve access to safe water. Furthermore, it highlights the need to avoid placing the burden of creating water resources on marginalised communities. Instead, the study calls for robust support from the government, NGOs, and other stakeholders to provide the necessary resources and infrastructure to ensure sustainable water access. The implications are profound, advocating for a framework that prioritises the voices of the most affected communities, such as the Sahariya tribe, ensuring their needs and perspectives are represented in policy and practice.

Keywords: Sahariya tribe, water, rural India, participatory action research, participatory video, youth

Contents

List of Figures

List of Tables

Attestation of Authorship

"I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person (except where explicitly defined in the acknowledgements), nor used artificial intelligence tools or generative artificial intelligence tools (unless it is clearly stated, and referenced, along with the purpose of use), nor material which to a substantial extent has been submitted for the award of any other degree or diploma of a university or other institution of higher learning."

Signed

Renu Sisodia

6 Oct 2024

Dedication

This exegesis is dedicated to the Sahariya community of Rajasthan, India, and to my parents.

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Embarking on the journey of a PhD exegesis is not merely an individual endeavour but a collaborative effort involving the support and contributions of numerous individuals and institutions. As I reflect upon the completion of my doctoral study, I am overwhelmed with gratitude for the many people who have played pivotal roles in this significant achievement.

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Ethical Approval

The Auckland University of Technology of Ethics Committee (AUTEC) approved this research on July 18, 2017. Ethics application number: 17/235.

Chapter One: Situating the Research

1.1 Introduction

Globally, Indigenous communities, such as the Sahariya community in rural Rajasthan, India, face deprivation and discrimination with regard to accessing safe water. In India, the extreme marginalisation of Indigenous communities is a major concern. Population increase and climate change are putting greater pressure on scarce resources, creating further challenges for Indigenous communities. This study used PAR methodology with the aim of creating a space for youth from the Sahariya community to share their experiences, knowledge, and innovative ideas related to improving access to safe water through FGDs and participatory videos. It is a practice-oriented project, and the output of this research is presented in the form of an exegesis and an artefact (short film). The current chapter provides an overview of the study, including the background context, research aim and objectives, theoretical and methodological framework, researcher positionality, and the structure of the exegesis.

1.2 Background and Rationale of the Study

Access to safe water is recognised as a fundamental human right, essential for sustaining life and promoting overall well-being (United Nations, 2010). The United Nations International Children's Emergency Fund [UNICEF], (2023) states that safe water does not contain biological or chemical agents directly detrimental to human health. It includes treated surface water and untreated but uncontaminated water from protected springs, boreholes, and sanitary wells. Approximately 2.2 billion people around the world do not have access to safely managed drinking water services; 1.5 billion people have only basic services; 292 million have limited water; 296 million use unimproved sources; and 115 million still collect drinking water directly from rivers, lakes, and other surface water sources (UNICEF, 2023).

The global drinking water crisis has manifested by freshwater over-drafting, water pollution, insufficient access to safe drinking water, and regional conflicts over inadequate water supply. Governance issues, such as inefficient allocation of scarce water resources and

unregulated pollution, are fundamental causes of freshwater crises in many parts of the world (Hargrove, 2021). Climate change is a significant contributor to the global safe drinking water crisis, affecting both the availability and quality of drinking water. It is important to address the underlying causes of climate change and take action to mitigate its effects on water resources (Kanae, 2009).

Low access to safe drinking water globally is a multifaceted issue that requires a comprehensive approach to address its underlying causes. To ensure universal access to safe drinking water, socioeconomic inequalities, water pollution, water scarcity, governance issues, and water purification technologies must be addressed. The following sections will discuss the issues of access to safe water among Indigenous tribes in rural parts of India.

1.2.1 The Water Crisis in India

The issue of safe drinking water has great significance in a country like India, where 64.13% of the population lives in rural areas, often with an inadequate supply of water. India is currently facing a severe drinking water crisis due to a number of factors, including its large and growing population, limited water resources, climate change, and inadequate infrastructure (Datta et al., 2023; Kuberan et al., 2015; Verma & Kaur, 2023). Despite having 18% of the world's population, India has access to only 4% of its water resources, making it one of the most water-stressed countries globally (World Bank, 2023). It has been reported that approximately 95 million people in India do not have access to clean water close to their homes (Water Aid, 2022a).

The lack of access to safe water has significant impacts on health and well-being, especially in rural and resource-limited areas of India. Studies have shown that limited access to safe water can lead to an increase in the prevalence of diarrhoea and gastrointestinal diseases (McGuinness et al., 2020). These waterborne diseases also have a significant economic burden of approximately USD600 million per year in India (UNICEF, 2023).

According to government reports, India has shown progress in terms of access to safe drinking water in urban households, rising from 38% in 1981 to 94% in 2023 (Ministry of Jal Shakti & Department of Drinking Water and Sanitation, 2024). The Indian government has

launched several schemes to improve access to clean water. One of these is the Jal Jeevan Mission, launched in 2019, which aims to provide tapped water connections to all rural households by 2024. However, it has not been able to fulfil its promises, and Sahariya villages are yet to benefit from this scheme. The funding for water supply in rural India comes from various sources, including the Indian Government, community funds, taxes of citizens of India and international organisations (Ministry of Jal Shakti & Department of Drinking Water and Sanitation, 2024). The World Bank has also provided funding for water supply projects in rural areas of India. The involvement of communities in the implementation of rural drinking water supply systems is crucial for the success of JJM (Water Aid, 2020). Based on Indian government reports, JJM has made significant progress. However, it is important to note that the data in the reports may not reflect local realities. There are still challenges in reaching remote tribal communities that have yet to be addressed such as identifying pollution-free water sources, managing and securing water pipelines, and enhancing water source management (Singh et al., 2023).

1.2.2 Tribal Community and Lack of Safe Water in India

Tribal communities in India are greatly affected by the water crisis, facing numerous challenges in accessing clean drinking water. In India, the term 'tribal' refers to the Scheduled Tribes who have their own distinct culture, language, and social customs that are different from the dominant culture of the country. The term Scheduled Tribes first appeared in the Constitution of India in 1950, in which Article 366(25) defined Scheduled Tribes as *such tribes or tribal communities or parts of or groups within such tribes or tribal communities as are deemed under Article 342 to be Scheduled Tribes for the purposes of this Constitution* (Choudhry et al., 2016). These communities are recognised as historically disadvantaged and are given special protections and benefits under the law to help them overcome social, economic, and educational disadvantages. There are over 700 Scheduled Tribes in India, with a total population of over 100 million people (Rao, 2018). Scheduled Tribes often have poor access to clean drinking water, sanitation facilities, and hygiene practices due to social, political,

and economic disadvantages, leading to increased health risks and a higher burden of water-related diseases (Ghosh et al., 2022).

Despite the importance of safe water for health, economic, and social reasons, the Scheduled Tribes in India face deprivation and discrimination in their access to safe water. In India, marginalised communities, comprising the lowest rung of the socio-economic ladder, face discrimination and social exclusion (Chatterjee & Sheoran, 2007; Kadun & Gadkar, 2014; Kijima, 2006; Kumar, 2014; Thakur, 2012; Van & Speybroeck, 2009) as a result of social, economic, and political processes. Such processes are often influenced by customs, laws, and institutions that are established and dominated by the powerful members of society (Jha, 2009).

The issue of water resource availability in India is critical and, unfortunately, caste, class, and gender often play a significant role in determining who has access to this vital resource. Despite Article 14 of the Constitution of India guaranteeing every citizen equal rights regardless of their caste, creed, gender, status, and religion, Schedule Tribes continue to face discrimination due to their social status. This unfair treatment has resulted in instances where Scheduled Tribes are denied access to public sources of water, further compounding their already disadvantaged position in society. Reports from the International Dalit Solidarity Network et al., (2014) and Tiwary (2006) have shed light on the severity of this issue and the pressing need for action to ensure that all citizens have equal access to this essential life-supporting resource.

The burden of sourcing safe water is disproportionately placed on women and children (usually girls). Tribal women and children have to spend significant time and effort fetching water from far-off sources which can impact their ability to attend to other responsibilities such as education and income-generating activities. For children, access to safe water can result in better health and increased school attendance. It also reduces the need for lengthy and risky journeys to collect water, resulting in greater personal safety for women and children and saving time which can be used for other productive activities. Easy access to water reduces expenditure on health, as people are less likely to fall sick and spend money on medical treatment. This means that people experiencing poverty can spend their limited resources on other basic needs

such as food and housing (Caruso et al., 2015; Kulshrestha & Mittal, 2003; Kumar et al., 2011; Tarrass & Benjelloun, 2011; UNICEF, 2023).

Inadequate water, sanitation, and hygiene (WASH) conditions, contaminated water sources, and poor sanitation facilities in tribal villages contribute to a higher prevalence of waterborne diseases and other health issues, further exacerbating the challenges faced by tribal communities in achieving overall well-being (Nerkar, 2015). The water crisis in tribal areas is compounded by factors such as poverty, remote locations, and systemic racism, making it more difficult to implement sustainable solutions and address the underlying causes of the problem. While the Indian Government and international organisations are working to address the water crisis in India, more targeted efforts are needed to address the challenges faced by tribal communities in accessing clean drinking water and improving their overall water security (Nerkar, 2015).

1.2.3 Sahariya Tribe and Low Access to Water

The Sahariya is a vulnerable Indigenous tribe in India facing social exclusion and discrimination. They are also classified as a *Particularly Vulnerable Tribe Group*, which refers to extremely marginalised and endangered tribes. Extreme poverty, lack of livelihood and resources, exclusion, and negative government policies have forced the Sahariya to live in deprived conditions. In particular, the Sahariya's right to water is endangered, contributing to unhygienic practices that lead to an increase in diseases and child mortality among the tribe. Sahariya women bear the greatest burden, having to walk long distances to provide water for households. Sahariya women are excluded from all decision-making processes. They are equally at risk from both health and social impacts associated with water collection and lack of access (Bairwa et al., 2017; Bhasin & Nag, 2007; Chouhan & Sharma, 2022). Despite the importance of safe access to water, limited data are available on access to safe water among Indigenous tribes in India, particularly regarding low access to safe water among Sahariya in the Baran district of Rajasthan. The Indian Government and private sectors are failing to provide an efficient and affordable safe water system in rural tribal areas due to a deficit of funds, a lack of

political will, a high rate of corruption in public services (Water Aid, 2020), and limited distributive policies.

1.2.4 Youth in India and Their Role in Access to Water

Limited access to safe water leads to hygiene problems and increases the risk of waterborne illnesses such as diarrhoea, cholera, and typhoid. Sadly, children and young people are disproportionately affected by these issues (UNICEF, 2024). The National Youth Policy 2014 defines Indian youth as individuals between 15 and 29 years of age (Sultana, 2015). Unfortunately, many young girls and women in this age group are often burdened with the task of fetching water which can have several negative consequences. Girls miss school or drop out altogether to assist in carrying water, resulting in low attendance rates. Additionally, lack of access to clean water can lead to compromised health as girls may have to walk long distances multiple times a day to fetch water, leading to physical and mental fatigue. Furthermore, the absence of functional drinking water stations and toilets with water availability in many rural schools impacts the well-being and dignity of young girls. It is important to note that males also suffer from low access to water.

Youth can help improve access to clean water in rural India by raising awareness, participating in community-based programmes, advocating for policies, and supporting initiatives for safe water in rural schools (UNICEF, 2023). The Sahariya youth (male and female) can play a crucial role in improving access to clean water for their community. Therefore, this study partnered with Sahariya youth to create safe spaces where they discussed and developed strategies for improving access to safe water. They also approached Sahariya community members beyond this age group (e.g., elders) to get their perspectives and knowledge.

1.3. Research Aim and Objectives

The presented study aimed to create a space for Sahariya youth in rural Rajasthan, India, to develop strategies to improve access to safe water. The aim of this study was addressed with the following objectives:

1. To explore the views of the Sahariya youth regarding safe water access.
2. To explore the potential contribution of Sahariya youth to improve safe water access in the Sahariya community.
3. To explore the use of PAR to create a safe space for the Sahariya youth and building agency using participatory video.

1.4. Theoretical Framework and Methodology

This research was guided by the critical research paradigm and employed PAR as a methodology to explore the challenges Sahariya youth face in accessing safe water, as well as their suggestions for improvement. This research was informed by critical theory, critical reflexivity, the concept of subaltern, and an anti-oppressive approach that guided my practice.

This research uses critical theory as a framework. Critical theory is informed by diverse schools of thought, including those inspired by Marx, Hegel, Kant, Foucault, Derrida and Kristeva; it is not a unitary approach (De Poy & Gitlin, 2015). Critical theories in social work aim to examine and critique social and political structures and their effects on individuals, families, and communities to promote social change and justice among oppressed, marginalised, or disadvantaged populations (Payne, 2017).

The anti-oppressive approach is one of the critical frameworks in social work which emphasises the need to identify and address power imbalances and oppressive systems (Baines, 2017; Dominelli, 2017; Laird, 2008). Critical reflexivity is another important principle of anti-oppressive practice that helped me examine my own biases and assumptions and how they may impact my research. I am also influenced by Gayatri Chakravorty Spivak's (1988) work, which states that the concept of subaltern refers to the marginalised groups whose voices are often silenced or ignored historically by those in power. Spivak argued that the subalterns cannot speak; not because they lack the ability to speak, but because their voices are suppressed by dominant groups. She emphasised the importance of understanding the subaltern' experiences and perspectives in order to challenge and transform oppressive power structures.

These choices were appropriate and chosen as they align with questioning oppression, injustice, social exclusion, and inequity. Thus, these frameworks were helpful for research that worked with the marginalised Indigenous Sahariya community who have very low access to safe water because of social exclusion.

1.4.1 Participatory Action Research

PAR was used as a methodology with the aim of creating a space for Indigenous Sahariya youth to share their experiences, knowledge, and innovative ideas through FGDs and participatory video to improve access to safe water. PAR is best suited because this study focuses on practice-oriented research that involves an artefact (short film) and exegesis. As per the Format 3 pathway at AUT, the study outcome can be presented in the form of an artefact and exegesis (AUT University, 2024).

PAR is a research methodology used in health research that incorporates creative practices, methods, and outputs into the research design. It also supports partnering with Indigenous groups and creating a space to represent their voices. PAR with youth can lead to valuable insights and interventions into social problems that affect young people's lives, promoting community change and fostering youth empowerment (Altares et al., 2022; Ozer, 2016).

In this project, PAR was used to enable Sahariya youth to share their experiences and views on the lack of access to safe water, which is a significant cause of poor health and well-being. PAR is a democratic and reflective process that involves co-researchers in the research design. It values transparency, collectivism, communication, inclusion; and commitment to equity, social justice, and sustainability (Baum et al., 2006; Blodgett et al., 2011). It was crucial to ensure the participation of the Indigenous Sahariya youth in exploring their views on safe access to water and strategies for improvement.

1.4.2 Participatory Methods

FGDs and participatory video were primary methods utilised as effective tools for data collection in this research with the Sahariya youth. FGDs were crucial in bringing the youth together to discuss the issue of water access and provided participants with a platform for

reflection and brainstorming. Participatory video was used to co-create videos that highlighted the stories and opinions of Sahariya youth. Most participants learned how to make videos on mobile phones and share their stories. As a result, they created many video clips which were turned into a short activist film (artefact), demonstrating that participatory video can be a powerful method for sharing stories, as discussed in detail in the following chapters.

Resource mapping and transect walk were other participatory methods utilised to collect data on existing water resources. Resource mapping involved participants and community members collaboratively marking significant natural resources, including wells, handpumps, rivers, and ponds on village maps. A transect walk entailed walking through the village to observe and record the landscape features related to water resources, allowing stakeholders to assess the condition of these sources directly.

1.5. Researcher Positionality

I grew up in a family where both my parents were actively involved in working with rural communities to conserve water through traditional knowledge and community participation. My father Rajendra Singh dedicated his life to reviving traditional rainwater harvesting technology in India, known as 'Johads' or rainwater harvesting structures, and protecting rivers. He is widely known as the 'Waterman of India' and has won several national and international awards, such as the Ramon Magsaysay Award 2001 and Stockholm Water Prize 2015, for his work with local communities. This upbringing helped me learn about community participation and the community mobilisation process.

My father's work on water conservation with rural communities in India inspired me to study social work and learn more about social issues, theories, and practices. I completed a Bachelor's degree in Social Work with a specialisation in Rural Development (Honors) and a Master's degree in Social Work from Tata Institute of Social Sciences, Mumbai. During my studies, I had the opportunity to work with various non-governmental organisations (NGOs), government and community organisations to complete my placement and internship. These experiences allowed me to develop social work competencies and practise social work values

and principles, including social justice, anti-oppressive practice, and protecting human rights; as well as practical skills such as assessment, engagement, intervention, and evaluation. My internship experience helped me acquire specialised social work skills and bridge the gap between classroom instruction and real-life social work practice.

After completing my degrees, I had the privilege of working with rural and tribal communities and children and adolescents in India. I worked with an NGO to manage water and natural resources in rural areas in partnership with the United Nations Children's Education Fund (UNICEF) and other organisations. I also contributed to a project on water management in rural villages funded by the United Nations Development Program (UNDP) and Swedish International Development Cooperation Agency (SIDA). Additionally, as a research officer for the National District Level Household Survey (DLHS) in 2011, I helped design a national survey questionnaire which was used to collect data for the pilot project in various states of India. This experience gave me a comprehensive understanding of social issues at a grassroots level and allowed me to visit several villages throughout the country.

My journey did not stop there; I went on to complete a Master of Philosophy (MPhil) from Tata Institute of Social Sciences, Mumbai, during which I learned more about research and methodologies. After finishing my MPhil I had the opportunity to collaborate with the Indigenous community of the Warli tribe in Maharashtra, India, who have very low access to safe water. During my tenure as a water and sanitation development manager at the University of Somaiya Vidya Vihar, I gained valuable insights into their culture, knowledge regarding local water resources, and connection with the water bodies in their surroundings. Driven by my passion for working with communities deprived of a vital element of life—drinking water, I applied for and started my PhD journey at Auckland University of Technology (AUT) in New Zealand.

While in New Zealand I registered as a social worker with the Social Workers Registration Board (SWRB) and had the privilege of serving as a social worker for an organisation dedicated to advocating for women's rights and assisting domestic violence survivors. Currently, I am a lecturer at Te Wananga O Aotearoa, teaching courses for the

Bachelor of Bicultural Social Work programme. This role has given me a valuable opportunity to gain insights into social work practices from both Māori and non-Māori perspectives. Through my experiences I have acquired a wealth of knowledge that proved instrumental in shaping my doctoral research.

As an Indian migrant, female student studying at AUT, I am driven to conduct meaningful research that addresses social issues, particularly safe water access among Indigenous communities in rural areas. The primary objective during my PhD fieldwork was to listen and learn from the Sahariya people. By positioning myself as a learner I remained humble and open-minded, ready to engage with unexpected answers and responses. Through this experience, I learned to better understand my privileges and not feel ashamed of them. I believe that a PhD is a journey of learning, exploring, and understanding different perspectives and worldviews, not just becoming an expert in a chosen topic. As a lecturer, I have also shared my experiences with my students.

My research is not about teaching or speaking on behalf of the Sahariya people but about learning, unlearning, and relearning. By sharing what I learned I hope to inspire others to take similar journeys of growth and self-discovery. I am grateful for the opportunity to work with the Sahariya youth and gain a deeper understanding of their struggles and challenges. I hope my research can contribute to positive change and greater awareness of the importance of safe water access for all.

Critical theory and anti-oppressive practice, both of which emphasise self-reflexivity, informed my stance throughout this research and helped me to be a more self-conscious researcher. Additionally, I drew upon subaltern studies to ensure that participants' voices and perspectives were given due consideration throughout the research process. I employed the principles of PAR to create a supportive environment for the Sahariya youth in which to share their stories freely and confidently, knowing that the information shared and the short film would be driven by them and used responsibly. I used appropriate ethical principles to ensure the safety and comfort of my participants. I was also mindful of their cultural norms, working with dignity and protecting their honour to ensure no harm was caused. Together, with the

Sahariya youth, we co-created a short film that represents their experiences and serves as an advocacy tool for change. Although filmmaking was not my area of expertise, we undertook a storyboarding exercise and compiled the footage collected during data collection to tell their story. This exegesis and short film seek to raise awareness about the Sahariya community's struggle to access safe water.

1.6. Structure of the Exegesis

The presented exegesis has seven chapters covering specific aspects of the research. The first chapter provides an overview of the research including rationale, the aim and objectives, theoretical and methodological underpinnings, and researcher positioning. It has introduced the topic, explained its significance, and outlined the research structure.

The second chapter provides a critical literature review and in-depth analysis of the problem of water scarcity in India and among Indigenous communities. It includes a discussion of India's water policy and drinking water programmes. Furthermore, the literature review presents a section that focuses on social exclusion and discrimination faced by the Sahariya community and how it affects their access to safe drinking water. The role of local community mobilisation in access to safe water among rural Indigenous communities in India is also considered.

Chapter 3 details the research design, including the critical research paradigm, my researcher positionality, PAR methodology, the selected study site and participants, methods of data collection and analysis, and cultural and ethical considerations.

Chapter 4 explains the participatory video-making process, which consists of three stages: pre-production, production, and post-production. The pre-production stage involved planning and identifying participants, while production focused on recording the videos. Lastly, the post-production stage involved selecting scenes and editing the footage. The chapter also discusses the challenges associated with each stage, such as technical difficulties and time constraints. The journey of converting the video clips to create a short advocacy film and link of the produced film is included in the chapter.

In Chapter 5, drinking water resources in the local area are explored with a focus on the Sahariya community's access to safe water. The chapter examines the impact of colonial and Indian Government policies on water resource management and the effects on the Sahariya community. Personal narratives shared by Sahariya youth (male and female) provide a detailed account of their struggles in obtaining safe drinking water, offering valuable insights into the contributing social, political, and economic factors. Overall, the chapter presents a comprehensive data analysis of the local water crisis.

Chapter 6 outlines Sahariya's strategies to enhance water accessibility through community mobilisation, association (Sanghathan) building, and the participatory film. The proposed strategies aim to build the capacity of Sahariya to collaborate and address the issue of water scarcity while using film to raise awareness and amplify their voices.

Chapter 7 offers an overview of the research and synthesises key study findings. It revisits the process and practice of participatory video discussed in Chapter 4. Additionally, it integrates water resource analysis and narratives of women and men regarding access to safe water from Chapter 5, as well as strategies and aspirations of participants from Chapter 6. The chapter critically evaluates the methodological and practical implications of the study findings and provides key recommendations for future policies and research.

Chapter Two: Situational Context of the Study

2.1 Introduction

Water, the essence of life, is essential for human survival and well-being, yet millions worldwide grapple with the pervasive challenge of water scarcity. This chapter provides a detailed overview of safe water and water scarcity, including the indicators of water scarcity and the impact of inadequate access to safe drinking water. The following section focuses specifically on the situation in India, analysing water scarcity in the country and India's water policies before delving into an in-depth examination of water scarcity in rural Rajasthan, India. The chapter also discusses the drinking water programmes that have been implemented by both the state and central governments in Rajasthan. The following section focuses on the Indigenous Sahariya community, their social exclusion and the resulting impacts on their access to safe water. Finally, the chapter highlights the initiatives undertaken by local communities and NGOs to create sustainable and safe water sources in rural Rajasthan, India.

Through a synthesis of scholarly literature, this critical literature review endeavours to provide a nuanced understanding of the complex interplay between water scarcity, socio-economic dynamics, and governance structures within the context of rural Rajasthan, India. In doing so, it aspires to inform policy discourse and spur action towards fostering equitable access to safe water and forging sustainable pathways towards water security for all.

In conducting this critical literature review, I employed a systematic approach to ensure its relevance to my research topic. To begin, I established inclusion and exclusion criteria, considering factors such as relevance to the topic and publication year. While I predominantly focused on literature published after 2010, to capture the most up-to-date information, I also incorporated older sources that were considered relevant.

My research drew on a diverse array of sources, encompassing academic journal articles, books, theses, and reports from government and international organisations. Notably, I included grey literature, such as reports from United Nations organisations and the World Health Organisation, recognising their value in providing recent facts and insights. This

decision was particularly important given the significant role played by international and local NGOs in the realm of ensuring safe access to water.

To conduct my comprehensive search, I utilised various academic databases such as PubMed, ScienceDirect, JSTOR, Web of Science, Google Scholar, EBSCOhost, CINAHL, and ProQuest. I used advanced search techniques, keywords, phrases, and boolean operators such as "AND" and "OR" to refine and expand search results. Parentheses techniques, such as "water crises OR water scarcity OR water stress AND India", were useful for searching. I also used phrase searching by enclosing phrases in quotation marks to find exact matches; for example, "water scarcity in India", "low access to water among tribes of India", "water crisis in India", "depleting water resources in India", "water scarcity challenges and solutions in India", "challenges of water scarcity in rural India", "drought and water crisis in India", "impact of population growth on water scarcity in India", "climate change and water scarcity in India", "rural water scarcity in India", "government policies addressing water scarcity in India", "government water policies in India", "government drinking water policies in India", "groundwater depletion in India", "solutions to water scarcity in India", "community-based approaches to solve water scarcity in India", "community organisation to solve water problems in India", "water conservation in India", "NGO initiative to solve water problem in Rajasthan", "water community organisation in Rajasthan", "community initiative improve water access in rural India", "community organisation in India to solve drinking water issue", "local community mobilisation to solve water problem in India", "NGO working on water issue in India".

I used other phrases to look at articles on low access to water among Indian tribes and low access to safe water among the Sahariya tribe of India, which are presented in Table 1 below.

Table 1

Phrases and Keywords Used for Literature Review

General searches on water access	Specific searches on Sahariya tribe	Keywords for Sahariya tribe searches	Additional keywords for water issues
Water access challenges among Indigenous tribes in India	Water scarcity among Sahariya tribe in India	Sahariya tribe, Scheduled Tribes sahariya, shariya, saharia	water scarcity, clean water
Indigenous communities and water scarcity in India	Sahariya tribe and lack of safe drinking water	Sahariya Indigenous community, Sahariya ethnic group	water resources, water management
Tribal populations and lack of clean water in India	Water access challenges of Sahariya Indigenous community in India	Sahariya population, Sahariya culture	
Water inequity among tribal groups in India	Clean water crisis among Sahariya tribe	Sahariya customs, Sahariya traditions	
Impact of water scarcity on Indigenous tribes in India	Sahariya tribe and water insecurity in India	Sahariya livelihoods, Sahariya socio-economic status	
Traditional water management practices of Indian tribes	Health impacts of poor water access on the Sahariya community	Sahariya history, Sahariya demographics	
Government initiatives are addressing water access for tribal communities.	Government initiatives for water provision to Sahariya tribe	Sahariya challenges, Sahariya land issues	
Health implications of water scarcity among Indigenous tribes in India	Traditional water management practices of Sahariya tribe	Sahariya health, Sahariya education	
Socio-economic factors contributing to water deprivation among tribes	Socio-economic factors contributing to water deprivation among Sahariya people		

After selecting the sources, such as journal articles or book chapters, I carefully read and critically analysed each one, highlighting key arguments, findings, and their implications. I

then grouped sources based on themes and synthesised information from various studies to construct a coherent narrative that addressed my research aim. I developed a clear and logical structure for the literature review to ensure a cohesive flow and logical progression of ideas. To ensure the quality of the literature review, I periodically updated it to include the most recent studies and maintain its relevance in the field. I also reviewed the reference list of each article to gather more sources and information which helped me find additional published articles and books related to my topic.

The first section will define terms such as safe water, safe drinking water, and water scarcity, followed by an analysis of the indicators of unsafe water and its impact. The objective of this section is to review the significance of and challenges associated with accessing safe water, as well as its impact.

2.2 Defining Safe Water and Water Scarcity

Access to safe water is vital and a crucial determinant of overall health and well-being (United Nations Water, 2015). Safe water refers to water free from harmful micro-organisms, chemicals, and pollutants, ensuring it is suitable for various purposes including drinking, cooking, and personal hygiene. It involves the absence of substances that may cause adverse health effects or compromise water quality. Safe drinking water, however, must adhere to more stringent standards to ensure its safety for consumption (World Health Organisation [WHO], 2024a).

According to the WHO and UNICEF (2023) Joint Monitoring Programme report, around 2.2 billion people worldwide lack access to safe drinking water services. This figure includes individuals who depend on unimproved water sources such as unprotected wells or springs, as well as those who face challenges with the quality or reliability of their water supply or must travel long distances to fetch water. Unsafe water sources pose significant health risks, with over one million deaths attributed to them every year. Safe water and safe drinking water are essential in preventing waterborne diseases and reducing health risks. Contaminated water can cause various illnesses such as diarrhoea, cholera, typhoid, and hepatitis A (Tarrass &

Benjelloun, 2011; Watson, 2006). Therefore, ensuring safe drinking water is critical to public health and preventing the spread of waterborne infections.

Globally efforts are being made to address the critical issue of achieving universal access to safe and affordable drinking water by 2030, as outlined in Sustainable Development Goal (SDG) Target 6.1 (De Chazournes, 2020; United Nations, 2024a). The following section will discuss the issue of water scarcity which, unfortunately, often leads to low access to safe water.

2.2.1 Water Scarcity

Water scarcity is a pressing global issue that threatens ecosystems, human health, and economic stability. It arises from a combination of natural and human-induced factors, leading to profound consequences on social, environmental, and economic fronts (Padder & Bashir, 2023). This section delves into the causes and consequences of water scarcity on a global scale, examines current solutions and strategies, and discusses the role of international cooperation in addressing this critical challenge.

Water scarcity is a growing problem that arises from a combination of different factors. One of the main contributors to this problem is climate change which affects precipitation patterns, increases drought frequency and severity, and accelerates water evaporation rates. Population growth and urbanisation also put a strain on water resources, as more people demand water for domestic, industrial, and agricultural purposes. Inefficient use of water, pollution, and lack of infrastructure are other factors that exacerbate the challenges of water scarcity (Falkenmark & Rockström, 2006; United Nations Educational, Scientific and Cultural Organization [UNESCO], 2009; UNICEF 2023).

The consequences of water scarcity are far-reaching and multifaceted. Ecologically, reduced water availability disrupts ecosystems leading to biodiversity loss, habitat degradation, and altered water quality (Vörösmarty et al., 2010). Socially and economically, water scarcity impacts agriculture, food security, and livelihoods, triggering conflicts over water resources and posing health risks due to inadequate sanitation and hygiene (Padder & Bashir, 2023).

Addressing water scarcity requires a multi-faceted approach that combines policy interventions, technological innovations, and sustainable water management practices. Integrated Water Resource Management (IWRM) emphasises stakeholder participation, efficient allocation, and conservation measures for sustainable water use. Water demand management promotes conservation, efficiency improvements, and water reuse across various sectors (Rawat & Saxena, 2023; United Nation Environment Programme, 2023).

Technological solutions such as desalination, water recycling and precision irrigation technologies offer ways to augment water supply and optimise usage. However, these technologies are not cost-effective. Nature-based solutions, including rainwater harvesting, green infrastructure, wetland restoration, and watershed management provide cost-effective and sustainable approaches to water scarcity mitigation (Blandin et al., 2016; Teusner et al., 2016). Effective water governance and international cooperation are vital for addressing global water scarcity. Establishing legal frameworks for water rights, enhancing transboundary water agreements, and promoting collaborative initiatives are crucial steps (Wolf et al., 2003).

Essentially, global water scarcity is a complex and urgent challenge that requires collective action at local, national, and international levels. By addressing the root causes, implementing innovative solutions, and fostering collaboration, the impacts of water scarcity can be mitigated to ensure equitable access to this essential resource for current and future generations. International organisations, governments, NGOs, and the private sector must work together to implement holistic strategies, share best practices, and mobilise resources for sustainable water management.

2.3 Overview of Water Scarcity Indicators

Water scarcity is a critical issue that requires the use of several metrics to assess water availability, quality, and accessibility. One of the most widely recognised indicators is the Water Stress Index which compares water withdrawals to renewable freshwater resources, highlighting regions under significant water stress (Falkenmark & Rockström, 2006). Another crucial indicator is the Per Capita Water Availability which assesses the amount of water

available per person, providing insights into the sufficiency of water supply for populations (Gleick & Cooley, 2021). Access to Improved Drinking Water Sources is also an essential metric that focuses on the percentage of the population with access to safe water sources like piped water or protected wells (WHO/UNICEF, 2023). The Water Quality Index is another widely employed tool that assesses the suitability of water for consumption based on various parameters such as pH, turbidity, and contaminant levels. These indicators, along with groundwater depletion rates and climate change vulnerability, are essential tools for policymakers, researchers, and organisations working towards addressing drinking water scarcity and promoting sustainable water management practices (Pandey et al., 2011).

Water scarcity indicators are valuable tools for understanding and addressing water scarcity challenges. However, their effectiveness, reliability, and applicability depend on data accuracy, availability, and temporal and spatial scale considerations. Critiques of these indicators include uncertainties in data sources; variations in measurement methodologies; and challenges in integrating social, economic, and environmental factors. Moreover, some indicators may oversimplify complex water scarcity dynamics and fail to capture regional or local nuances (Hussain et al., 2022).

Scholars and practitioners have highlighted several limitations and challenges associated with water scarcity indicators, including a lack of standardised methodologies, data gaps in certain regions or sectors, difficulties in accurately assessing groundwater dynamics, and the need for improved modelling techniques to account for climate variability and change. Furthermore, existing indicators often do not fully capture socio-economic factors such as water governance, institutional frameworks, and equity considerations (Damkjaer & Taylor, 2017; Hussain et al., 2022;).

To address the limitations of individual indicators, researchers advocate for integrated and holistic approaches to water scarcity management. Integrated Water Resources Management (IWRM) frameworks emphasise the integration of social, economic, and environmental considerations; stakeholder engagement; adaptive management strategies; and sustainable water use practices (Nagata et al., 2021; United Nations, 2024b; UNEP, 2023).

These approaches recognise the interconnectedness of water systems and human activities, aiming to achieve water security and resilience.

Overall, water scarcity indicators play a crucial role in understanding and addressing water scarcity challenges. However, their effectiveness, reliability, and applicability require ongoing research, methodological advancements, data improvements, and integration with holistic water management approaches. Future directions in water scarcity indicator development include refining methodologies, enhancing data collection and monitoring systems, incorporating socio-economic dimensions, and promoting interdisciplinary collaboration to achieve sustainable water management and resilience in water-scarce regions.

2.4 Impact of Access to Unsafe Water

After exploring the issue of water scarcity and examining its indicators, it is crucial to further examine the profound impact of limited access to safe water. This problem has widespread and complex effects on various aspects such as health, education, the economy, and the environment, as detailed below.

2.4.1 The Health Effects

Access to safe water is crucial for good health. In many parts of the world limited access to water significantly impacts the health of individuals and communities. This section outlines the various ways in which water scarcity and low access to safe water affect health. One of the most direct impacts of low access to water on health is an increased risk of waterborne diseases. Without clean water for drinking, cooking, and personal hygiene, individuals are more susceptible to diseases such as cholera, typhoid, and diarrhoea. It is devastating that diarrhoea is a leading cause of mortality in children under the age of five years, resulting in approximately 1.7 million deaths annually in this age group. It is crucial to note that the majority of deaths resulting from diarrhoea occur in developing countries (Behera & Mishra, 2022; WHO, 2024).

The WHO estimates that approximately 2.2 billion people globally do not have access to safe drinking water services, resulting in millions of preventable deaths annually (UNICEF &

WHO, 2021) The 2019 Joint Monitoring Program report estimated that around 206 million people worldwide have access to limited water services, and 435 million people rely on unimproved water sources for drinking (Eticha et al., 2022). Unimproved sources include unprotected dug wells, unprotected springs, vendor-provided water, carts with small tanks/drums, tanker-truck, and surface water. Surface water is water that exists on the Earth's surface in the form of streams, rivers, lakes, ponds, and reservoirs (UNICEF & WHO, 2021). Unfortunately, faecal contamination is a common issue that affects both improved and unimproved water sources (UNICEF & WHO, 2021). Improved sources include piped water, public taps, tubewell, borewell-protected dug wells, protected springs, and rainwater harvesting (UNICEF & WHO, 2021).

Apart from waterborne diseases, low access to water also has indirect effects on health. For instance, an inadequate water supply can lead to poor sanitation and hygiene practices which, in turn, increases the risk of infectious diseases (Kamila & Salami, 2022). Lack of water for irrigation can also impact food security and nutrition, leading to malnutrition and related health problems (Ringler et al., 2022).

Furthermore, the burden of collecting water falls disproportionately on women and girls in many communities where water sources are scarce. This affects their physical health as they may have to walk long distances carrying heavy containers of water; a burden that often results in health complications such as chronic back pain and an increased likelihood of accidents and injuries (Jeil et al., 2020; Pommells et al., 2018).

Various studies also highlighted the long-term health effects of drinking contaminated water. Exposure to contaminants like tetrachloroethylene (PCE) in drinking water during early life has been linked to neurotoxic effects and potential impacts on sleep quality in adulthood, emphasising the lasting consequences of early-life exposure to contaminated water sources (Aschengrau et al., 2015; Aschengrau et al., 2016). Additionally, long-term exposure to chromium-contaminated waters in industrialised regions has been linked to human health risks, underscoring the importance of addressing water contamination issues to safeguard public health (Manoj et al., 2020).

Fundamentally, low access to safe water and water scarcity has a significant impact on health, leading to increased risks of waterborne diseases, poor sanitation, and other health problems. The issue of low access to safe water is also gendered, as women and girls are disproportionately impacted. Addressing this issue requires concerted efforts to improve water infrastructure and sanitation services with a focus on equity and sustainability. By ensuring access to clean water for all, the health and well-being of individuals and communities worldwide can be protected.

2.4.2 Effect on Education

Lack of safe water has far-reaching consequences beyond health concerns, including the education of children and young people which is also severely affected by water scarcity. This section delves into the impact of water scarcity on education and highlights the relationship between water and academic outcomes.

As previously discussed, the most apparent consequence of low access to safe water is an increased risk of waterborne diseases. Fighting these illnesses takes time away from learning, and affected individuals may experience poor academic performance. Several studies have shown a strong correlation between water quality and student attendance. Hence, safe water is essential in ensuring regular school attendance and academic engagement (Dreibelbis et al., 2013; Komarulzaman et al., 2019; Trinies et al., 2016).

Moreover, children, particularly girls, bear the burden of fetching water in many communities where water sources are scarce. Collecting water from distant locations detracts from their study time, limiting opportunities for learning and intellectual growth. This gendered division of labour perpetuates inequalities in education, as girls face additional barriers to accessing quality schooling due to their water-related responsibilities (De Guzman et al., 2023). Additionally, reported school absences increase when girls are menstruating due to inadequate water and sanitation facilities at school (Devnarain & Matthias, 2011).

Inadequate access to safe water also leads to substandard sanitation facilities in schools. Without proper water and sanitation infrastructure, educational institutions struggle to provide a hygienic and conducive learning environment for students. Lack of clean water for

handwashing, insufficient toilet facilities, and poor hygiene practices contribute to discomfort and embarrassment among students, impacting their attendance and concentration in class. The absence of safe water and sanitation facilities jeopardizes the health of students and undermines the quality of education imparted within school premises (De Guzman et al., 2023; McMichael, 2019)

Inadequate access to safe water has significant and multifaceted impacts on the education of children and youth. These impacts include health implications, absenteeism, time burdens, and gender disparities. The repercussions of water scarcity reverberate throughout the educational landscape, impeding the academic progress and well-being of young individuals. Addressing the issue of water insecurity is a matter of public health and a critical step towards ensuring equitable access to education for all. By recognising the intricate interplay between safe water and educational outcomes, stakeholders can work towards creating a more inclusive and conducive learning environment for children and youth worldwide.

2.4.3 Economic Effects

The scarcity of clean and safe water in developing countries has significant economic consequences. The absence of access to safe water requires individuals to travel long distances to fetch water, often from polluted sources. This consumes valuable time and energy that could have been utilised for productive activities, leading to reduced productivity and income, and resulting in economic hardship for individuals and communities. Additionally, as noted above, unsafe water sources can lead to waterborne diseases, causing increased healthcare expenses and lost income due to absenteeism. These factors exacerbate the economic challenges faced by individuals and communities, perpetuating the cycle of poverty (Bartram & Cairncross, 2010; Hutton & Varughese, 2016; Prüss-Üstün et al., 2019)

Furthermore, utilising polluted water sources can contribute to environmental degradation and pollution, leading to further economic repercussions such as loss of income from tourism and damage to fishing and agricultural industries. Water scarcity and limited access to safe water have significant impacts on biodiversity and ecosystems, leading to habitat loss, decreased water quality, altered ecosystem functions, threats to aquatic life, and food

security challenges. Scarcity can dry up vital habitats, disrupt natural ecosystem functions, and threaten vulnerable species. It can also cause pollution, harm aquatic life, and lead to a loss of biodiversity in both aquatic and terrestrial ecosystems (Vörösmarty et al., 2010). Additionally, water scarcity can reduce crop yields, exacerbate competition for water resources, and lead to conflicts over water rights. Addressing water scarcity and improving access to safe water is crucial for maintaining biodiversity and healthy ecosystems through sustainable water management, conservation efforts, pollution prevention, and equitable water distribution (UNEP, 2023; UNESCO, 2021). Therefore, it is imperative to address the economic impacts of the lack of safe water to promote sustainable development and enhance the overall economic well-being of developing countries.

2.5 Indian Context

India is predicted to rank 40th in the world for water scarcity by 2040 (Manju & Sagar, 2017). According to the World Bank (2023), India is home to 17.5% of the world's population, but has only 4% of the world's renewable water resources. The gross per capita water availability in India is expected to fall from approximately 1,820m^3 per year in 2001 to as low as 1,140m^3 per year in 2050. It has been estimated that by 2050, India will require 1,180 BCM of water annually to meet the increasing demand (Mahato et al., 2022).

The overexploitation of water resources is a major reason behind the water scarcity in India. The depletion of groundwater levels has occurred rapidly due to the country's urbanisation and industrialisation, especially in areas where agriculture is prevalent. The Central Ground Water Board has stated that India is the largest consumer of groundwater worldwide, with over 60% of irrigation and 85% of drinking water supply dependent on groundwater sources (Singla et al., 2022).

Climate change is another factor exacerbating water scarcity. India's water resources have been put under additional pressure due to changes in weather patterns, such as unpredictable monsoon rains and long periods of drought. According to the World Bank (2023) estimates, the country is expected to experience a 40% disparity between the amount of water it

needs and the amount it has available by the year 2050. This predicted shortage of water resources poses a significant danger to public health, as clean and safe water is critical to preventing waterborne illnesses and ensuring overall well-being.

A multi-pronged approach is needed to address the issue of water scarcity in India. Promoting water conservation practices such as rainwater harvesting and efficient irrigation techniques can help reduce water wastage and improve water availability (Mahato et al., 2022; Suresh & Samuel, 2020). Investing in water infrastructure, such as desalination plants and water recycling facilities, can help augment water supply in water-stressed regions. However, these technologies can be both extensive and expensive, requiring significant capital investment and ongoing maintenance costs. With such a scenario, the Indian Government needs to initiate programmes and policies in order to be equipped to mitigate the predicted water scarcity and treat this issue as a national priority for preventing the exploitation of existing water resources.

Primarily, water scarcity in India is a complex and multifaceted issue that requires urgent attention. By understanding the root causes of water scarcity and implementing sustainable water management practices, India can work towards ensuring water security for its population. As access to clean and safe water is fundamental to public health, addressing water scarcity is crucial for the overall well-being of the country.

2.5.1 Water in Rural Rajasthan State

The physical geography of Rajasthan varies from arid and semi-arid regions to tribal hilly areas (Mohan, 2005; Sharma, 2013). Despite covering 10.5% of India's total area, the state has access to just 1.2% of the country's water resources (Glendenning &Vervoort, 2010). Water scarcity in Rajasthan is a significant issue due to the state's arid and semi-arid climate, erratic monsoonal rainfall, and overexploited groundwater resources (Singh et al., 2018). Every year, parts of Rajasthan are affected by drought, leading to water scarcity and impacting agriculture, livelihood, health and sanitation (Jethoo et al., 2012). There are various causes of water scarcity in Rajasthan such as the hostile desert climate, low rainfall, saline groundwater, deterioration of water-harvesting structures, breakdown of traditional water-management systems, and poor public and policy planning. Recent studies have also indicated fluoride and other anthropogenic

chemicals in the groundwater as a problem (Kumar & Singh, 2015; Suthar, 2010; Yadav et al., 2023).

The Constitution of India prioritised the provision of clean drinking water after the country gained independence. Article 47 of the Constitution assigned the responsibility of providing clean drinking water and improving public health standards to the state. As per the Ministry of Jal Shakti/Department of Drinking Water and Sanitation (2024), it was the duty of the state to provide clean drinking water and improve public health standards.

The Department of Drinking Water Supply, which is a part of the Ministry of Rural Development, manages rural water. In Rajasthan, the responsibility for allocating and investing in the water supply lies with the state government as water is a state entity. However, the 73rd and 74th Constitutional amendments have decentralised the responsibility of providing drinking water to local governments—panchayats—in rural areas. Local panchayats are now responsible for making decisions regarding the use of water and water resources, and for implementing government schemes at the village level (Ministry of Jal Shakti/Department of Drinking Water and Sanitation, 2024).

In rural tribal areas, the upper castes (caste system will be explained later) and powerful families of the villages enjoy most of the benefits of the government schemes. Mechanisms for equitable and just access to water are missing (Joshi & Fawcett, 2001). Over-extraction, inequitable availability, and climate change have added to the problems of water scarcity and conflict. There are also other issues such as the maintenance of existing water resources including ponds, rivers, wells, bore wells. and tube wells. All this makes the provision of adequate access to water in tribal rural areas problematic (Water Aid, 2010).

Rajasthan has faced numerous challenges in accessing safe water. The central and state governments of Rajasthan have launched and implemented various policies and programmes to ensure safe water supply in rural areas of the state. These policies and programmes will be explained in detail below.

2.6 Indian Government Initiatives to Improve Access to Water: An Overview

In 1949 the Environment Hygiene Committee proposed a 40-year plan to provide safe drinking water to 90% of India's population. In 1951-1956, the central government's first 5-year plan incorporated water supply and sanitation into the national agenda. The first National Water Supply and Sanitation Programme was launched in 1954 under the health plan scheme. To accelerate the provision of drinking water in rural areas, the Accelerated Rural Water Supply Programme (ARWSP) was launched by the Government of India in 1972. ARWSP aimed to build water supply infrastructure such as hand pumps, tube wells, piped water supply systems, and water treatment plants to provide equitable access to safe drinking water. Despite these efforts disparities still exist in coverage and service levels between different regions and communities within rural areas. Marginalised and remote communities often face greater challenges in accessing reliable and safe water sources (Pal, 2019).

India's environmental policies can be traced back to the Water Act of 1974, which created the Central Pollution Control Board (CPCB) and the State Pollution Control Boards (SPCBs). The CPCB and SPCBs are responsible for collecting data, enforcing policies, and developing detailed processes for environmental compliance. After their implementation, the CPCB and SPCBs quickly initiated an advanced national environmental monitoring programme responsible for the data required for all analyses (CPCB, 2024).

The Ministry of Environment and Forests (MoEF) was established in 1980 to design the policies to be enforced by the CPCB and SPCBs. The CPCB also monitors water quality in collaboration with the different SPCBs (CPCB, 2024). CPCB places more focus on river monitoring due to the consistent availability of data regarding river quality and the severity of pollution issues along the rivers, primarily due to the attention received by rivers from public policies. The CPCB (2024) monitors and manages environmental issues in India, focusing on water quality. The CPCB collects data related to 28 parameters indicating water quality monthly or quarterly (Greenstone & Hanna, 2014), as well as data on various parameters to model and improve water quality, including the Ganga River and Mahanadi River. Their data are also used to evaluate specific rivers, such as the Banas River and the Upper Ganga in Uttar Pradesh, to

address environmental concerns. The CPCB sets standards, conducts research, and implements policies to protect and improve water quality in India.

2.6.1 Evolution of National Water Policies

The Indian Government drafted three water policies in 1987, 2002, and 2012; each one was an attempt to improve the previous policy's flaws and to apply modern technology and management techniques to manage the water resources more efficiently. In the 2012 National Water Policy, the Ministry of Water Resources included provisions for providing clean drinking water and sufficient resources for irrigation. This policy also stressed the use of renewable sources of energy like hydropower. Unlike the 2002 policy, where the private sector was encouraged in developing, planning, and managing water resources, the 2012 revised water policy has dropped private sector participation and emphasised the development of a public-private partnership model to manage water resources effectively (Singh et al., 2013).

The 2012 National Water Policy introduced several significant changes that were not present in its predecessor. One notable change was the mandatory implementation of water budgeting and auditing, which required each state government to establish a water allocation system to regulate water usage. Additionally, the government aimed to introduce a tariff system for water use. The policy aimed to transform the current approach to water recharge among government agencies and farmers. Furthermore, the policy called for the elimination of all forms of water subsidies to the agricultural and domestic sectors while providing subsidies and incentives to private industry for recycling and reusing treated effluents.

While there were some positive changes in the 2012 water policy, criticism was received for its over-optimistic estimates of India's annual water and the lack of emphasis on reducing water pollution. It was also criticised for referring to water as an economic good and failing to define objectives for the commercial use of water, particularly groundwater. The policy appeared to favour industrial use over the needs of socio-economically disadvantaged populations who could not afford to purchase water. The policy was unclear about the mechanisms for achieving drinking water security, equity in access to water, and water demand management. The drafting committee should have been mindful of the fact that water is largely

a state subject in India, and a National Water Policy should avoid being prescriptive and be supported by scientific evidence. The policy should have also left more space for states to formulate policies regarding water based on their water needs and priorities (Pandit & Biswas, 2019; Subramanian & Siromony, 2014).

2.6.2 Indian Government Drinking Water Programme in India and Rajasthan

The Indian Government launched its first water-supply programme, the ARWSP in 1972-73 with the aim of providing clean drinking water to rural communities. In 1986-87, the programme entered its second era with the introduction of the Technology Mission, later renamed the Rajiv Gandhi National Drinking Water Mission in 1991-92. This phase focused on water quality, appropriate technology, human resource development, and related activities in the rural water supply (RWS) sector. In 1999-2000, the programme's third phase began, with sector reform projects that involved communities in the planning, implementation, and management of drinking water schemes. These projects were later scaled up as Swajaldhara in 2002 (Ministry of Rural Development, 2010).

The National Rural Drinking Water Program (NRDWP), launched in 2009, marked the fourth phase of the programme. Under this centrally sponsored scheme, states received financial support for providing safe drinking water facilities to all rural households, including those with quality-affected water; sustainability measures for drinking water sources; systems, operation, and maintenance of existing RWS schemes' support activities such as information, education, and communication training; information systems and computerization (MIS); and water quality monitoring and surveillance (Ministry of Drinking Water and Sanitation, 2013).

The NRDWP programme aimed to provide safe drinking water of 40l per capita per day (LPCD) for human beings, and 30LPCD for cattle in the Desert Development Programme areas. Additionally, the programme aimed to install one hand pump or stand post for every 250 people. The water sources were required to be located close to the habitations, within 1.6-kilometre (km) of the plains, and not more than 100 metre (m) elevation beyond the villages in the hilly areas of India (Ministry of Drinking Water and Sanitation, 2013).

The Union Budget of 2013-2014 allocated INR11,000 crores (USD 131,945,006.12) for the NRDWP. An amount of 22% of the total allocation (INR 2,420 crore; USD 290,271,130.28), and an additional 10% (INR1,100 crore; USD 131,938,432.32), were allocated to meet expenditures on the Scheduled Caste Sub-Plan and the Tribal Sub-Plan, respectively. Despite making progress, the NRDWP programme was not able to reach all the tribal population living in remote areas (Ministry of Drinking Water and Sanitation, 2013).

In 2019, the Indian Government launched the Jal Jivan Mission as a flagship programme. Its primary objective was to provide a piped water supply to all rural households in India by 2024. This initiative allocated budget in 2023-2024 was INR 70,000 crore (USD 8,395,802,128.24) for rural households with tap water connections. The mission is a key priority for the government, and it continues to focus on expanding its reach and ensuring access to safe and sustainable drinking water for all rural households by 2024. The mission has made substantial progress in infrastructure development and increasing access to clean water. The implementation of the Jal Jivan Mission in Rajasthan has been a collaborative effort between the central and state governments. The Jal Jivan Mission in Rajasthan has brought significant changes to the water supply and sanitation systems in the state (Ministry of Jal Shakti, 2024). Despite the positive outcomes, the implementation of the Jal Jivan Mission in Rajasthan has encountered several challenges. One of the primary challenges is the scarcity of water resources in certain regions of the state, making it difficult to meet the demand for tap water connections. Additional challenges relate to fund allocation, water quality maintenance, and community participation that need to be addressed for the mission to achieve its full potential. It should be noted that the data presented regarding functional taps may not always accurately reflect the reality on the ground as taps which become dysfunctional, lack regular water supply from the main source, or need maintenance are not reflected in data (Sarkar & Bharat, 2021).

While the central government formulates various policies and programmes for water supply, it lacks coordination with state governments. Despite spending billions, complete coverage in India remains difficult to achieve under a top-down approach, with corruption in programme implementation and the inadequate transfer and availability of funds and

functionaries. Low access to water among marginalised communities is prevalent because social discrimination is accepted by political leaders and low priority is given to improving the situation. India is the world's largest democracy and power lies in the hands of the people, but this power is mainly exercised by a socially and economically privileged section of society. There are well-documented reasons for this inequality such as lack of awareness and confidence, poor representation, reduced political power, and continuous exclusion from decision-making processes, especially at grassroot levels (Khurana & Sen, 2011; Sarkar & Bharat, 2021; Subramanian & Siromony, 2014; Water Aid, 2010).

There have been changes, and there are several movements and community-based organisations working with marginalised communities to bring change. Several of these organisations have already brought about positive change (a detailed example will be discussed in section 2.9). Yet, such transformation is slow because of the social exclusion of marginalised communities, such as Scheduled Tribes (i.e., the Sahariya), which has important implications for access to safe water.

2.7 Social Exclusion of Indigenous Tribes in India and Its Impact on Access to Water

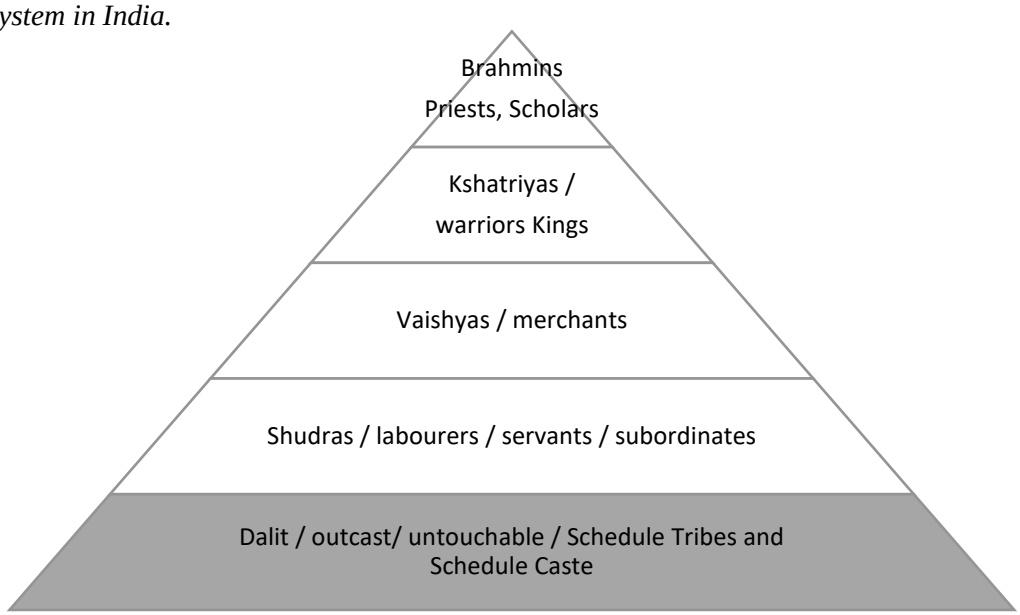
Social exclusion refers to the unjust denial of equal opportunities by certain societal groups which results in individuals being unable to fully participate in the political, economic, and social aspects of their community (Kadun & Gadkar, 2014; Thorat, 2005). Silver (2007) described social exclusion as a complex and gradual process that separates individuals and groups from social institutions and relationships, hindering their involvement in the formal, normative activities of their society.

In India, exclusion results from societal interrelations and institutions that discriminate, isolate, and deprive some groups on the basis of identity, caste, and ethnicity (Ambedkar, 1937; Thorat, 2005). Historically, caste systems have regulated the social and economic lives of the people of India. Caste is a form of social stratification that divides Hindu society into four main varnas (social class group): Brahmins (preacher or guide), Kashtriyas (warrior), Vaishyas (trade and other business pursuits), and Shudras (class like worker, labourer) (see Fig. 1), which come

from four body parts of the God Brahma. Dalits, Schedule Caste, and Schedule Tribe are outcasts who are not included in the traditional varnas system. Because of their very low social status they are not even considered as equal human beings in Hindu society (Ghurye, 1980; Ketkar, 2009; Olcott, 1944; Sagar, 1975). Today, lower castes continue to face discrimination and have restricted access to public facilities such as bodies of water, schools, courts, health facilities and other public institutions, as well as residential segregation (Joshi, 2011; Water Aid, 2010). This situation persists in Rajasthan state for Scheduled Castes and Tribes.

Figure 1

Caste System in India.



Note. Caste system in India. Adapted from Guide to the Essentials of World History, Prentice Hall, 1999.

Although Schedule Tribes are not included in the caste system, they are at the bottom of the social hierarchy. Their marginalisation can also be traced to British colonial forest policies that led to changes in the ownership of forest land that was home to tribes and products that provided for livelihood. The exploitation of forest lands by both the British and the Zamindars (the landlords) resulted in the deforestation of huge areas for commercial purposes (Chaithanaya, 2012; Ghurye, 1980; Panduranga & Honnurswamy, 2014). This led to the further deprivation of tribal communities, such as the Sahariya, who were hunters and gatherers of forest produce.

In the Constitution of India, Indigenous groups are known as Scheduled Tribes, although different terms are used for certain tribe, such as *atavika*, *vanavāsi* (forest dwellers), *girijan* (hill people) or *adivāsi* (aboriginal inhabitants of India) (Meena & Meena, 2014). The term Scheduled Tribes appeared in 1950 in Article 342 of the Constitution of India, and a complete list of tribes was established through the Constitution (Scheduled Tribes) Order of 1950, which retained the potential for future modification (Kolig et al., 2009). Communities identified as Scheduled Tribes have their own distinctive cultures; are often geographically isolated; typically experience poor socio-economic conditions; face social exclusion; and are deprived of social, economic, and political opportunities (Ghurey, 1980; Ministry of Tribal Affairs, 2011; Panduranga & Honnurswamy, 2014).

The Government of India has identified about 705 Scheduled Tribes across India (Panduranga & Honnurswamy, 2014). However, all tribes are not equal—certain communities experience lower socio-economic conditions compared to other Scheduled Tribes and live in more-or-less total isolation, with little change in lifestyle from that of centuries ago. Further, large portions of the funds allocated for Scheduled Tribes are consumed by the wealthier and more powerful Scheduled Tribe communities. The most vulnerable Scheduled Tribes are excluded from opportunities to develop and progress (Kolig et al., 2009). To ensure the development of these most vulnerable Schedule Tribes communities, they were categorised as primitive tribal groups under the Dhebar Commission (1960–1961). The Indian Government identified the 75 Scheduled Tribes that it considered most 'backward', referring to them as particularly vulnerable tribal groups, earlier known as primitive tribal groups (Ministry of Tribal Affairs, 2011). Particularly vulnerable tribal groups have a pre-agriculture level of technology, zero or negative population growth, and extremely low levels of literacy (Kolig et al., 2009). Rajasthan has the largest population of Scheduled Tribes in India, constituting over 12% of the state's population (Kumar et al., 2020). There are 12 major Scheduled Tribes in Rajasthan (see Table 2); Sahariya being one of the particularly vulnerable tribal groups of Rajasthan (Ministry of Tribal Affairs, 2011).

Table 2

List of Scheduled Tribes in Rajasthan

1	Bhil, Bhil Garasia, Dholi Bhil, Dungri Bhil, DungriGarasia, Mewasi Bhil, Rawal Bhil, Tadvi Bhil, Bhagalia, Bhilala, Pawra, Vasava, Vasave	ST*
2	Bhil Mina	ST
3	Damor, Damaria	ST
4	Dhanka, Tadvi, Tetaria, Valvi	ST
5	Garasia (excluding Rajput Garasia)	ST
6	Kathodi, Katkari, DhorKathodi, DhorKatkari, Son Kathodi, Son Katkari	ST
7	Kokna, Kokni, Kukna	ST
8	KoliDhor, TokreKoli, Kolcha, Kolgha	ST
9	Mina	ST
10	Naikda, Nayaka, CholivalaNayaka, Kapadia Nayaka, MotaNayaka, Nana Nayaka	ST
11	Patelia	ST
12	Seharia, Sehria, Sahariya	PVTG**

*ST = Scheduled Tribes; **PVTG = Particularly Vulnerable Tribal Groups
Note: Tribes in Rajasthan. Adapted from Government of Rajasthan, Justice & Empowerment Department.

The majority of Scheduled Tribes in India reside in regions that are mainly hilly and inaccessible, such as plateaus in the forest areas of the country. As a result, development programs have been slow to implement in these areas, making it difficult to provide essential infrastructure and facilities such as education, roads, healthcare, water, and sanitation. Compared to more urban and accessible areas, the development of infrastructure and facilities in tribal areas has been a significant challenge (Joshi, 2011; WaterAid, 2010). Inadequate development of tribal areas has resulted in further disparities between the tribal and general populations (Kijima, 2006). The Government of India has made affirmative policies for schedule caste and tribes such as reservation policies in the reservation in jobs and higher education; and enacted protective laws such as the Scheduled Castes and Tribes (Prevention of Atrocities) Act, 1989. Such policies have had positive results in increasing literacy among Scheduled Tribes and their representation in government jobs. However, the implementation of policies and acts is still a challenge due to a lack of political will and infrastructure, and a high level of discrimination by upper-caste and powerful communities (Ministry of Tribal Affairs, 2011).

2.8 Sahariya in India

The Sahariya comprise 6.6% of the total tribal population of Rajasthan. It is believed that they were the earliest settlers of Rajasthan. They practise Hinduism as their religion and speak a dialect influenced by Hadoti, which is a mixture of Hindi and Braj languages spoken in the Hadoti region of Rajasthan and the neighbouring state of Madhya Pradesh (Bhasin & Nag, 2007).

Historically Sahariya were forest dwellers. However, during British rule, forest laws were changed to prevent the collection of forest produce; hence, they were left with no livelihood. This led to a great decline in income and health degradation among the tribe (Bhasin & Nag, 2007). Typically, women of Sahariya collect minor forest products such as gum, tendu leaf, honey, fruits and vegetables for their livelihood (Kalagnanam, 2012). At the same time, men are forced to look for labouring work as most of the productive resources are controlled by the upper caste powerful communities such as land, water, and forest. Some Sahariya families are settled cultivators who converted forestland into agricultural land, but there is constant conflict over the ownership of land within the forest and revenue departments, and other powerful communities forced them to abandon their lands and move to another place (Bhasin & Nag, 2007; Mandal, 1998). The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act of 2006 was meant to provide access to forest and forest products, but its implementation has been challenging. Many tribal people are not aware of how to claim the benefits, leaving them displaced due to conservation efforts (Sarkar, 2013).

The Sahariya generally reside in a separate basti called sahrana (a cluster of houses), which is outside the main village. This shows the social exclusion of the Sahariya community from the main village, and they have a lower standard of living than the main village. However, at that time, they began to communicate with other Hindu caste communities, although they still lived separately (Mandal, 1998). Sahariya households face the challenge of poor financial conditions, poverty, unemployment, displacement, indebtedness, lack of opportunity and accessibility (Ministry of Tribal Affairs, 2011). Currently the literacy rate among Sahariya is

34.2% across all groups; female literacy is 18.7% lower than that of the other major tribes of the state and the nation (Ministry of Home Affairs, 2011).

Sharaiya have very low access to safe water for drinking, bathing, washing, and cooking. Environmental factors also cause inadequacy of safe drinking water among Sahriyas such as hostile desert climate, saline groundwater, and droughts every year (Jethoo et al., 2012). The average intake of food for this tribe is less than the recommended daily intake for Indians by the Indian Council of Medical Research guidelines, and malnutrition is prevalent among children and adults (Patel & Mitra, 2023; Rao et al., 2006). Sahariya women and children suffered the highest infant and child mortality rates, the poorest maternal health, and the highest levels of malnutrition and anaemia (Ghosh-Jerath et al., 2013). The Sahariya continue to be stigmatised by the government and the upper caste community who describe them as ignorant, backward, and primitive (Gupta, 2019). These terms were first used by British officers to classify the tribes of India, negatively impacting their social identity. In the current political scenario, Sahariya lack political representation and input in decision-making processes, resulting in their concerns and issues being disregarded or insufficiently addressed by government authorities (Tiwari, 1995).

Largely, the Sahariya community faces discrimination and displacement in various aspects of life including social, political, economic, and cultural spheres. This discrimination is based on caste and results in limited access to essential services like education and healthcare. They are underrepresented politically and marginalised, leading to policies that do not address their specific needs and exacerbate socioeconomic challenges. Economically, they struggle with landlessness, lack of livelihood opportunities, and poverty. Their traditional practices and beliefs are marginalised, and they experience a loss of cultural identity due to displacement. Displacement happens due to forced relocations caused by unfair forest laws and policies, development projects, and land grabbing without fair compensation or resettlement plans (Kumar, 2020). The lack of access to forest and land causes low access to natural freshwater resources and water bodies; and social and political discrimination leads to lack of government

water supply schemes or access to water resources owned by upper caste. Addressing these issues involves advocating for land and forest rights, improving access to education and healthcare, ensuring political representation, and preserving the cultural heritage of the Sahariyas. NGOs, civil society groups, and governmental interventions can play a crucial role in addressing these challenges.

2.9 The Role of Community Organisations and NGOs in Improving Access to Safe Water

Local community organisations and NGOs play a crucial role in improving water access and promoting sustainable water management practices. NGOs act as catalysts for transformative change by mobilising community members, advocating for their rights, and implementing sustainable water projects. Community organisations and NGOs facilitate community mobilisation, which refers to a cohesive group sharing social bonds and perspectives, collaborating towards common objectives in a specific area (MacQueen et al., 2001). Community mobilisation is an effective process that involves engaging and empowering community members, groups, and organisations to collaboratively pursue shared goals. This process fosters connectivity, identifies communal aspirations, and addresses community challenges; ultimately, aiming for positive social transformation (Daoud & Yousif, 2020).

Numerous studies have emphasised the importance of community participation in developing and implementing strategies to ensure access to safe water. The adoption of community-driven solutions and active community participation is crucial for effectively addressing water-related issues. For example, a study by Hutchings et al. (2017) conducted in India highlighted the crucial role of involving local communities in decision-making processes related to water management. Similar research conducted in rural South Africa emphasised the pivotal role of power dynamics, stakeholder engagement, and ongoing interactions in achieving favourable outcomes (Hove et al., 2023).

A narrative review analysed the effectiveness of community participation in urban water supply systems. The review stressed the need to meet participatory requirements such as community capacity and knowledge while emphasising the involvement of local government

bodies in educating communities on water management and conservation. Additionally, the review highlighted the significant role of women in ensuring the sustainability of water projects (Purba & Wahyu, 2022).

The collective literature emphasises that community participation is essential in developing sustainable solutions to ensure safe water access in rural India. Through capacity-building initiatives, participatory approach, and knowledge-sharing efforts, communities can effectively address water-related challenges. The promotion of inclusive, collaborative efforts is crucial in ensuring lasting access to safe water for all (Kerr, 2007, Rifkin, 2014)

In India, numerous community organisations have emerged to address the water crisis and empower local communities to take responsibility for their water resources. These organisations work closely with governmental agencies, NGOs, and local communities to develop innovative strategies and solutions to improve water accessibility. The efforts of community organisations to enhance water access have had a profound impact on local communities, leading to reduced waterborne diseases, improved sanitation, and enhanced food security (Hutchings et al., 2017). The following paragraphs will critically discuss two initiatives led by NGOs to improve access to safe water.

2.9.1 Tarun Bharat Sangh NGO: The Rainwater-Harvesting Model

According to Agarwal and Narain (1999), there is great scope for community-managed water-harvesting practices in arid zones, such as Rajasthan. This has been proven by the Indian NGO, Tarun Bharat Sangh, working under the leadership of Rajendra Singh, who revived the traditional rainwater-harvesting technology called ‘Johad’. Johads are small, earthen check dams created by people using their own skills, resources, and Indigenous knowledge to capture and conserve rainwater. These Johads are constructed with the aim of improving percolation and groundwater recharge (Hussain et al., 2014). According to Rajendra Singh (2008), older generations of the community had the knowledge to build Johads but community were suppressed under colonisation. Rajendra Singh arranged meetings with community members who were concerned about water scarcity following the 1985 drought in Rajasthan. In 1986, the first Johad was built by the village community in Gopalpura village with the support of Tarun

Bharat Sangh, Alwar District. The idea was gradually replicated in other villages and, today, more than 20,000 Johads have been built by Tarun Bharat Sangh with community participation.

Water-harvesting structures are managed and maintained by the community, and local regulations are produced for the efficient and sustainable use of water for domestic, irrigation, and hygiene purposes. Women play an important role in conducting village meetings, selecting sites, constructing rainwater-harvesting structures, raising community awareness, mobilising community participation, and planting trees close to rainwater-harvesting to control evaporation. These changes have assisted impoverished communities to prosper. For example, the efforts of Tarun Bharat Sangh have significantly improved access to water in the Alwar district. A study found that the water level in wells increased by an average of 5m after the implementation of Tarun Bharat Sangh initiatives. This increase in groundwater availability has benefited agriculture and ensured a regular supply of drinking water to the communities in the region and increased income (Das, 2024).

Tarun Bharat Sangh efforts under the leadership of Rajendra Singh are recognised worldwide. He has won national and international awards and is supported by international agencies, such as the Swedish International Development Cooperation Agency, Oxfam, UNICEF, and the Ford Foundation (Tarun Bharat Sangh, 2016).

Furthermore, Tarun Bharat Sangh has built the capacity of local communities by involving them in decision-making processes related to water management and creating local water management organisations at the village level. This participatory approach has strengthened community cohesion and resulted in sustainable water resource management practices. The involvement of community members in the maintenance and upkeep of Johads has ensured the longevity of these structures, contributing to the long-term availability of water (Everard, 2015).

Despite initial resistance from the Indian government, which viewed water management as a state issue, community-driven projects like those led by Tarun Bharat Sangh are now supported. However, these communities still partly rely on grants to fund the construction of rainwater-harvesting structures. For additional constructions or repairs, communities must either

gather funds independently or seek assistance from Tarun Bharat Sangh. Access to drinking and irrigation water has allowed these communities to be self-sufficient, reducing the need to migrate for economic reasons. Nevertheless, maintaining efficient water and resource management is crucial; failure to do so could lead to a resurgence of water crises.

2.9.2 Jal Bhagirathi Foundation is an NGO in Rajasthan

The Jal Bhagirathi Foundation, an NGO based in Rajasthan, is dedicated to water resource management and rainwater-harvesting. Inspired by the community work of Tarun Bharat Sangh, Jal Bhagirathi Foundation actively engages with local communities to enhance their capacity, raise awareness, and implement water-related projects. The organisation's focus on constructing check dams, building water harvesting structures, and promoting efficient irrigation techniques reflects a holistic approach to water management that addresses both conservation and utilisation aspects (Jal Bhagirathi Foundation, 2024a).

Jal Bhagirathi Foundation places great importance on engaging with and empowering communities. By working closely with local villagers, Jal Bhagirathi Foundation helps ensure that the initiatives implemented are both sustainable and customised to address the unique requirements and obstacles faced by each village. This collaborative method nurtures a sense of responsibility among community members, resulting in more efficient and enduring solutions for water availability and management (Jal Bhagirathi Foundation, 2024a).

Through its various initiatives, Jal Bhagirathi Foundation has been able to significantly improve water access in numerous villages. By implementing strategies like constructing check dams to capture rainwater, building water harvesting structures to store water efficiently, and promoting modern irrigation techniques to optimise water usage, Jal Bhagirathi Foundation has helped ensure a reliable and sustainable water supply for both agricultural and domestic purposes in the regions it serves (Jal Bhagirathi Foundation, 2024b).

The impact of Jal Bhagirathi Foundation's work extends beyond just water access. By addressing water-related challenges the organisation contributes to improving overall livelihoods in these communities. Access to reliable water sources enhances agricultural productivity, supports livelihoods, and contributes to the overall well-being of the residents.

Additionally, Jal Bhagirathi Foundation's efforts in promoting efficient irrigation techniques not only conserves water but leads to more sustainable agricultural practices that benefit the environment and the community in the long run (Jal Bhagirathi Foundation, 2024b).

Primarily, the efforts of NGOs to improve water access have had a profound impact on local communities in Rajasthan. Access to clean water has significant implications for public health, agriculture, and overall socio-economic development. By ensuring a reliable water supply, community organisations contribute to reducing waterborne diseases, improving sanitation, and enhancing food security (Neuman & Payne, 2007). While community organisations have played an important role in improving access to water in rural Rajasthan, they face significant challenges in their efforts, with one major obstacle being the scarcity of financial resources. Community organisations often rely on donations, grants, and government funding to carry out their initiatives; yet, securing adequate funds remains an ongoing and challenging struggle that limits the scale and impact of their projects. Additionally, community organisations often face resistance from local authorities or government agencies. Bureaucratic hurdles, lack of cooperation, and conflicting interests can all hinder the progress of community-driven water projects. To overcome these challenges, it is essential to have effective advocacy and negotiation skills and build strong partnerships with the local community and relevant stakeholders (Neuman & Payne, 2007).

2.10 Chapter Summary

This chapter provided a comprehensive overview of the various challenges that global communities, especially tribal communities in India, face in accessing safe water. Specifically, it highlighted the social exclusion experienced by the Sahariya tribal community, which has historically faced economic, cultural, and social disadvantages that have hindered their access to basic resources such as food, water, shelter, health, and education. The final section of the chapter delved into the role of NGOs and local community in the field of water conservation in Rajasthan. Discussion underscores the critical role of community engagement. Consequently,

adopting a participatory approach and utilising participatory methods are vital for collaborating with rural communities to explore their contributions to improve access to safe water.

In the next chapter, I discuss my research design, including my research objectives, research paradigm, theoretical framework, methodology, participants, collaboration with the Sahariya community for data collection, ethical considerations, and data analysis process.

Chapter Three: Research Design

3.1 Introduction

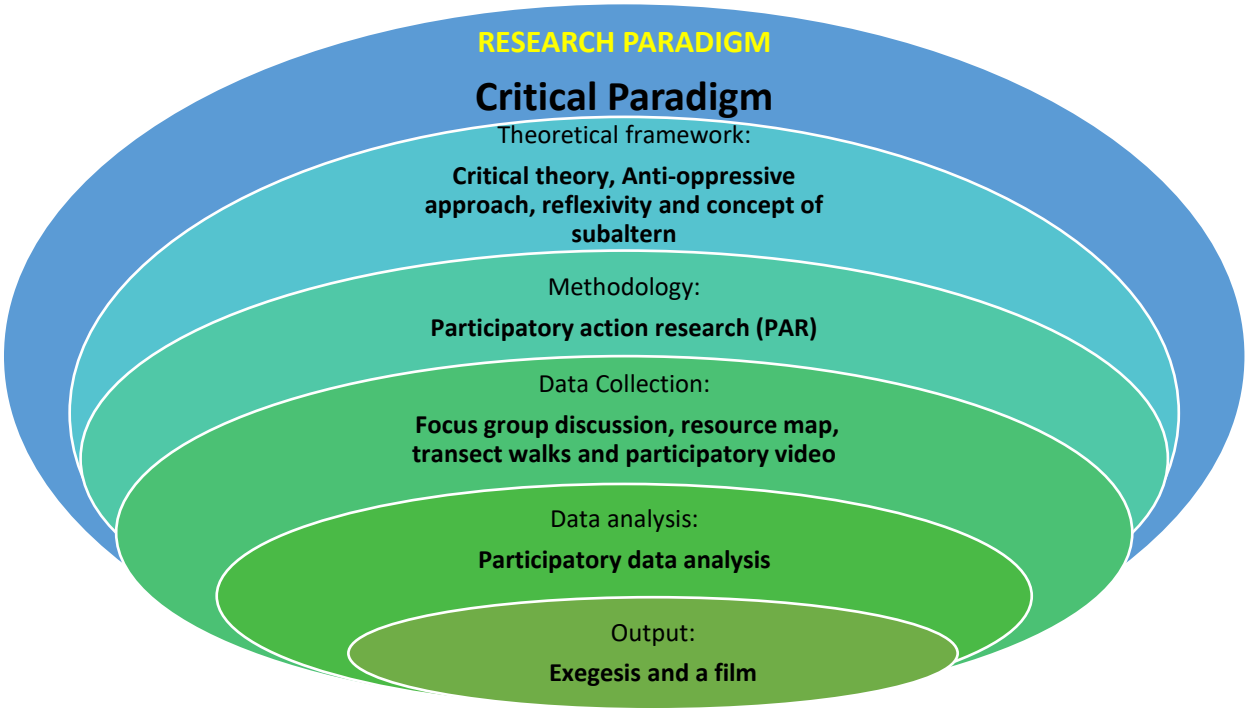
This study draws on the critical research paradigm, which is grounded in critical theory and guided by principles of anti-oppressive and critical reflexivity frameworks. These foundational elements are essential in defining the direction, scope, and ethical approach of the research. PAR was the chosen methodology and, along with the critical research paradigm, was appropriate as it aligned with questioning oppression, injustice, social exclusion, and inequity. These considerations all have relevance for the current research partnering with the marginalised Indigenous Sahariya community, which has very low access to safe water because of socio-political inequities. The relevance of PAR in addressing inequity and oppression is supported by many participatory research scholars (Baum et al., 2006). PAR differs from other methodological approaches in public health because it is based on cyclical reflection, data collection, and an action process that focuses on improving health and reducing inequities by meaningfully engaging the community in the project. In this study, PAR provided a space for co-developing solutions and strategies *with* people rather than *for* or *on* people. As every methodology has challenges, PAR has been criticised for tokenistic participation, power imbalances, and transparency of the participation process and outcomes. This chapter will cover the characteristics and benefits of PAR, along with critiques and challenges.

In this study, data was collected through FGDs and participatory methods such as participatory videos, resource mapping, and transect walks to gather information. These participatory methods encouraged the co-construction of knowledge to bring about change and improve access to safe water among Sahariya. Through the participatory video process, participants engaged in the process of co-creating videos about access to safe water in their community. During a storyboarding exercise, video clips were utilised to create a short film raising awareness about the issues that the Sahariya community faces in accessing water. These methods allowed for an emphasis on the participants' lived experiences. This study supports reshaping the understanding of the political and social structures and associated impacts on their lives, particularly in relation to access to safe water. The data analysis method was participatory

data analysis, ensuring that the analysis reflects the experiences and insights of all participants, not just the researcher. Figure 2, below, outlines the overlapping relationship between my chosen paradigm, methodology and methods that guided my study.

Figure 2

Research Design



3.1.1 Research Aim and Objectives

The presented study aimed to create a space for Sahariya youth in rural Rajasthan, India, to develop strategies to improve access to safe water. The aim of this study was addressed with the following objectives:

1. To explore the views of the Sahariya youth regarding safe water access.
2. To explore the potential contribution of Sahariya youth to improve safe water access in the Sahariya community.
3. To explore the use of PAR to create a safe space for the Sahariya youth and building agency using participatory video.

3.2 Research Paradigm and Positionality

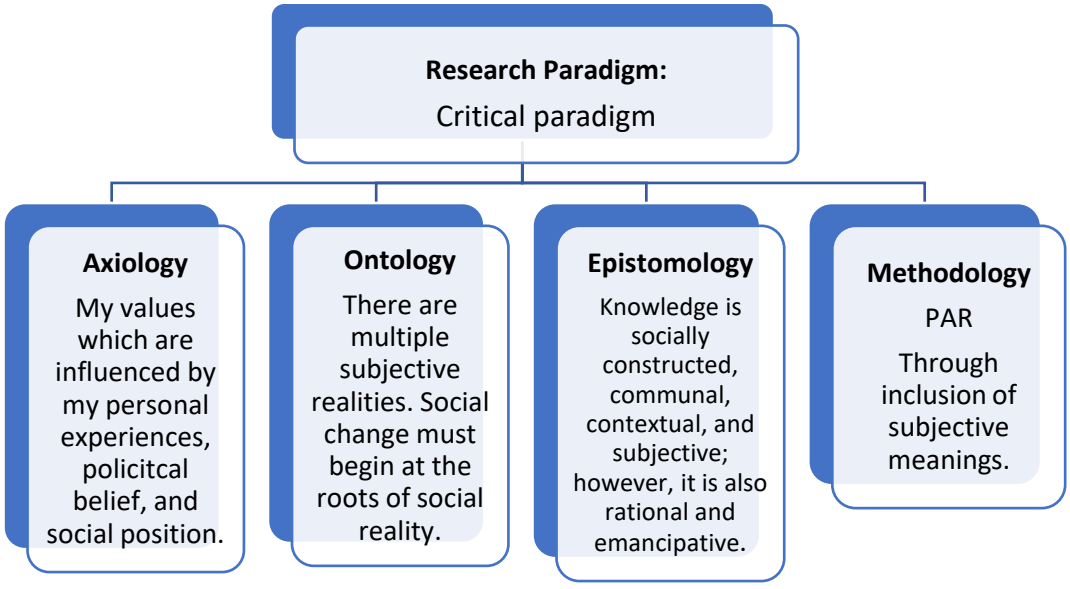
3.2.1 Research Paradigm

A research paradigm is the philosophical basis of a research study. It is a belief system, framework, or perspective that guides the researcher throughout the research process. In educational research, a paradigm signifies a researcher's worldview, which is the set of beliefs that directs their actions (Guba, 1990; Mackenzie & Knipe, 2006; Willis, 2007). To conduct research, a researcher must be aware of the philosophical assumptions underlying their research paradigm and how it shapes their research (Fraser, 2004).

Paradigms in research consist of four elements: ontology, epistemology, methodology, and axiology (Lincoln & Guba, 1985). Ontology refers to the nature of reality, epistemology is a study of how knowledge is acquired and validated, methodology is a systematic method for generating data, and axiology encompasses the values and ethics involved in research (Blaikie, 2009; Ellen, 1984; Gall et al., 2003; Mertens, 2010). It is vital to comprehend these components as they represent the fundamental assumptions, beliefs, norms, and values that each paradigm holds. For this research, I drew from the critical research paradigm (see Figure 3). The following section discusses the key elements of my research paradigm and the justification for using the critical paradigm.

Figure 3

Research Paradigm



3.2.2 Ontology

Ontology is the study of beliefs about reality. The critical paradigm's ontological position suggests that reality is formed by social, political, cultural, economic, ethnic, and gender forces that have crystallised into social structures (Scotland, 2012). Social change must begin at the roots of social reality (Ayton et al., 2023).

3.2.3 Epistemology

Epistemology is the study of how we acquire knowledge. Researchers should consider whether knowledge can be acquired or if it must be experienced firsthand and what the relationship is between the knower and the known. Answering these questions helps researchers position themselves within the study and discover new information in light of what is already known (Dew & Foreman, 2020; Lemos, 2020).

Critical researchers and society are guided by their experiences and values rather than relying solely on empirical evidence (Howell, 2013). In this approach, the reality being studied is heavily influenced by cultural, historical, and contextual factors. The subject of study and object of study are intertwined, and the researcher is always a part of the object being studied. For example, the subjects of the study are people in the world, while the objects of the study are the things that the researcher wants to know more about. However, researchers themselves can become an object of study if they reflect on their own thought processes and actions (Ryan, 2018). Alternatively, the positivist approach relies heavily on specific scientific measures and attempts to conduct objective, value-free research. Researchers often specify dependent and independent variables and ensure that these variables adhere to the rules of empirical testing and formal logic (Chilisa & Kawulich, 2012).

3.2.4 Axiology - My Positionality

As I contemplate my position and intentions, I realise that my values, principles, beliefs, and ethics have played a critical role in shaping my perspective and identity. My family values, social work values and principles, and life experiences influence my worldview. As mentioned in the Introduction chapter, I am deeply inspired by my father's work on water conservation in rural areas of India, which motivated me to pursue doctoral studies on water access-related

issues. In particular, I am passionate about researching the social issues related to safe water access among Indigenous communities living in rural areas.

Being an Indian PhD student in New Zealand researching social issues, I was open to learning, exploring, and understanding diverse perspectives. After considering different paradigms, the critical paradigm was chosen. This paradigm focuses on examining and challenging oppressive socio-cultural and political structures to promote emancipation. PAR principles informed my approach in creating a supportive environment for the Sahariya community. My social work values and principles guided me throughout my research, particularly my fieldwork. I believe in and practise social work values, such as promoting social justice and human rights, respecting the inherent dignity and worth of the person, having a non-judgmental attitude, promoting self-determination, and respecting cultural norms.

My research project aimed to create safe spaces for the Sahariya people to express their stories and voices regarding safe access to water. My research findings are presented in the form of an exegesis and a short film. People may perceive and interpret my work differently depending on their worldview; however, I have presented what I learned from the field and my readings in this research. I hope that my work will contribute to creating awareness and understanding of social and health issues related to safe water access for Indigenous communities living in rural areas. In the following section, I discuss the framework and theories that guided me in this research.

3.3 Theoretical Frameworks – Critical Theory, Anti-oppressive Approach, Critical Reflexivity, and the Concept of Subaltern

3.3.1 Critical Theory

Critical theory is an approach to research that examines power relations and social phenomena in society. It focuses on analysing the distribution and use of power, and its impact on different social groups. Critical theory aims to identify and analyse the social, cultural, and political factors that contribute to power imbalances and how they can be addressed and transformed. Its goal is to challenge beliefs and analyse the validity and limits of a body of knowledge (Bronner, 2017; Held, 2013). Critical theory underlies one of the key objectives of

this research, which relates to exploring access to safe water for Sahariyas and creating a space for the voices and actions of the Sahariya community who face multiple forms of marginalisation and discrimination based on their ethnicity and low social status.

Critical theory draws on various philosophers and schools of thought, including Marx, Hegel, Kant, Foucault, Derrida, Horkheimer, Adorno, Habermas, and Kristeva. Each branch of critical theory focuses on specific aspects of society, shedding light on the different forms of oppression experienced by marginalised groups' purpose (Bronner, 2017; De Poy & Gitlin, 2015). Critical theory signifies a complex set of strategies united by a common socio-political purpose rather than being a unitary approach. It has evolved and branched into various interdisciplinary fields, such as feminist theory, postcolonial theory, queer theory, and many others.

Karl Marx and Immanuel Kant are two important philosophers who contributed to the development of critical theory. Kant addressed problems raised by sceptical empiricism, while Marx critiqued ideology and proposed solutions for social revolution (Bronner, 2017). Max Horkheimer, a key figure in the Frankfurt School, emphasised the intersection of philosophy and social theory. He believed that traditional theories of society failed to address the complexities of modern life adequately and argued that critical theory should not only analyse society but also seek to transform it. The emphasis on praxis, or the integration of theory and practice, became a defining characteristic of critical theory (Garlitz & Zompetti, 2021).

Theodor Adorno, another influential thinker associated with the Frankfurt School, explored the role of culture and mass media in shaping people's consciousness. He argued that the culture industry, which includes popular music, film, and television, was a powerful tool for social control and conformity. Adorno believed that critical theory should expose the manipulative nature of the culture industry and encourage individuals to develop their own critical consciousness (Bronner, 2017; Bronner & Kellner, 2020).

Jürgen Habermas, a renowned philosopher, emphasises the significance of communicative action in promoting mutual understanding between individuals. His theory revolves around the 'public sphere', which denotes locations where people convene to engage in

logical and comprehensive deliberations on matters of societal concern. Habermas examines how power structures and ideologies affect communication and shape societal norms. He aims to identify hidden assumptions and power dynamics to critique and transform societal structures (Howard, 2019).

Tribal critical theory (TribalCrit) is a branch of critical race theory that focuses on examining racial discrimination, including class and gender-based subordination (Brayboy, 2005). It connects traditional community values to institutions like schools and courts and shows how these linkages contribute to racial profiling and discrimination while preserving cultural identity. Indigenous research must incorporate critical paradigms to improve research quality (Brayboy, 2005).

Postmodern critical theory situates social problems in historical and cultural contexts, involves researchers in the data collection and analysis process, and focuses on local indicators instead of broad generalisations. This approach helps identify challenges in modern society and politicises social issues by analysing their significance and ability to address specific topics of interest in the current context (Lindlof & Taylor, 2017).

I am drawn towards critical theory because it values the experiences and voices of those who have been marginalised in society while challenging traditional research paradigms. Instead of striving for an objective stance, critical theorists argue that researchers should embrace subjectivity and acknowledge their own social, cultural, and political perspectives. Recognition of subjectivity allows researchers to engage in more meaningful and authentic dialogues with participants, fostering a deeper understanding of their experiences. Furthermore, it encourages researchers to be mindful of the language and terminology they use and to scrutinise the dominant discourses and narratives that perpetuate inequality. Critics argue that it oversimplifies complex social phenomena and has a negative and deterministic view of society. Nevertheless, critical theory has helped me incorporate other approaches, such as reflexivity and anti-oppressive practices, into research. PAR was the chosen methodology, which aligns well with the underpinnings of critical theory and enables participants to collectively explore and challenge existing irrational, unsustainable, and unjust social practices. The next section covers

anti-oppressive practice and critical reflexivity, as well as Spivak's work on subalterns, which were other important theoretical approaches guiding my research.

3.3.2 Anti-oppressive Approach and Practice

Anti-oppressive practice is a critical framework within the discipline of social work (Egan & Papadopoulos, 2020). Anti-oppressive practice is based on a multidisciplined theoretical framework, drawing from disciplines such as sociology, psychology, history, philosophy, and politics. Being a professional social worker, I believe in this approach and my practice is guided by the principles of the anti-oppressive approach. An anti-oppressive approach and practice refers to a way of thinking, understanding, and acting that seeks to challenge and dismantle oppressive structures, systems, and ideologies. It recognises that various forms of oppression such as racism, sexism, and classism, intersect and mutually reinforce each other. An anti-oppressive approach aims to promote social justice, equity, and inclusion by addressing power imbalances and working towards creating a more just and equitable society. It recognises that individuals and groups may experience multiple forms of oppression simultaneously and that oppression operates at both individual and systemic levels (Aqil et al., 2021; Baines, 2017; Sakamoto & Pitner, 2005).

Anti-oppressive research also acknowledges that the production of knowledge is not a neutral or benign process. Power dynamics among people influence how knowledge is constructed and utilised, which can lead to oppression. However, knowledge can also be a powerful tool for resistance and liberation. In most cases, it is a combination of both, which makes it a complex mixture. Therefore, anti-oppressive research aims to understand and provide insights that can facilitate resistance and change rather than seeking to prove or disprove a singular "truth" about the social and political world (Brown & Strega, 2015, p. 20).

In order to adopt an anti-oppressive approach and practice, it is important to adhere to the fundamental principles of an anti-oppressive approach. The principles of anti-oppressive practice include recognising social differences, linking personal and political aspects, understanding power dynamics, considering historical and geographical locations, and promoting reflexivity and mutual involvement. These principles provide a foundation for a

social work assessment that is theorised and empowering, aiming to challenge inequalities and create opportunities for change. The anti-oppressive practice also involves embodying a person-centred philosophy, an egalitarian value system, a methodology focusing on both process and outcome and a way of structuring relationships between individuals that aims to build the capacity of users by reducing the negative effects of social hierarchies on their interaction and the work they do together (Burke & Harrison, 2004). All the above principles guided my practice while working with Sahariya youth in the field and met the objectives of this research.

I had the opportunity to learn about anti-oppressive practice frameworks while pursuing both my Bachelor's and Master of Arts in Social Work. The coursework was designed to encourage critical examination of our own biases, assumptions, and privileges while developing an understanding of diverse cultures, identities, and experiences, all in an effort to provide culturally sensitive services. I acquired the ability to analyse power structures and dynamics that perpetuate oppression and marginalisation and challenge discriminatory practices through social change. I also recognised the interconnected nature of various forms of oppression based on race, gender, class, and sexuality, among others.

During my social work placement, I gained the necessary knowledge, skills, and attitudes to work effectively with diverse populations while advocating for social justice. I had the opportunity to work with sexually abused children, as well as tribal communities whose right to life was in danger, as they were deprived of food, water, shelter, and other basic amenities. I also worked in a rural community struggling to have safe access to water. All this experience helped me to practise anti-oppressive frameworks and understand the strengths and challenges of this approach.

Anti-oppressive practice, while vital for promoting equality and justice, is not without its limitations and challenges. One significant hurdle lies in the complexity of power dynamics within society. While efforts are made to dismantle oppressive structures, power imbalances persist, often deeply ingrained within institutions and interpersonal relationships. Additionally, there can be resistance from those who benefit from existing oppressive systems, making it difficult to effect meaningful change. Since anti-oppressive practices seek to undermine

established power structures and norms, they may cause conflicts or tensions within organisations or communities. The implementation of anti-oppressive practices is a multifaceted endeavour that necessitates a comprehensive understanding of social hierarchies and power dynamics. It can be an arduous process for some professionals, requiring additional resources such as training and support, which can be time-consuming and costly (Harlow & Hearn, 1996).

In this research, I made a conscious effort to incorporate anti-oppressive practices to ensure that the research process was grounded in principles of social justice and equity. I worked closely with members of the community, recognising their knowledge and lived experiences as vital to shaping research. By engaging in ongoing dialogue and reflection, I critically examined power dynamics within the research context and acknowledged my own privileges and biases. To centre the voices of the marginalised Sahariya community, I facilitated participatory methods that allowed for the co-creation of knowledge and solutions to pressing issues, particularly access to safe water. Throughout the process I remained vigilant about ethical considerations and ensured that all participants were treated with dignity, respect, and sensitivity to their unique circumstances. Ultimately, by embracing anti-oppressive practice, this PAR aimed to foster genuine collaboration and promote social justice.

The following section is about critical reflexivity. Critical reflexivity and an anti-oppressive approach are essential components in promoting ethical research practices that aim to challenge oppressive structures and advocate for social change.

3.3.3 Critical Reflexivity

Critical reflexivity is a practice that involves self-evaluation of the researcher's positionality (Pillow, 2003). This introspection is crucial for considering how researcher biases, assumptions, and beliefs may influence the research process and its outcomes. It requires an ongoing and introspective engagement with one's own subjectivity, which shapes every aspect of the research including its design, data collection, analysis, and interpretation. Critical reflexivity recognises that researchers are not impartial or objective observers. Rather, they possess unique backgrounds, beliefs, and social contexts that influence their perspectives and choices (Olmos-Vega et al., 2022).

When engaging in critical reflexivity there are a number of important factors to keep in mind. First, and foremost, researchers must practise self-awareness by recognising their own social, cultural, and personal identities and how these factors may impact their research. This includes taking into account factors such as race, gender, class, education, and personal experiences (Etherington, 2016; Olmos-Vega et al., 2022). Additionally, researchers must acknowledge their position within power structures and systems of privilege or disadvantage and how this may shape their research questions, methods, and interpretations (Mudambi et al., 2022). Thirdly, researchers should actively identify their preconceived notions and assumptions, including being aware of confirmation bias (Mudambi et al., 2022). Fourthly, researchers should regularly reflect on their role and impact in the research process, considering alternative viewpoints and interpretations (Olmos-Vega et al., 2022). Finally, researchers should be transparent about their positionality in their research, ensuring that readers or participants are aware of any potential influences on the study. This transparency helps to establish trust and allows others to critically evaluate the research (Olmos-Vega et al., 2022). In the next section, I discuss reflexivity in social work practice and how social work values and principles guide the practice of reflexivity.

3.3.4 Reflexivity in Social Work

As mentioned above, I have a Bachelor's and Master's degree in Social Work and have worked in this field for over 14 years. I also teach the Bachelor of Bicultural Social Work programme at Te Wananga o Aotearoa, New Zealand. One important concept in social work is reflexivity, which involves examining one's assumptions, biases, and values to understand better how they may impact work with clients. I learned about reflexivity during my social work education; it is a crucial skill for social workers.

As a social worker, I evaluate where individuals are currently, their connection to their context, and where they want to be. I also consider my assumptions and perceptions in generating knowledge and understanding reality. Reflexivity can be approached in different ways in social work literature. The first approach views reflexivity as an individual's considered response to a situation and making choices for further directions (D'Cruz et al., 2007).

However, this approach can hold individuals responsible for their choices and overlook social-political factors (D'Cruz et al., 2007). The second approach defines reflexivity as a critical approach to professional practice that questions how knowledge is generated and how power relations influence knowledge generation. This approach suggests that knowledge is not just a resource but a topic of scrutiny (Taylor &White, 2000). Aligned with a critical approach, the third type is based on a "critical awareness of the factors that influence knowledge creation. It adds to the acknowledgement of the dynamic relationship between thoughts and feelings, how thoughts can influence feelings and vice versa" (D'Cruz et al., 2007, p. 80), reflecting on why we might have an emotional reaction to a situation.

I focused more on the second and third versions of self-reflexivity explained above. The second version scrutinises my pre-assumptions, and the third version examines my feelings and emotional response at each stage—how I felt, what I felt, and why I felt that way. Social work principles guided me in practising reflexivity, such as how social workers treat each person with inherent dignity and worth and show respect for individual differences and cultural diversity. This principle guided me to understand that the Sahariya community has their own culture and knowledge different from mine. I have respect for their views and beliefs.

Social workers use reflexivity in research to respect participants' perspectives and experiences. By adopting a reflexive approach, social workers question the politics of research and strive for a progressive social change agenda. Reflexivity leads to improved social work quality, an understanding of the self, family, and society, balanced flexibility and rigour, and a critical approach to qualitative research (Glumbíková, 2021; Ide & Beddoe, 2023; Leung et al., 2012; Probst, 2015).

For social workers, applying reflexivity in research can be difficult due to personal and professional obstacles (Ide & Beddoe, 2023; Probst, 2015). During my own fieldwork experience, I encountered similar challenges in engaging in self-reflexivity. However, utilising international social work values, principles, and ethics proved to be a helpful guide. By incorporating principles such as social justice and human rights, self-determination, integrity

and respect, and a non-judgmental attitude, I was able to introspect on my practice. Some of the principles which I used to guide my practice are explained below.

Promoting social justice and human rights.

Throughout this research, I constantly had the principles of social justice and human rights in my mind. Hence, I relied on theories such as the anti-oppressive approach and subaltern studies, both of which are centred around social justice and challenging dehumanising practices. In order to acknowledge and value the knowledge, strengths, and stories of the participants, the methodology of PAR was chosen.

Access to safe water is vital and a fundamental human right under the right to life (United Nations, 2010). Promoting the right to life and living with dignity are central principles in this research, and I practiced these principles at every stage of the project (National Association of Social Workers, 2021).

Promoting self-determination.

Self-determination is vital; participants had free choice to decide whether to be part of a project, how they wanted to be represented, what they wanted to share in their personal stories, and what political decisions they wanted to make. I did not manipulate, guide, or force them to make any decision (National Association of Social Workers, 2021).

Engaging with participants with integrity and respect.

While in the field I approached participants with integrity and respect. I was positive in my relationship with them, tried creating a positive environment, and respected the distinct positions taken by the participants. I reflected on my interactions and conduct using the social work code of ethics and principles as a guide (National Association of Social Workers, 2021).

Non-judgmental attitude.

I was non-judgemental towards participants. I did not judge them based on ethnicity, tribal affiliation, gender, education, or social background. I knew every person was unique and had individual stories to share. I was also mindful of their vulnerabilities and marginalisation and how that impacted their life, and socioeconomic and political decisions (National Association of Social Workers, 2021).

3.3.5 Participants' Reflexivity

According to Kyung-Hwa Yang (2015), participant reflexivity is a vital component of community-based participatory research. This approach recognises the active role that participants play in generating knowledge and insights throughout the research process. Yang's model emphasises the importance of acknowledging participants as knowledge producers to promote more equitable and collaborative research practices. By understanding participants' reflexivity, researchers can gain deeper insights into the complexities of the research topic and ensure that participants' contributions are valued and incorporated into the research process.

Participant reflexivity involves participants reflecting on their experiences, perspectives, and insights related to the research topic (Yang, 2015). It goes beyond the traditional focus on researcher reflexivity, recognising the value of participants' contributions. Researchers can utilise various methods such as reflexive interviews, dialogical narrative analysis, and video ethnography to facilitate reflexivity. These methods provide opportunities for participants to share their stories, engage in dialogue, and critically reflect on their own experiences and perspectives. Here, I incorporated the stories of Sahariya youth and their unique expressions, thinking, and thought processes related to safe access to water. The strategies proposed by Sahariya came from their worldview, and I was conscious not to impose my ideas on them.

However, implementing participant reflexivity can be challenging as it is a complex and multifaceted concept that can be difficult to define and apply consistently across different research contexts (Jootun et al., 2009). Furthermore, it can be time-consuming, and participants may not have the time or resources to engage in reflexive activities (Cassell et al., 2019). Power imbalances between researchers and participants can also limit the extent to which participants feel comfortable sharing their experiences and perspectives (Cassell et al., 2019). Additionally, different cultural backgrounds and experiences can affect how participants engage in reflexive activities and how they interpret the research process (Cassell et al., 2019). Researchers may also have preconceived notions or biases that can influence how they interpret participant reflexivity, potentially limiting the value of participant contributions (Olmos-Vega et al., 2022).

To address these challenges, I took steps such as building trust with participants, providing adequate resources and support, acknowledging and addressing power imbalances, and engaging in ongoing reflexivity myself (Muthanna & Alduais, 2023; Olmos-Vega et al., 2022; Von Unger et al., 2022). Implementing participant reflexivity in participatory research requires careful consideration of challenges and a commitment to promoting more equitable and collaborative research practices.

3.3.6 Subaltern Research

This research draws on Gayatri Spivak's subaltern studies. Let me begin by defining the term subaltern. Antonio Gramsci's concept of subaltern refers to the cultural hegemony that restricts certain groups from socioeconomic institutions, denying them agency and voice in colonial politics. In postcolonial studies, subaltern denotes the populations that are excluded from the hierarchy of power of an imperial colony (Ludden, 2001; Young, 2020). In postcolonial studies, agency means the ability of the individual to make their own decisions (Riach, 2017; Spivak, 1988). The relationship between agency and subalternity is complex as subaltern groups may have limited agency due to their marginalised position. However, they may also exercise agency in various ways to resist or challenge their oppression (Edwards, 2017).

In India, the subaltern discourse was adopted by historians, primarily Ranajit Guha and peers, as a narrative strategy to rewrite Indian history, which ignored subaltern representation. The subaltern discourse examines the concepts of national identity, social change, and developmental parameters from a new viewpoint, challenging the prevailing power structure. The subaltern experience is being re-examined and reconsidered to prevent mainstream narratives from wiping out local, native, and regional voices. In the 21st century, emphasis is given to including the voices of vulnerable, minority, and subcultural communities. Each narrative is full of discontinuities as there is selective remembering of a certain set of events and forgetting of others (Chandra, 2013; Majumdar, 2015). According to Spivak (1988), the subaltern voice is never accepted as discourse or meaningful utterance; therefore, the generation of discourse is difficult from the subaltern position. In this situation, if someone has agency, it is

their responsibility to create a safe space to consider the subaltern voice valid. Drawing on the work of Barker (2003), I define agency refers to the ability to take action both within and in opposition to social structures. In this research, I consider that it is my responsibility to create a safe space for Sahariya to share their views and stories in relation to access to safe water.

Spivak's (1988) theory on subalternity emphasises the significance of naming subalternity while being mindful of the power dynamics involved in the research process. The researcher should acknowledge the voices of the subaltern and practise reflexivity to ensure that the subaltern is not further silenced. Spivak's subaltern theory demands a hyper-self-reflexive approach from the researcher, meaning that the researcher must be transparent about their positionality and epistemological assumptions and how these might affect the research outcomes (Griffiths, 2018).

Griffiths (2018) further argued that Spivak's work on subalternity is not intended to encourage further silencing but rather to guide researchers towards a more ethical engagement with subalternity that involves speaking for and about the subaltern in an anti-foundationalist and hyper-self-reflexive manner. This ethical engagement requires researchers to be transparent about their assumptions and positionality and to consider the power dynamics involved in the research process.

Spivak's (1988) work *Can the Subaltern Speak?* captures the dilemma that scholars and intellectuals from the colonised world face in positing their work as engaging in a meaningful change of the conditions of colonisation. Her reflexive approach becomes most meaningful for Indigenous studies when the Indigenous world is understood as featuring two forms of subalternity: one focused on economic deprivation, the other more focused on maintaining the social and cultural forms of traditional cultural practitioners (Warrior, 2011).

The concept of subaltern studies has the potential to unlock new research opportunities in dialogic communication theory. Through this approach, researchers can explore how they represent the *other* and create opportunities to challenge the privilege embedded in neoliberal discourse (Dutta & Pal, 2010).

Throughout my research, I played the role of a primary researcher and aimed to create a safe and supportive environment where the voices of subaltern Sahariya individuals could be heard. I prioritised ethical responsibilities, as highlighted by Spivak (1988), to ensure an ethical and respectful engagement with the subaltern community. My focus was to learn from the community and establish a comfortable environment where they could express themselves freely. My research was centred around creating a safe space for the Sahariya community to discuss issues related to access to water. To achieve this space, I carefully observed their communication styles and adopted the PAR methodology (discussed below) as the most appropriate approach. I conducted participatory data collection and filmmaking using PAR to ensure that the Sahariya community's voices were accurately represented in the findings chapter and the film.

3.4 Methodology – Participatory Action Research (PAR)

3.4.1 History, Definition, and Principles of PAR

PAR methodology promotes social justice, empowerment, and capacity building. It creates a space for the voices and actions of marginalised people, leading to positive social change (Given, 2008). PAR emerged from a number of traditions, often referred to as the northern and southern traditions. One crucial thread was the work of psychologist Kurt Lewin in the 1940s and 1950s (MacDonald, 2012). Known as the 'northern tradition', Lewin espoused the philosophy "that people would be more motivated about their work if they were involved in the decision-making process" (McNiff & Whitehead, 2006, p. 36), and he made major contributions to the development of action research and the cyclical process of inquiry and reflection.

Paulo Freire's critical pedagogy, known as the 'southern tradition', has also had a significant impact on the foundation of PAR, emphasising the importance of critical reflection for both individual and social change (Maguire, 1987; McIntyre, 2007; Selenger, 1997). Freire (1970) was concerned with the capacity building of deprived and marginalised members of society in terms of literacy, land reform analysis, and the community. According to Freire

(1970), critical consciousness requires awareness of political, social, and economic contradictions and action to liberate oppressed individuals.

PAR is different from traditional research, where researchers treat participants as objects. Instead, PAR creates opportunities for communities to meaningfully engage in the research process. PAR focuses on action-oriented outcomes and iterative reflective cycles. The participation of co-researchers and building the capacity of participants are core principles of PAR (McTaggart, 1991).

PAR is a suitable methodology for working with Indigenous communities. Wallerstein et al. (2017) used PAR as methodology and examined three case studies, one from the United States and two from Brazil. Both countries recognised the importance of co-constructing reality with participants from the community, contributing their local knowledge, and was viewed as equal to academic knowledge. Wallerstein et al. found that participatory research from both countries can learn from the philosophical ideas of Paulo Freire (1970) about conscientisation. This approach involves deep recognition and respect for people's knowledge which enables symmetric interaction between lay social actors and academic researchers. This collaborative interaction has the potential to challenge traditional structures of oppression and strengthen the contribution of health promotion to knowledge democracy as a true social justice enterprise.

PAR is a participatory approach to research that involves the person being studied in all phases of research. It aims to promote capacity, empowerment, social justice, and social transformation. PAR generally consists of three elements—participation, action, and research—and seeks to deconstruct unequal power relations to achieve liberation.

PAR seeks to collaborate with people to make research practice more informed, anti-discriminatory, constructive, sustainable and democratic (Kemmis et al., 2014). Certain theoretical frameworks often influence PAR, with the work by Freire (1993) on critical pedagogy being the most cited theoretical framework. Critical pedagogy stresses critical dialogue and reflection of the community, challenges oppression, oppressive structures, socio-cultural-political and economic hegemony, raises critical consciousness, and brings social transformation. Another theory that informs PAR is the work of Habermas' (1984) theory of

communicative action, which emphasises engaging people in communication to achieve mutual agreement to bring social change (Kemmis & McTaggart, 2005). PAR is also influenced by feminist, Indigenous, and critical theoretical frameworks that believe in the liberation of individuals and communities facing oppression and discrimination (Appadurai, 2006; Smith, 1999).

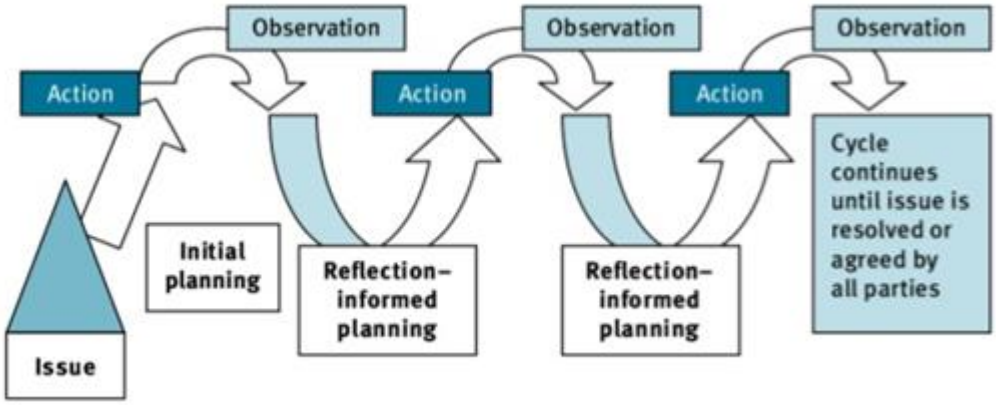
PAR emphasises the involvement of researchers and participants in every step of the research process. It is a collective process that aims to bring about social change by empowering communities to identify issues and take action. PAR stresses on the authenticity of participation and true democratisation to avoid exploitation and tokenism. The process is action-oriented and flexible, ranging from creating awareness to changing structures and policies.

3.4.2 Principles of PAR

PAR aims to bring change in individuals' existing situations and the culture of the groups to which they belong, but this change should not be imposed on them. They should participate in the process and act as change-makers (McTaggart, 1991). PAR is a collaborative process in which affected people are involved in the research process (Khan & Chovanec, 2010). PAR practitioners play the role of facilitators, believing that participants should be meaningfully involved at every stage of theorising, collecting and analysing data (Khan & Chovanec, 2010). PAR is a continual political and critical process of the distribution of power and the expression of resistance. It involves making changes together that affect others (McTaggart, 1991). PAR involves a continuous cycle of action/reflection spiral of planning, action, observing, reflecting and then re-planning, as shown in Figure 4 (Kindon et al., 2007; McTaggart, 1991). The central tenets signify PAR as participatory, non-discriminatory, anti-oppressive, action-oriented, cyclical reflection, social change, social transformation, democratic, production and respect of local knowledge (Baum et al., 2006; Blair & Minkler, 2009; Cargo & Mercer, 2008; Grimwood, 2022; Kemmis, 2006; Kemmis & McTaggart, 2005; MacDonald, 2012; McTaggart, 1991; Minkler, 2000).

Figure 4

Cyclical Mode of PAR



Note: Cyclical mode of PAR from SlideShare. Retrieved from https://www.slideshare.net/reynantetagum/participatory-action-research-16414937?from_action=save. 2017 by the Linkedin Corporation.

3.4.4 Strengths and Justification for Choosing PAR as the Methodology

PAR stresses the importance of local knowledge and the capability of people to take action on their own to bring change to their situation (Kindon et al., 2007). In this research, the Sahariya community is valued for their knowledge and ideas about the issue of water and how to improve access to safe water.

PAR is useful for valuing and leveraging Indigenous ways of knowing. Historically, colonial powers have researched Indigenous people to advance the politics of colonial control. Culturally insensitive research has misrepresented Indigenous cultures and conditions and proved unable to meet Indigenous communities' needs, customs, and standards (Cochran et al., 2008). According to Cochran et al. (2008), there is an urgent need to change the Western/Eurocentric research approach. Research methods based on community participation and the protection of Indigenous knowledge must be developed. Smith (1999) suggested that to ensure the protection of Indigenous knowledge, research related to Indigenous peoples should be designed and carried out by Indigenous scholars, researchers, and community members who would guide non-Indigenous scholars, researchers and community members to develop their understandings of Indigenous knowledge and theories. In this way Indigenous people may plan, implement, and evaluate solutions for the problems within their communities. According to

Smith (2005), decolonising methodologies "privilege indigenous knowledge, voices, experiences, reflections and analyses of their social, material and spiritual conditions" (p. 116). In this process, Indigenous voices and epistemologies are retained at the centre of the research process, increasing the visibility of Indigenous people.

Cochran et al. (2008) suggested that "Participatory research needs to consider the power that indigenous methods can bring to research design and to the entire research process" (p. 22). PAR can support this intention as the methodology and research process places Indigenous voices at the centre of the research process and challenges dominant beliefs that Eurocentric and positivist methods of knowing are the only objective, true science. PAR was developed across a range of cultural contexts, including both Eurocentric and colonial contexts in South America. It is culturally sensitive, assisting Indigenous people by aligning with Indigenous research axiological beliefs (Simonds & Christopher, 2013). PAR is commonly used in Indigenous health research to reduce the effects of colonisation on Indigenous health and represent Indigenous groups' voices (Baum et al., 2006).

Given these points, PAR methodology, situated within a critical research paradigm, is an appropriate framework for conducting this study with Indigenous Sahariya, which focuses on emancipation and respect for their knowledge to address the complex issue of access to safe water. In this project, lack of access to safe water is a significant cause of poor health among the Sahariya. PAR offers space whereby the knowledge, experiences, and views of the Sahariya are respected, and the issue of access to water is raised and recognised. PAR is based on democratic engagement, transparency, collectivism, communication, inclusion, and commitment to issues of equity, social justice, and sustainability; it is a reflective process undertaken to understand history, culture, local context, and social relations. In PAR, participants are involved throughout the entire research. To explore the views of the Indigenous Sahariya community regarding safe access to water and strategies for improvement, it was vital to ensure their participation. PAR methodology creates space and opportunity for participants to express their views using methods, such as participatory video and FGDs (explained later). These played a significant role in bringing people together to think about the challenges and opportunities faced by the

Indigenous Sahariya community associated with co-creating a youth association to improve safe water access. The PAR process assisted the Sahariya youth in exploring strategies for safe access to water. The use of participatory video attracted the youth to participate, express their innovative ideas, and create an artefact that will help improve access to safe water in their community. The study focused on Sahariya youth as the participants. However, during the video-making process, the youth group members went a step further and gathered information from the elderly about their traditional water harvesting techniques. This approach resulted in the involvement of the elderly in the process, with the youth sharing their ideas with them.

3.4.5 Challenges of PAR and Mitigating These Challenges

As noted above, PAR as a methodology has many benefits. However, PAR also has multiple challenges; the major challenges involve the inappropriate use of methods, untrained researchers, insufficient time spent in the field, superficial participation, problems in sharing control with participants, and dealing with conflicting expectations and agendas. According to Kalb (2006), researchers may also face challenges balancing local and theoretical knowledge. For instance, a PAR researcher may treat Indigenous knowledge as that which can be easily recovered. However, local knowledge is "relational, situated, practical, dynamic, positional, unevenly distributed, and often communicated orally or bodily" (Kalb, 2006, p. 579). It cannot be easily recovered and demands daily living and evolving over a year of experimenting (Kalb, 2006). Hickey and Mohan (2004) illustrated that sometimes researchers have misconceptions about the involved community and may treat the community as homogenous, ignoring differences based on age, gender, or ethnicity. A danger arises that using Indigenous forms of participation may reinforce existing inequities (Gaventa, 2004). However, recent participatory rural appraisal studies have identified differences based on gender, age, and formal and informal power in the community (Thompson, 2004). These challenges mentioned above could be addressed by proper planning and selecting suitable methods such as Venn diagrams, historical timelines, and separate meetings with different groups to conduct PAR within the community.

Another challenge is maintaining the commitment of community members over time, especially given the pressures they face in their daily lives (Gills & Jackson, 2002). Participants (explained later) were informed that PAR is a time-consuming activity; therefore, the study was conducted in a timeframe suitable for the community to ensure their participation. The research was designed to offer an opportunity for the participants to develop new skills, including co-designing and making a participatory video, which made this project attractive.

Some of the criticisms of PAR relate to politics of participation, whereby PAR essentialises the local and overlooks power relations (Mohan & Stokke, 2000). According to Cornwall (2004), local knowledge is shaped by multi-layered micropolitics, and local elites may decide what is local knowledge. Participation is never politically neutral and may be driven by various interests (Cornwall, 2004). Local elites may get most of the benefit of government schemes and projects (Appleton, 1995). Participation can be seen as a deceptive form of dominance in which political institutions make people believe they are the ones making the decisions when, in reality, they are manipulated through participation schemes that ensure the dominance of international financial institutions or that benefit the interests of private investors (Lizarralde & Massyn, 2008). Sometimes, outside researchers also shape the production of local knowledge to meet the criteria of funding agencies or academic publication requirements. Kothari (2001) also criticised the participatory approach, where participation and inclusion are used to mask power relations. According to Waddington and Mohan (2004), researchers using outside techniques to solve local problems may reinforce the domination of the external expert.

As an upper-caste Indian woman studying in a university dominated by European perspectives in a developed country, I was conscious of my privilege and biases. I saw this study as an opportunity to create a safe space through the PAR process and to learn from the Sahariya community. I take responsibility for sharing their stories and for creating strategies to improve access to safe water.

3.5 Study Site, Participants, and Recruitment

This section discusses the pre-fieldwork preparations, study location, and recruiting participants.

3.5.1 Pre-fieldwork Preparation

I started preparing for my fieldwork a year before leaving New Zealand. The first step was contacting the local organisation and field coordinator in the Baran district to partner with the Sahariya community. Given the distance between India and New Zealand, most communication was through email. Together with Mr Kedarnath[1] I developed a detailed plan to ensure my safe entry into the community. The plan included being accompanied by a staff member from a local NGO and a volunteer from the village.

Before leaving New Zealand, I conducted a thorough literature review to ensure that I was up to date with the latest research on water issues in India. I conducted my research ethically, receiving approval from the AUT ethics committee on July 18, 2017 (reference 17/235) before beginning the fieldwork. I followed protocols to ensure the safety and well-being of all participants, keeping all data confidential, and ensuring that participants were not put at risk in any way. I created an information sheet about the research in the local language to ensure that all participants were well-informed. This sheet included details about the research aims, FGDs, and participatory video sessions and how the gathered data would be used. I also prepared a consent form for participants to complete before taking part in the study.

To ensure the research objectives were achieved, I created a question guide for FGDs (see Appendix D). The guide included a brief introduction, welcome, and an explanation of the purpose of the discussion. I included a question or activity to help participants feel more comfortable and encouraged open discussion.

Through conversations with the local field coordinator I learned the exact location of the villages selected for data collection. After reaching Rajasthan, India, I met with my family and informed them of my fieldwork plans. It was also part of the safety plan to report to them in

[1] All names are pseudonyms to ensure participant anonymity.

case of any emergency. I contacted the local field coordinator, Mr. Kedarnath, and informed him of my arrival and travel plans. He arranged accommodation and food. I took appropriate clothing for the remote area, a medical kit, and bedding. I included copies of the research information sheet, guide questions, mobile phones, laptops, and an audio recorder.

At the local organisation, I was fortunate to meet Mr. Rohan and Mr. Kedarnath, who provided me with lodging 30 minutes away from the data collection site. I shared a copy of the research information sheet with them and discussed the plan for data collection. They introduced me to Mr Hemraj , a youth volunteer who played an instrumental role in accessing Sahariya villages. Mr Hemraj had a strong commitment to resolving social issues related to forest and water conservation and was heavily involved in the research data collection and planning. He provided me with the date and time for the initial meeting with the villagers.

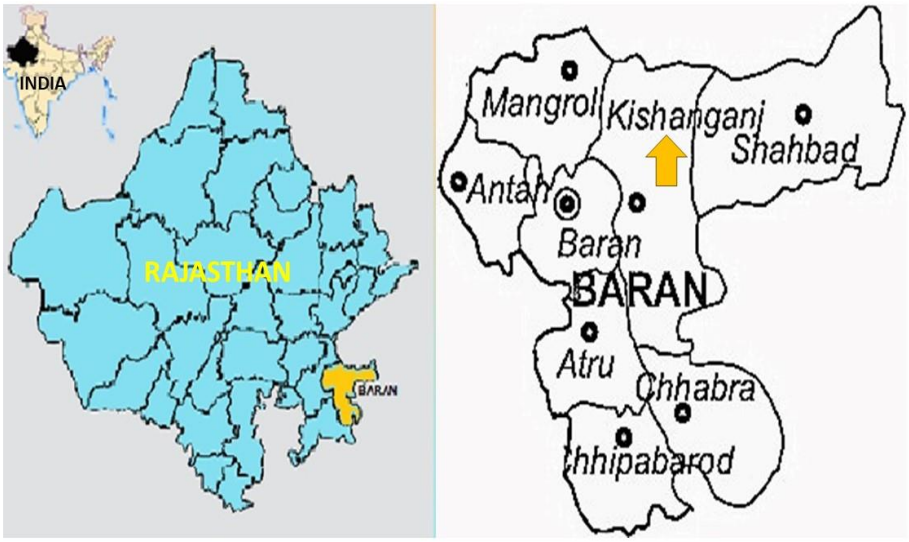
Additionally, I visited various government offices and met with local government officials, including the village development officer (VDO) and block development officer (BDO). These meetings provided me with a comprehensive understanding of the government's perspective on the situation and identified the challenges they encounter in protecting the human rights of the Sahariya community such as access to safe water, food, health, education, and more.

3.5.2 Study Site

To get diverse opinions, participants were selected from three villages in the Baran district of Rajasthan. As mentioned, the Sahariya is one of the most vulnerable tribes in India. They face social discrimination and isolation on a daily basis, the health condition of the tribe is very poor, children suffer from malnutrition, and they have very low access to vital resources like safe water (this has been elaborated in Chapter 2). They live outside or on the outskirts of the main village called Sahariyan basti; yet, basti is part of the village's main village panchayat (local government institution). Three villages, Pathari, Chhipol, and Goyra, from the Kishanganj sub-district (see arrow in Fig. 5) were specifically selected for this study because the area is experiencing acute water deficiency.

Figure 5

Research Location



Note. Research Location showing map of Rajasthan and Baran district *(retrieved from http://www.veethi.com/places/rajasthan-baran-district-494.htm [left] and http://www.rajasthandirect.com/districts/baran/map [right])*

3.5.3 Participant Recruitment and Selection

Participants for the research were selected without advertising as the remote location of the study made it inappropriate. Instead, a village meeting was held with the help of a local field coordinator to invite youth participants. He also helped select villages with acute water deficiency. One village refused to participate as they expected financial compensation; therefore, we selected another village. The purpose of the research and criteria for participation were explained in the initial meeting.

3.5.4 Participants' Characteristics

Participants were selected based on the criteria of age, gender, interest, availability, and first-come-first-served from three villages of the Baran district in Rajasthan, India. Participants decided the time and place of the meetings. Two groups were formed in each village; one group had six to 12 females, while the other had six to 12 males. In total, there were 72 participants. In some sessions, not all members were present and we decided to continue the sessions with a minimum of six and a maximum of 12 members in each session.

The selected participants were young individuals aged 18 to 29 years who demonstrated a willingness to take part in this study. It is noteworthy that according to the National Youth Policy India, youth are defined as individuals aged from 15 to 29 years (Ministry of Youth Affairs and Sports, 2014). The rationale behind selecting this age group lies in their significant role in fetching and managing water. Young people's role is also highlighted in a recent UNICEF (2024) report stressing the pivotal role of youth in enhancing water accessibility. Hence, these young individuals were chosen as research participants. Furthermore, it is crucial to note that informed consent requires individuals to be at least 18 years old. Hence, the age range of participants was 18 to 29 years, which was in line with this requirement.

Once the target number of participants was reached, additional eligible individuals were invited to share their perspectives via videos. This approach was deemed sufficient to gather comprehensive information for this project, aligning with the research aim and objectives.

3.6 Data Collection Methods

PAR is a methodology that involves active participation from individuals using various techniques, such as FGDs. In this research, focus groups were used to discuss issues related to access to safe water and design strategies to solve them. Resource mapping and transect walks were utilised to collect data on available water resources in the villages. Additionally, participatory video was used as a tool to co-create a short film that helps in understanding the issue, designing actions, and sharing stories.

3.6.1 Focus Group Discussions

Krueger and Casey (2014) described focus groups as group interviews that generate qualitative data through focused discussion on the topic of interest. The discussions are characterised by a small number of people aligned with the research question. Beck et al. (1986) defined focus groups as informal discussions among selected individuals on specific topics. To conduct effective FGDs, careful preplanning, design, and creating safe environments are essential. The discussions have explanatory potential by clarifying ideas and analysing group reactions to particular problems and processes (Skop, 2006). FGDs generate data through

dynamic interactions between participants and enable the exploration of collective thoughts. Although there is space for individual narratives and reflections, FGDs reduce the researcher's control as participants have more ownership over the direction and flow of the conversation. This allows for the free expression of thoughts during informal interaction and builds the capacity of participants to take control of the research process. Focus groups create opportunities for participants to contribute to the research design; ultimately, generating meaningful research data for the participants (Wilkinson, 1998). Therefore, FGDs were an appropriate data collection method for discussing access to safe water and co-creating innovative strategies with the Sahariya community.

In each village, at specific times, the groups were organised based on gender (to address cultural norms) which enabled women to share their feelings comfortably without any hesitation in the presence of male members. India is a patriarchal country, and gender discrimination does exist. Each gender has specific gender roles and community norms, such as young women cannot speak freely in front of their elders and in-laws. Therefore, I facilitated the female group discussions and had a male field coordinator present. The presence of a male field coordinator was only allowed with the prior permission of female community members. During FGDs with male participants, the field coordinator was present and helped to facilitate the process. His presence made us feel comfortable and safe. In this research, the Sahariya youth community members actively participated in focus groups by determining what questions they would like to discuss, who would participate, the duration and location, and the preferred language. An overview of the FGDs is shown in Table 3.

3.6.2 Resource Map

Resource mapping is a collaborative effort in which participants and community members come together to create detailed maps of their village (Narayanasamy, 2009). In this study, participants identified and marked important natural resources including water sources such as wells, handpumps, rivers, water streams and ponds.

3.6.3 Transect Walk

A transect walk involved stakeholders walking through the village to observe, record, and discuss the features of the landscape (Narayanasamy, 2009). This study focused on water resources. This method allowed participants to assess firsthand the condition of various water sources, including wells, handpumps, rivers and ponds.

Table 3

Overview of Data Collection in the Field

Activity	Village 1	Village 2	Village 3	Reflections
Village meeting **Objective:** **Introductions to the research.** **Time: 3hr**	The initial meeting served as an entry point, during which the field coordinator introduced me to the villagers. I explained the purpose of the research and why their village was chosen for the visit. The meeting took place in a communal area, allowing every villager to listen and ask questions. This gathering was crucial for establishing a good rapport, introducing and clarifying the research objective, and obtaining consent to participate if they were interested.	Same input as Village 1	Same input as Village 1	This was my first face-to-face interaction with the villagers. I was a bit nervous, but the presence of the field coordinator made me feel supported. The villagers showed great interest and gathered to learn about me and my research. After the meeting, I felt good, and my anxiety about being in the field was gone.
1st FGD **Activity orientation to the study** **Objective:** **To explain the process of research.** **2.5hrs**	This meeting only open to the participants who committed to being a part of the research. The meeting was conducted at the field coordinator's house for the purpose of getting to know each other in a small group. Everyone felt safe to come and talk at the field coordinator's home. It was a crucial and meaningful meeting to build rapport. Participants understood the purpose of the research, the rules, consent, and the importance of participatory research.	This meeting was only for the participants who committed to be a part of the research. It was a crucial and meaningful meeting to build rapport. Participants understood the purpose of the study rules and	Same as Village 2	This meeting was essential to build a relationship between the me and the selected participants. Orientation and icebreakers helped create a safe environment for participants so they could feel safe and confident to participate in research.

Activity	Village 1	Village 2	Village 3	Reflections
		filled out consent forms.		
2nd FGD **Training in participatory video**	This meeting helped participants gain confidence in handling and using mobile devices as cameras. Some participants had never touched a mobile phone with a camera or taken videos. This experience was new for them and built their capacity to make videos and try new technology.			I find that utilising uncomplicated technology, such as mobile videos, is an easy-to-learn method that encourages individuals to articulate themselves. Upon concluding the session, the participants appeared content and eager. To guarantee that the appropriate audience can access and be informed of its contents, it is crucial to distribute the video effectively.
Resource mapping & transect walk **Objective:** **To know the existing water resources in the village. To locate which are functional and which are not.** **2-4hrs**	To draw a village map so participants can identify their water resources such as handpumps, ponds, rivers, wells, and streams. To visit water resources of the village to see firsthand the condition of water sources like wells, handpumps, rivers, and ponds.	Same as Village 1	Same as Village 1	Through this exercise, the villagers successfully ascertained the exact amount of water resources available in their vicinity. They were able to identify the operational and non-operational handpumps, functional and dry wells, as well as seasonal and perennial water streams to gain comprehensive knowledge about their water supply. With this information, they could confidently determine what needed to be restored and built to ensure a consistent and adequate supply of water for the village.
4th FGD **Objectives:** **To discuss the views and strategies of the Indigenous Sahariya**	The focus of the meeting was to share stories of the challenges they face every day in collecting water.	Same as Village 1	Same as Village 1	Access to safe water is a basic human right; yet, the Indigenous Sahariya community has very low access to safe water due to socio-political and geographical

Activity	Village 1	Village 2	Village 3	Reflections
community on ways of improving safe water access. **To create videos with mobile cameras to capture their stories.** **3-5hrs**	The second purpose was to make participatory videos. During this process, they discussed the issues around access to water. What efforts did they make in the past? What were their challenges in bringing the community together? What are the government's responses and challenges in convincing government officers to sanction funds to build water resources? How do they face discrimination and humiliation from upper caste and government officers?			exclusion, and inequities. This lack of access to safe water has a significant impact on their health and well-being. The Sahariya youth can play an important role in improving participation and mobilising community resources to improve access to safe water for their community.
5th FGD **Objective:** **To get separate views of men and women about water scarcity and their solutions.**	Two separate meetings were organised with male and female youth.	Same as Village 1	Same as Village 1	In rural India, due to gender discrimination and different gender roles, women are responsible for water collection and domestic work. To gain insight into their experiences and perspectives, I conducted two separate sessions. Cultural norms, such as the expectation to not speak in front of elders and the purdah system (where women cover their faces with clothing as a symbol of honour, respect, and dignity),

Activity	Village 1	Village 2	Village 3	Reflections
				often serve to seclude women. These were the two primary reasons why I organised separate sessions, allowing women to speak freely and share their struggles and viewpoints.
6th FGD **Selecting and editing videos**	Further work using participatory video to co-create a short film.	Same as Village 1	Same as Village 1	
Community action activity **Full day** **Objective:** **Community-driven activity to inform the community about access to safe water.**	After several meetings, the group decided to initiate a community mobilisation and activity to bring people together and begin action. They decided to dig a soak pit around the hand pump, which helps keep the hand pump's surroundings clean and recharges groundwater.	Not applicable This activity was initiated by the Pathari village youth and was specific to their village.	Not applicable This activity was initiated by the Pathari village youth and was specific to their village.	A process of community organisation was initiated in Pathari village, which led to immediate action by the village people to improve their situation. They began by maintaining cleanliness around the available water resources and digging a soak pit around handpumps to demonstrate their willingness and spirit to bring change. This proactive approach highlights the positive difference that can be made by the community's collective effort. The activity gave hope to the community and set an example that the community's involvement can bring about change.
Village meeting and screening of the film **Objective:** **To disseminate ideas locally and get feedback from key stakeholders.**	The film screening for the entire village was a powerful and reflective tool. The participants realised the importance of their work. Some were proud to see their faces on screen, and some were a bit shy.	Same as Village 1	Same as Village 1	The screening event had a profound impact on the community, highlighting the potential of videos to bring attention to local issues. Through sharing personal stories, the village came together in a

Activity	Village 1	Village 2	Village 3	Reflections
Included arranging logistics for the screening of videos. **2-3hrs**	The response from the village was tremendous. They enjoyed the videos and understood what we were doing during the FGD. After the screening, they all discussed the issue of water, and decided to keep developing strategies to solve this issue. They also planned to use the video for awareness and as an advocacy tool.			powerful way, recognising the importance of small-scale actions at the grassroots level. Although some women felt hesitant about seeing themselves on screen, they also felt a sense of pride in contributing to the creation of these impactful videos.

3.6.4 Participatory video

Participatory video is an umbrella term that encompasses various actions such as using or analysing existing video data, recording a video interview, and elucidation of video-based fieldwork. Considered another way, it is an ethnographic practice involving a community creating a film to voice their social position and needs (Yang, 2016). The definition of participatory videography is the use of video within groups for change, whether individual or societal (Milne et al., 2012). In participatory videography, the video is used as a research tool where the research subjects or the participants are of prime importance. In practice, videography is an excellent way to bring people together to explore issues, voice their concerns, tell stories, or share creative ideas with others. Moreover, compared to documentary filmmaking, making a video is more manageable and accessible, and enables a community or group to take direct action (Lunch & Lunch, 2006). In addition, unlike conventional documentary production methods, in participatory video, the group of actors or film participants create the narrative by themselves. There is no emphasis on the filmmaker's narrative about some event or people. The video-making is an enriching experience where participants feel powerful enough to influence and harness the benefits of media. It also gives control to the participants over what is reported about them (Mhando, 2005).

Moreover, participatory video also helps individuals exchange ideas which might lead to new knowledge. In addition to discussing their problems, these videos allow them to communicate their needs and ideas to policymakers and other groups and communities. Participatory video can be a powerful tool to engage and mobilise marginalised people, helping them implement sustainable development based on local needs. Taking these advantages into consideration, participatory videography has been widely used in the arena of social research, education, and psychology. Compared to filmmaking, shooting a video is less expensive and, thus, provides a significant resource for most social researchers. The video is increasingly the data collection tool of choice for researchers interested in the multimodal character of social interaction (Jewitt, 2012). The availability of low-cost video cameras, high-end video recording facilities on smartphones, low-cost webcams, and easy-to-use free computer applications for

editing has helped popularise videography. Video recording provides a multimodal account of an event detailing expression, posture, gesture, and gaze. According to Jewitt (2012), "This video data acts as a shareable digital record in which all the events are recorded sequentially" (p. 6).

Participatory video-making started in 1967 with the Fogo Island project initiated by Donald Snowden; thus, Fogo Island, a small fishing island situated on the Eastern coast of Newfoundland, Canada, is widely known as the birthplace of participatory video-making (Crocker, 2008). In this movement, Donald Snowden made films using simple media tools, predominantly video, providing a model of development communication practice that was far ahead of its time. This method was applied successfully all over the world by Snowden. The 'rhetoric' around current participatory video projects quite often shows a clear resemblance to the visions and goals of the Fogo (White, 2003).

The first community that made a video was VTR St-Jacques for a programme called *Challenge for Change* in 1969. The citizens' committee in St-Jacques, Montreal, Canada, created it to voice concerns about the poverty faced by the residents of that neighbourhood (Waugh et al., 2010). In between the 1970s and 1980s, participatory video saw many applications globally; however, as they were scattered and not properly documented, it is difficult to identify a trend in its development.

Participatory video is well suited to the current research topic because the problem of access to safe water access is something that is well explored visually. It is a method that is also relatively easy, engaging, and fun to use. Additionally, as a method of social entrepreneurship, visual representations of ideas and actions can be shared via the Internet (Blazek, 2016; Gubrium & Harper, 2016; Mitchell & Sommer, 2016). The resulting artefact in this research was a short film co-created by the participants using the participatory video method. The detailed process of participatory video in this study is explained in Chapter 5.

3.7 Participatory Data Analysis

A participatory data analysis approach was used in the current research. Participatory data analysis is an essential component of PAR, an iterative and ongoing feature of the PAR cycle of action and critical reflection. This approach challenges conventional notions of validity and reliability, emphasising collaborative knowledge creation rooted in social relationships. In PAR, data analysis is not a standalone phase conducted by experts. It is interwoven throughout the research process, reflecting a commitment to collective knowledge production and the inclusion of diverse perspectives (Cahill, 2007). Participatory data analysis involves a situated and collectively negotiated process engaging participants in analysing data, ranging from traditional qualitative methods to more collaborative approaches that emphasise collective interpretation. This inclusive approach recognises the absence of a singular truth and underscores the significance of intersectional analysis that considers diverse perspectives and differences (Cahill, 2007; Sitter, 2015).

In the scope of this project, participants were consistently engaged in participatory data analysis through various means, such as participatory FGDs, videography, storytelling, and other participatory tools, including resource mapping and transect walks. They actively contributed to issue identification and strategy formulation, which is integral to reflecting on and analysing the situation of access to safe water. Furthermore, participants delved into their narratives, dissecting historical, social, and political dimensions as presented in the second part of Chapter 5. Through collaborative efforts, participants unearthed significant information and themes crucial for informing the analysis process and subsequent film production. Additionally, participants critically analysed potential solutions and strategies for enhancing access to safe water, as elaborated in Chapter 6 of this exegesis.

Within the realm of participatory video, participatory data analysis entails active community involvement in deciphering data derived from video production. This methodology accentuates collective knowledge construction and participant engagement in the research process, diverging from traditional research models where experts predominantly conduct analysis as an independent phase (Cahill, 2007; Sitter, 2015). In this project, participants played

an active role in filming, serving either as camera operators or subjects of the footage. Subsequently, they participated in the analysis, reviewing raw footage, curating content for the final video, providing feedback on the film, and, ultimately, showcasing the narratives of the Sahariya community (for more details, see Chapter 4).

Reflexivity, a pivotal facet of participatory data analysis, catalyses a shift in engagement with the world, fostering a self-reflexive practice of transformation as new understandings emerge. This process necessitates a critical examination of everyday life contradictions, a task that can be emotionally demanding yet pivotal in yielding meaningful research outcomes (Cahill, 2007; Kemmis & McTaggart, 2005).

Participatory analysis within the participatory video context presents a complex and challenging endeavour, requiring participants to engage in an introspective analysis of their own experiences and perspectives, which can be confronting. Despite these challenges, participatory data analysis emerges as a potent tool for driving social change, enabling communities to cultivate a collective understanding of their experiences and devise strategies to address pertinent issues (Cahill, 2007; Sitter, 2015). As explained above, in section 3.3.2, critical reflexivity, self-reflexivity, and participants' reflexivity are major parts of this project; reflexivity on various stages of production is presented in Chapter 4.

At its essence, participatory data analysis epitomises a transformative and reflexive process that empowers participants, challenges traditional research paradigms, and catalyses social change through collective knowledge construction and critical reflection. It embodies a profound and meaningful journey that integrates diverse perspectives, emotions, and critical reflections to foster personal and societal transformation.

3.8 Ethics

The study on safe water access for the Sahariya community was approved by the AUT ethics committee (see Appendix A). The PAR methodology was used to facilitate mutual respect, benefit, participant autonomy, and ownership. The Sahariya community members were involved in the study design, data collection, analysis, and dissemination process. The study

aimed to create a space where the views of the Sahariya community about safe water access could be explored, and strategies developed to improve safe water access. Culturally appropriate language was used to increase participation, and social and cultural norms were respected to encourage open discussion and sharing of views.

The protection of participants' health and well-being was given top priority. Participants provided consent before participating and had the right to withdraw from the research process if they wished. They were also given the option of removing any identifiable data or approving the data to continue to be used. As the researcher, I set FGD ground rules regarding the use of dignified language and appropriate behaviour to maintain the decorum of the discussion.

I provided details of the aim of the research to participants via participant information sheets (Appendix B) and consent forms (Appendix C) translated and written in the local language. These documents were made available to participants before starting the FGDs. Informed written consent was obtained with consent forms (Appendix C). Once the participants agreed to be part of the study, they were asked to sign and submit the completed consent form in the local language before participating. Participants had the opportunity to ask questions about the research and their role as participants. Finally, I collected the consent forms for safe storage.

Copyright issues related to the photos/videos and artefacts were managed through an information sheet and consent form, where participants knew and agreed that they would own material created in the sessions. The participants may disseminate their findings as they deem appropriate. However, I will use the photos/videos produced from the PAR FGD sessions for academic purposes. I also have permission to use their photos and videos for academic purposes, and they do not have any objection if I display their face in photos and videos.

3.9 Summary

This study used the critical research paradigm and participatory action research as a methodology to explore the challenges Sahariya youth face in accessing safe water due to socio-political and geographical exclusion and inequities while prioritising anti-oppressive practice

and critical reflexivity. PAR has been proven effective in tackling issues of inequity and oppression.

Participatory methods such as FGD, resource map, transect walk, and participatory video became powerful tools for conducting this research with the Sahariya community. Participatory video played an important role in bringing youth together to discuss the crucial issue of water access and provided participants with a reflective and brainstorming exercise. Most participants learned how to make videos on their mobile phones and share their stories. The utilisation of participatory videography demonstrated that it can be an efficient method for community mobilisation, agency development, and self-determination promotion. All these aspects will be discussed in detail in the subsequent findings chapters.

Chapter Four: Critical Commentary on the Participatory Video Practice

4.1 Introduction

This exegesis consists of three critical commentaries, with this the current chapter being the first part. Here, I examine my practice and process of action-oriented focus groups and video production, applying an anti-oppressive approach. Anti-oppressive research principles foster inclusivity and prioritise participants' voices, requiring reflection on power dynamics and cultural competence (Burke & Harrison, 2004; Nissen & Curry-Stevens, 2012).

I also utilised the participants' reflexivity framework, which is crucial for understanding participants' perspectives. Participants' reflexivity in the participatory video refers to participants' ability to reflect on their experiences, perspectives, and roles, encompassing an awareness of power dynamics and the potential impact of their actions and decisions on themselves and others involved in the project (Yang, 2015).

This chapter primarily centres on the third research objective, which is to explore the use of PAR to create a safe space for the Sahariya community and build agency using participatory video. Chapters 5 and 6 are dedicated to objectives 1 and 2 (see below), respectively, and provide detailed analyses of water resources, narratives of accessing water, and community aspirations to enhance access to safe water.

Research Aim and Objectives

The presented study aimed to create a space for Sahariya youth in rural Rajasthan, India, to develop strategies to improve access to safe water. The aim of this study was addressed with the following objectives:

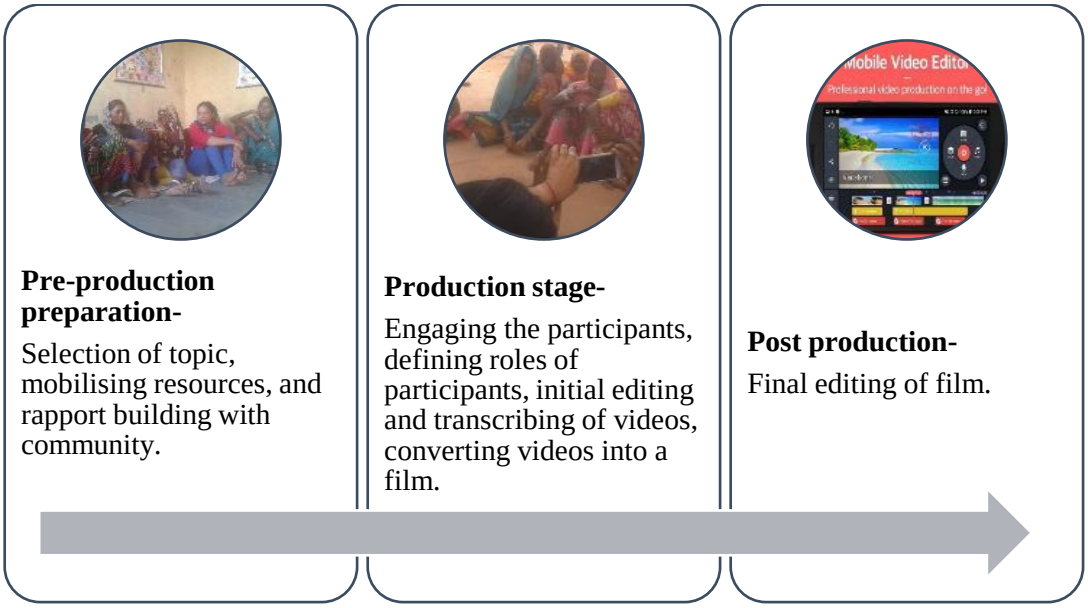
1. To explore the views of the Sahariya youth regarding safe water access.
2. To explore the potential contribution of Sahariya youth to improve safe water access in the Sahariya community.
3. To explore the use of PAR to create a safe space for the Sahariya youth and building agency using participatory video.

This study is a practice-oriented project under AUT format three. According to the AUT University (2024) postgraduate handbook, practice-oriented projects are "Where the thesis is

substantially practice-oriented, the artefact is accompanied by an exegesis. The exegesis relates directly to the practice-oriented work" (p. 97). The outcome of this study is an artefact—a film co-created by Sahariya youth. Each chapter of the exegesis contextualises the film as an artefact. The intent of this critical commentary chapter is to help the reader better understand the artefact film as an outcome, providing a comprehensive understanding of the study's structure and content. The upcoming sections outline the process of producing videos and films, which is divided into three stages: pre-production preparation, production, and post-production (see Figure 6).

Figure 6

Steps Involved in Creating Video Footage and Making a Film



4.2 Pre-Production Preparation

According to Wales (2011), the pre-production stage is the initial phase of filmmaking. It involves planning, researching, script development, scheduling, equipment, cost determination, and actor selection. This stage is crucial as it sets the foundation for the project (Bihis et al., 2018). In the pre-production stage, I was involved in tasks such as writing proposals, obtaining university approvals, securing funding, and organising field visits. The first step was selecting a topic and writing a proposal. Now, I will reflect on why, when, and how I selected the research topic and method before delving into the details of video making.

The broad topic was selected based on my prior interest in the lack of access to safe water in Rajasthan. This interest stems from my father's community work; he dedicated his life to working with communities with limited access to water (see Chapters 1 & 3). Another influencing factor was my social work education which emphasises human rights. Marginalised communities, like Sahariya, face social, political, economic, and cultural discrimination and live in poverty (Patel, 2020). Their human rights are violated on a daily basis; for example, having no access to clean water and facing abuse in accessing water goes against human rights (United Nations Declaration of Human Rights, 1948). I am passionate about working in this field and addressing this issue. These are two significant factors that shaped my approach to the film-making process.

A critical component of the proposal was selecting an appropriate research method. My PhD supervisors suggested participatory video for which I initially had reservations due to the unique circumstances of the marginalised Sahariya community. While my supervisors had considerable experience working with marginalised communities, I wondered if they fully understood the challenges of working with a community that lacked access to basic needs such as water, food, clothes, and shelter. Additionally, the lack of proper roads and transport mediums made it challenging to reach their villages. I expressed my concerns and was met with reassurance that alternative methods such as storytelling, drama, or FGDs could be used if participatory video did not work. Despite my initial hesitations, I included participatory video in the research proposal and justified its potential effectiveness. However, I remained open to other methods that may have proven more practical and suitable for the unique circumstances of my research. In participatory projects, participants decide what works best for them. My doubts about utilising participatory video were dispelled as I observed participants' keen interest during my fieldwork. This first-hand experience strengthened my confidence and convinced me of the considerable efficacy of participatory video as a method for gathering participatory data within this particular context.

The pre-production preparation was undertaken to determine where, when, how, and with whom the project would be filmed. Preparation also included whether the research

proposal was feasible, and it was eventually modified. The location of three villages in the Baran district of Rajasthan was predetermined based on the territories of Sahariya villages and water scarcity in these villages (see Chapter 3). Sahariya, the community, was selected because it is the most marginalised community in Rajasthan, India, with very low access to safe water.

The supervision team and the academic process, such as the AUT ethics committee, controlled what could and could not be approved as a PhD project. I controlled factors such as selecting a topic for the project, sites, and community. If the project had been planned from the perspective of a community social worker with a more extended timeframe and increased budget, there would have been greater opportunities for participation at the planning stage. I could have facilitated more participatory planning sessions in which community members actively contributed to both the design and planning aspects of the project. I would have placed emphasis on fostering open dialogue, engaging in brainstorming sessions, and, ultimately, reaching consensus; all with the aim of ensuring that the project proposal accurately reflected the collective voice of the community. This could have involved the Sahariya community to a greater extent in the pre-production stage.

While collaboration is not impossible within the PhD program, it is important to acknowledge that a high level of involvement did not occur in this particular project at the pre-production stage. Initially, I questioned whether it was an authentic participatory video project. After discussing it with the supervisors, it was clear that every PhD participatory video project is planned and implemented differently depending on factors such as access to participants, local or international participants, finances to travel and stay, access to digital technology, and the internet. In this case, I was in New Zealand and my participants were in a very remote area of India with no access to the Internet; therefore, their cooperation at the pre-production stage was minimal. However, after I reached India and had face-to-face communication with the Sahariya community, the narrative was changed as discussed in the production stage which follows. I employed self-reflexivity by attending to power dynamics (Etherington, 2016; Mudambi et al., 2022; Olmos-Vega et al., 2022). Participants' reflexivity was utilised by

considering their views, desires, and perspectives in the participatory video process (Yang, 2015).

4.3 Production Stages

4.3.1 Identifying and Engaging the Participants

In this section, I will discuss the participants' level of engagement, collaboration, awareness of the issues, and their expectations from the project. I also reflect on how my previous social work skills and knowledge have contributed to effectively engaging with the participants and mobilising the community.

After thorough planning and coordination with the local agency field coordinator, the process of conducting field visits commenced. The villages selected for these visits—Pathari, Chhipol, and Goyra—were chosen based on specific criteria detailed in Chapter 3. The primary consideration in selecting these villages was their severe water scarcity. The field coordinators' responsibilities included obtaining permission from the villagers to visit their village, arranging a suitable meeting time and location, and acting as a liaison between the village community and myself. Once permission was granted, a village community meeting was organised to inform the community about the research objectives and process and invite youth participants (refer to the details of the first meeting below).

The next step was to identify participants who were willing to collaborate on the project. The selection criteria for participants were based on their age and willingness to participate (as explained in Chapter 3).

4.3.2 Introduction Village Meeting

During the first village meeting, I discussed my background with the Sahariya village community, and we all introduced ourselves. I explained why I was conducting the project and informed them about the research objectives and expected outcomes. I also explained their potential role and contribution to this study if they decide to participate (see section 4.3.2).

The field coordinator, a trusted member of the Sahariya tribe from Pathari village. He was an employee of an organisation I contacted, Ekta Parishad, and played a crucial role in

enhancing my connections with the community. He arranged and attended meetings with me. His presence gave me a sense of security as I had known him before entering the village, so I felt safe. I was not scared of going into the field, but I faced some field anxiety. His understanding of the village dynamics, cultural nuances, and interpersonal connections helped me smoothly navigate potential challenges. Further, his presence acted as a bridge between me and the community, facilitating communication and clarifying cultural nuances. This collaborative approach strengthened community engagement and ensured that the discussions were meaningful and impactful.

During this initial meeting, I experienced a range of emotions, including excitement, anticipation, curiosity, and a slight sense of nervousness. However, I remained calm, composed, and focused. The enthusiasm among the villagers was surprising and attributed to their tribal culture which places great value on warmly welcoming guests. However, it was noted that the level of enthusiasm among Sahariya youth varied. Some demonstrated a high level of eagerness and proactivity, while others required reassurance. By taking their concerns into consideration, adjustments were made to the approach in order to stimulate greater engagement. For instance, their concerns regarding the timing of group discussions were addressed, and they were assured that FGDs would be scheduled based on their availability.

After the initial village meeting held in Pathari, I experienced a sense of warmth and inclusion. It instilled in me the confidence to initiate a FGD in this particular village, as the village community displayed a keen interest in discussing the pressing matter of water scarcity that continues to plague their community. I also discerned a certain level of anticipation from the villagers, as they seemed to have expectations of a financially supported project. However, during a meeting, I took the opportunity to communicate that this project was explicitly a PhD research project and that there was no external funding involved.

The field coordinator and I informed the village community about the potential participants and the limit of group members, which was 8-12 members. They were given 2-4 days to decide whether they would like to participate in the research. They also shared their mobile numbers so they could be contacted by the field coordinator if they were willing to take

part in the research. After the field coordinator received the call and confirmation from the villagers, it was decided that I would start the research process in 2-days. By then, the villagers would form groups of 8-12 male youth participants and 8-12 female participants aged between 18 and 29 years.

In the other selected villages, the first meeting was conducted to build rapport and introduce the research. Figures 7-9 below depict scenes from the meetings in Chhipol Village.

Figure 7

Village Meeting at Chhipol Village

Note: Males and females gathered for the first village meeting at Chhipol Village, India. (Own photo)

Figure 8

An Icebreaker with Children to Build Rapport

Note: The primary researcher (Renu) is featured wearing a yellow top and interacting with children to build rapport with villagers at Chhipol village, India. (Own photo)

Figure 9

Second Village Meeting at Chhipol Village

Note: Males and females gathered for the second village meeting at Chhipol Village, India. (Own photo)

4.3.3 First Focus Group Discussion in Pathari Village

The first FGD conducted in Pathari village marked a crucial step in establishing trust, promoting active participation, and uncovering the community's concerns regarding water scarcity. This section offers quotes from the discussion, critical reflections on the facilitation approach, and insights gained from the interaction with participants. Figure 10 is a photograph capturing the first male focus group discussion in Pathari village.

Figure 10

FGD with Male Participants in Pathari Village

Note: Own photo.

The distribution of an information sheet (see Appendix B) and consent form (see Appendix C) played a pivotal role in establishing trust and transparency. A male participant from Pathari village affirmed their understanding and consent, stating, "*I have read and understood the information provided in this consent form regarding the research project*". This process ensured that participants were well-informed and actively engaged in the research process, setting a foundation for ethical conduct.

I emphasised consent and confidentiality, as seen in the statement, "*This recording is solely for research; no part of this recording can be published anywhere without consent*". This reinforced ethical research practices and participant rights. The active engagement of

participants in the consent process contributed to a collaborative and transparent research environment.

Following the consent process, I facilitated discussions to understand participants' views, preferences for the focus group, and motivations for participation. A recurring theme emerged—most participants expressed water scarcity as their primary concern. This sentiment was encapsulated in their statement, "*We have lots of problems, but water scarcity is the biggest problem*" (Male, Pathari village, 1st FGD). It highlighted the urgency and significance of water-related challenges in the community. Participants expressed a strong desire to discuss water scarcity in-depth and explore potential solutions. Their engagement and willingness to actively participate reflected a shared commitment to addressing pressing issues affecting their daily lives.

Upon reflection, as a primary researcher, I initially noted a mix of hesitance and curiosity among participants. Addressing their concerns with respect and creating a safe space for open dialogue was paramount. An inclusive approach fostered meaningful discussions and allowed participants to freely express their thoughts and personal experiences without fear of judgment. Active listening and empathy played a crucial role in validating participants' perspectives and building rapport. For instance, when a participant shared her poignant experience with water scarcity, I responded with genuine interest and empathy, fostering a sense of camaraderie within the group.

My social work skills were instrumental in facilitating discussions and enabling participants to effectively voice their needs and aspirations. By encouraging collaborative problem-solving and respecting the community's right to self-determination, I ensured that decisions reflected the community's collective wishes.

Throughout this process, I remained culturally sensitive, incorporating local customs, greetings and language, and respecting the community's preferred pace of engagement. This holistic approach, blending ethical principles with practical strategies, nurtured genuine dialogue, promoted self-determination, and encouraged community collaboration. Upholding Indigenous rights and promoting self-determination remained central to my actions throughout

the process. In essence, my approach blended empathy, cultural sensitivity, and practicality, fostering a collaborative environment where participants felt safe sharing their stories and working towards collective solutions.

In the first meeting, I also asked participants if they would like to make videos or record sessions on a mobile camera and audio tape, to which they responded positively: "*We will use videos to record our problems and show them on TV or give them to a reporter (media journalist)*" (Male, Pathari village, 1st FGD). Their agreement stemmed from the desire to document their experiences and perspectives regarding unsafe water use and share their stories with others.

4.3.4 Video Workshop with Male Participants

A workshop was organised to provide basic training on operating smartphone cameras. Ground rules were established, emphasising mutual respect and voluntary participation in video recordings, with participants' consent obtained beforehand. First, I did a trial with a phone camera. I handed over the devices and camera to participants who decided to be part of a group and share their thoughts and experiences related to unsafe water use. The quotes are about practising, getting used to the mobile camera, and making videos. During the workshop on mobile camera video recording, several key findings emerged, which are discussed below, accompanied by participant quotes that illustrate their enthusiasm and engagement with the process.

Participants expressed a keen interest in learning how to make videos using mobile cameras and audio recorders. A male participant of Pathari Village (2nd FGD) expressed, "*We will use videos to explain our problems*", reflecting his motivation to use video as a medium for advocacy and awareness.

Participants recognised the unique power of videos to capture emotions and effectively convey information. A participant's statement, "*Cameras can sometimes capture emotions in a way that words cannot*" (Male participant, Pathari village, 2nd FGD), highlights this understanding of the impact of the visual medium in portraying their daily lives and challenges.

The participants showed curiosity and eagerness to learn technical aspects of video recording, such as ensuring steady footage, managing lighting, using zoom features, and exploring camera settings. Participant questions about "*how to do steady filming, zooming, and camera settings?*" (Male participant, Pathari village, 2nd FGD) demonstrate technical engagement and desire for quality video production.

The workshop emphasised the importance of ethical video production, including obtaining consent before recording and respecting privacy. Participants' affirmation, *"Yes, I will take the permission"* (Male participant, Pathari village, 2nd FGD), indicates the participant's commitment to ethical practices when engaging with community members and recording their stories.

The findings reveal a dynamic and participatory workshop where participants learned technical skills and grasped the power of storytelling through video. Their motivation to document experiences and share stories reflects a deep-rooted sense of advocacy and community engagement. The workshop's success can be attributed to its blend of technical training, ethical considerations, and a participatory approach that empowered participants to become creators of meaningful video content. This initiative equipped them with practical skills and amplified their voices in addressing issues like unsafe water use within their community and beyond.

4.3.5 Video Workshop with Female Participants

A separate workshop was organised with female participants in all three villages so they would not feel uncomfortable around males. Organising meetings with women was more challenging than for men. Sahariya women are occupied in daily wage labour work and managing domestic work. India is a predominantly patriarchal country; although Sahariya women have mobility compared to some other cultures, gender roles are assigned, such as water collection and feeding the family are responsibilities of women. Women mainly take responsibility for raising children and doing household work. Sahariya women are comfortable speaking in front of males younger than them but are still hesitant to sit and talk in front of older males who hold status and power in the community. In their culture, this is the way to show

respect in front of elders, but these norms are influenced by patriarchal norms where an older male has more power and control over women. Considering local culture, I organised a separate workshop with women in each village (see Figure. 11 below and quotes from the workshop organised for women).

Figure 11

Women Learning How to Make a Video on Mobile in Goyra Village

Note: Own photo

Although the workshop aimed to build videography skills, this initiative shed light on several crucial aspects of Sahariya women's lives and their interactions within a predominantly patriarchal society. During the workshop, participants shared insightful reflections and quotes that encapsulated their experiences and aspirations. A female participant from Chhipol village (2nd FGD) commented, "*We do all the work, but decisions are made by men*", succinctly capturing the pervasive issue of gender inequality in decision-making processes. Despite women's significant contributions to the community, they are often overlooked and excluded from decision-making positions, which undermines their hard work and perpetuates the cycle of gender discrimination in society.

Another participant stated, "*Talking in front of younger males feels easier, but it is different with older males. They are older*" (Female participant, Goyra village, 2nd FGD), shedding light on the intricate dynamics of respect and power that play a crucial role in shaping

women's interactions within their cultural context. It suggests that women may feel more confident and comfortable expressing themselves in the presence of younger males, as they may perceive them as being less threatening and intimidating. Older males are often viewed as having more experience and social status which can create a power imbalance in social situations and lead to women feeling hesitant or nervous to speak up or assert themselves. It is important to recognise and understand these underlying power dynamics, as they can have a significant impact on women's ability to participate and engage in various contexts.

The statement, "*We want our voices heard, not just within women's groups but in the larger community decisions*" (Female participant, Pathari village, 2nd FGD), reflects the feelings of Sahariya women to have greater representation and influence in decision-making processes that go beyond gender-segregated spaces. Women are seeking to have more agency and a say in broader community decisions that impact their lives and the lives of others around them. This includes being part of discussions and initiatives that address issues such as healthcare, education, employment, and politics, among others. By having a more active role in decision-making processes, women hope to bring their unique perspectives and experiences to the table and contribute to creating more equitable and just societies.

My reflection on the workshop and discussion was that I discovered the deeply ingrained gender roles present within the Sahariya community. Women are primarily responsible for collecting water, ensuring the family is fed, and taking care of the children and household chores. While women may feel comfortable interacting with younger males, there is a noticeable hesitation when engaging with older males who hold status and power due to cultural norms emphasising respect for elders and patriarchal norms. Sahariya women encounter numerous barriers hindering their participation in gatherings. The workshop highlighted the intricate interplay among cultural norms, gender roles, and power dynamics that significantly influence Sahariya women's lives, underscoring the critical need to establish inclusive environments and opportunities for them to participate actively and make meaningful contributions to community development.

4.3.6 Focus Group Discussion with Sahariya Youth

A series of 6-7 FGDs were conducted in three villages: Pathari, Goyra, and Chhipol. Young male and female Sahariya participants took part to discuss and understand the community's challenges, needs, and expectations regarding access to safe water. The meetings took place in various settings, including open and closed spaces such as community halls, homes, and open areas outside houses. More details about these meetings can be found in Table 3 of Chapter 3. The information gathered from these meetings was later utilised to do a water resources analysis, discussed in Chapter 5, and develop strategies to improve access to safe water, which are discussed in Chapter 6.

The following excerpt is a conversation between me, as a primary researcher, and a participant, where participants went out to collect information from community members and video-record it for film artefacts.

> *Primary researcher: You will ask the questions. So, tell me, what questions are required to be asked, and how will you ask them?*
> *Participant 1 (P1): First, you explain to us a little.*
> *PR: You have to ask—what are the issues and difficulties relating to water? Is the water fresh or not? How much time does it take to fill the water? What is the quality of the water during summer? What are the common diseases if you drink polluted water? You have to ask these questions, so keep these questions in mind. I am not coming along with you. Now tell me, what questions will you ask?*
> *P1: What are your water-related issues? What is the quality of water that you receive during the summer? From how far do you arrange to drink water? How much time does it take to bring the water?*
> *PR: Yes, and also about the diseases that are caused due to the consumption of polluted water. Whether the water is polluted or clean? Whether the water is available during summer or not?*
> *PR: We (the primary researcher and field coordinator) are not coming with you, so make your own questions so you can ask them about water. (Primary researcher and Male participant, Pathari village, 3rd FGD).*

This conversation highlights the dynamic between me and the participants in preparing for a participatory video project. As the primary researcher, I encouraged the participants to take the lead and ask questions. My role evolved from directing the questioning to building participants' capacity to formulate their own inquiries. This shift reflects a participatory approach where the community members actively engage in the research process and contribute their perspectives and questions. Overall, this exchange demonstrates a collaborative and inclusive approach to participatory video research, emphasising the importance of empowering community voices and allowing for diverse perspectives to shape the inquiry process.

As per my observation, participants were not hesitant to come on camera because they were familiar with each other. If researchers are respectful and transparent, others can feel it and choose whether they want to work with them. I am not discarding that some researchers can be tokenistic or take advantage of participants. I uphold that as researchers, we should not underestimate the judging power of the participants; they can assess what is good or not for them. While reflecting on this entire process, I realised that even though I intended to promote self-determination, invisible power dynamics are embedded in the research process.

The research methodology was PAR; still, there were situations when I was directive. I played the role of an educationalist. During the videography workshop, I taught them about mobile cameras. In my mind, I was playing the role of a researcher, but this was quickly changed to an educational role. I ran and organised the workshop to teach digital skills. Also, I set rules that were part of my ethics application, such as obtaining consent and respecting others. These norms were requirements of the research process. I am also mindful that I provided devices (mobile camera, recorder, laptop) to participants and recorded data on my devices; therefore, I controlled the data on those devices. I had full access to devices, whereas participants did not have complete access. As a researcher, I thought participants were leading the process but, primarily, I controlled the gathered information. I could not leave devices with them because I used the same devices in all three villages and borrowed them from the university to conduct fieldwork. I had to return them after fieldwork was finished. I am not trying to confess or justify my actions. Instead, realising that power dynamics exist and using

reflexivity to analyse my actions can help me become a more conscious researcher who can genuinely promote and practice self-determination, as discussed in Chapter 3 (National Association of Social Workers, 2021).

The participatory video exercises created a space where participants could share, express, reflect, and brainstorm on their realities. I retrospectively reflect that PAR promoted conscientisation by exploring social and political realities connected to access to safe water. Critical consciousness is raised by understanding the issue and acting to bring change. Making groups to discuss water issues and making a film to create awareness is part of critical consciousness. The following section is about the roles of participants; I continue using self-reflexivity (Olmos-Vega et al., 2022) and participant reflexivity (Yang, 2015) to reflect on the process and practice.

4.3.7 Roles of Participants and Their Stories

Participants reflected on their situation while making videos. They played different roles and reflected by framing their questions and answers to those questions to share their stories of low access to water and the discrimination they face in accessing water. Sometimes, they rephrased and refined their answer to be more evident in their communication. They shared their daily life experiences and critically reflected on political and social discrimination.

Deciding roles in participatory video was voluntary and participatory; we discussed it at the beginning of the first FGDs in all the villages, and participants decided who would do what. Participants agreed upon four roles: facilitator, interviewer, cameraperson, and interviewees. The facilitator's role was to monitor the progress and smooth running of the discussion during videography. Most of the time, I was doing that role. I made minimal interference until someone was stuck with a camera or had technical issues. I did not have to resolve any conflicts; participants were good at navigating those situations, they knew each other very well and were good at giving space to each other to talk and share perspectives.

One or two interviewers were responsible for conducting the interviews with the key participants and stakeholders in the video story. A camera person sometimes played the role of interviewer and camera person. All the participants took turns becoming camerapersons,

interviewers, and interviewees. The cameraperson asked questions to keep the discussion on track. The participants discussing their water problems in the video were interviewed. The participants did not have to prepare their script or do acting; it was spontaneous and natural. Below is an account of the recording done by male participants from Chhipol village (3rd FGD).

> *P1 (camera person): What water-related problems are you facing here?*
> *P2 (male respondent): We have many water-related issues. The main issue is that to bring water, we must go to a river or well, and both water sources are too far. If we go to the well, it is around 1-1.5 kilometres. This wastes our time […] We dig a pit to get our drinking water from the river. It takes so much time, around an hour daily. Even then, clean drinking water is not available. This is one of our problems.*
> *P3 (male respondent): Ladies (women) sometimes go to the well to bring water. That well belongs to another person. Some days, he allows to fill the water; some days, he refuses. Sometimes, they get stuck in the rain […] Sometimes, children and young boys and girls also go along with them; if they bring dirty water into the pot, we suffer from various diseases. The road to the river is also not good.*
> *So, along with the water problem, we have so many issues. The river is 2 kilometres away. This wastes our time [...]*
> *P3 (male respondent): If we install a pump, saline water comes from the ground.*

The FGD and participatory video exercise proved to critically reflect and expose different realities such as low access to water, dysfunctional water pumps, contaminated water, upper caste discrimination, the impact of current Indian government policies, and aspiration to change the situation (a detailed explanation is given in Chapter 5). Participants were fully involved in creating videos. They shared their views naturally and genuinely. They shared something that they faced and lived every day. The participatory video discussion helped them reflect on their everyday struggles of collecting water and strategies to overcome their problems. They also suggested they want to dig a well instead of a hand pump because hand pump water is saline. This session showed the participants' reflexivity on the water issues and possible solutions. They want a platform to share their issues and their voices to be heard.

> *If the government does not help us, we will do something alone because the governmental work takes time to initiate[...] No, we do not want to wait anymore. We will make a video and keep this video. We will use this video to explain our problems to the government. Again, if they do not hear, maybe in 4 to 6 months, we will give this video to some reporter to show on his channel or any journalist to publish it in the newspaper. If nothing happens, we will initiate digging the well in our own village. If we can dig the well on our own, we can tell the government that the government has done nothing for the village […] If 10-15 villagers cooperate, we can initiate by ourselves. If we could arrange funds independently, we could hire a machine and start using it to dig the well. We are not expecting any help from the government. However, we have questions - why is the government not solving our problems? Are we, not the citizens of this country, that the government is not providing us with the basic facilities?* (Male participant, Chhipol village, 4th FGD)

The above participant statements are insightful and reflect a mix of frustration with government inefficiencies, a proactive approach to problem-solving, strategic use of media for advocacy, questions about governmental responsibility, community collaboration, and a strong desire for basic facilities. These sentiments were not unique to Chhipol village, being echoed in three villages where Sahariya communities face similar challenges (more details in Chapters 5 and 6).

During this session, participants got an opportunity to represent themselves on screen. Here, I discuss the participants' representation in the video and their freedom to express what they think is appropriate. Some chose to speak in the local dialect, and some spoke in Hindi (an Indo-Aryan language spoken primarily in the Hindi Belt region of India, which includes parts of northern, central, eastern, and western India). It is one of the two official languages of the Government of India, along with English.

Participants shared the stories that suited them. The initial videos were based on individual opinions and stories of low access to water and difficulties in getting water. During initial editing, participants decided to exclude irrelevant discussions, such as conversations on

domestic violence or personal issues of land ownership. The length of the videos was not predetermined; they created videos ranged in duration from 10 minutes to 2 hours. The group watched the video clips to determine what scenes to include and exclude. This process was reflective and skill-building for the participants. Based on my observations, the participants appeared comfortable and confident in suggesting solutions for their problems.

The self-confidence in making videos gave them a sense of their self-determination. They learnt the skill of mobile videography, which can be used in the future; they do not need any expert to create videos. In this digital world, videos are an accessible medium for sharing stories. The participatory video became a new method to come together and discuss the issue of safe water and represent themselves. I believe that through participatory video, young Sahariya participants were able to attain control over how they are represented. This ability can further strengthen their agency and help them to challenge prevailing power structures. However, Spivak (1988) stated that the voices of marginalised groups, or subalterns, are often silenced or distorted by dominant groups in society (Jindal, 2017).

Participants' reflexivity on the water issue is equally essential for participants and researchers to ensure that the research process is inclusive and participatory. The participatory video method led to reflective exercises as participants of the study discussed their issues and tried to find a solution, showing decision-making power and community mobilisation skills. The participants collected information from villagers; they interviewed women, men, and older people who hold traditional knowledge. In this process, the entire village became part of the videos. They contributed by sharing their knowledge. Figures 12 and 13 show that people of different ages came together to watch videos created by the participants.

Figure 12

Video Screening in Chhipol Village

Note. Own photo

The screening of videos was to appreciate the participants' work and acknowledge the time and knowledge shared by everyone. After watching the videos, everyone shared their opinion about the scenes and the videos in general. Most of them were excited, some felt delighted being part of the videos, and some were shy. The support of all the community members encouraged the participants. Screening the videos also created an opportunity for the community to reflect on their water problems.

Figure 13

Video Screening in Pathari Village

Note. Own photo

During the first FGD, participants from Pathari village expressed their suggestion to create a video with the aim of raising awareness through digital platforms. Unfortunately, they do not have access to the internet in their village, but some of the young people have internet data on their phones and know how to use it. Government agencies have been ignoring their voice, so they want to use the video to demonstrate to the world that the government is neglecting their community. The local administration has made false promises about providing safe drinking water. The government is unsuccessful in providing safe water in their villages even after spending millions on rural water supply schemes.

Reflecting on my abilities, I had no previous knowledge of participatory video, and I was learning while in the process. I had my apprehensions about being an outsider and uncertainties about how the process would go. However, the process created a space where participants shared and reflected on water-related issues. They reflected on their community strengths and challenges, and their traditional values. This process was not as complicated as I thought before entering the village. I was overthinking whether Sahariya youth would like the idea of participatory video. They watch films and news on TV, have seen smartphones and TV in their village, and understand what video and film can do. They understand that a video can be a powerful tool. Therefore, they signed up for this project. They might not be able to afford to buy expensive smartphones or video cameras, but they have the desire to use them. Sometimes, a person may not have access to technology but knows how it can benefit them.

4.3.8 Transcribing Video Data for the Purposes of the PhD and to Produce the Artefact

After the videos were created, completed, and stored safely, the important part was transcribing the video data into a usable written format. I handled this part critically to manage the vast data generated through videos. I did not include scenes that were not directly related to the topic, such as alcoholism and domestic violence, although I kept those themes in Chapter 5. The videos were created on the field and shared with all the participants. Due to a lack of technology and time, final editing was done in New Zealand (the filmmaking process is explained later). It took 6-months to transcribe and analyse the dataset for academic purposes, leading to the generation of significant themes (discussed in the following chapters) and helping

shape the film. I was engaged in transcribing video and audio data with the dual objective of academic analysis and producing artefacts.

1. Academic analysis: The first purpose centred on utilising video data as a primary source for my PhD investigation and producing an artefact. This involved meticulous transcription of the video content, followed by a comprehensive analysis aimed at identifying patterns and insights crucial to addressing my research inquiries. Table 4 summarises the themes from this process.

Table 4

Name of Themes

Name of themes	Theme Description
Historical context	Historical factors, such as colonial policies, changes in land ownership and forest laws, and forced tribal displacement, contribute to water access issues.
Cultural discrimination	Sahariya faces discrimination in access to safe water because of their low social status.
Political context-policy and governance	Government policies, implementation of water-related schemes, and the ineffectiveness of local governance in addressing water access issues.
Available infrastructure and services: Water resource analysis	Assessment of the availability and functionality of water infrastructure (e.g., wells and hand pumps).
Health and other impacts	Impact of low access to water on Sahariya's health and overall well-being, education, and life.
Economic challenges	Economic barriers to accessing safe water include poverty, lack of livelihood opportunities, and affordability of water-related services.
Environmental factors	The Sahariya tribe faces challenges related to the impact of rapid deforestation, changes in rainfall, and climate change on water sources.
Cultural practices and beliefs	Because of displacement, traditional water management practices and cultural beliefs about water sources and their connection with land and forests have been disrupted.
Gender dynamics	Gender roles in water collection and the impact on women's and girls' health and education. Women have to face discrimination and humiliation on the journey of fetching water.
Distance and effort for water collection	The physical strain and time-consuming nature of fetching water are exacerbated by the long distances they have to travel on foot.
Quantity of water carried.	Due to the manual effort involved, individuals can only carry a limited amount of water, further highlighting the inefficiency of the current water collection process.
Involvement of children in water collection	Participants collectively mentioned that young children under 6 or 7 are also involved in water collection activities.
Time consumption and daily routine impact	Includes time spent on various tasks such as digging, extracting water, and returning home. Such a time commitment significantly impacts their daily schedules and productivity.

Name of themes	Theme Description
Community mobilisation and strategies to bring change	Mobilisation of the local community. Formation of association (sanghthan). Co-creation of film to create awareness and advocacy.
Role of PAR	Participatory videos can be used to create awareness about low access to safe water and to advocate for protecting people's human right to access safe water.
Role of participatory video	Utilisation of participatory video in self-representation and sharing stories.

2. Producing an artefact: The second purpose of video-making revolved around crafting an artefact in the form of a film. The film aimed to raise awareness about the challenges faced by the Sahariya community in accessing safe water. This undertaking entailed strategic decision-making across various facets of film production given below:
    a) Duration optimisation: Determining the optimal length of the film to effectively convey the intended message while maintaining audience engagement and preserving the impact of the content.
    b) Communication medium: Choosing between voiceover, subtitles, or a blend of both to effectively communicate the narrative or messages of the film, taking into account the target audience and accessibility considerations.
    c) Key messaging: Identifying and prioritising the core messages or themes that the film aimed to convey, ensuring alignment with the overarching goal of raising awareness.
    d) Visual components: Curating visuals such as footage from videos to complement the narrative.
    e) Structure: Structuring the film cohesively and engagingly, leveraging storytelling techniques to captivate the audience and evoke emotions.

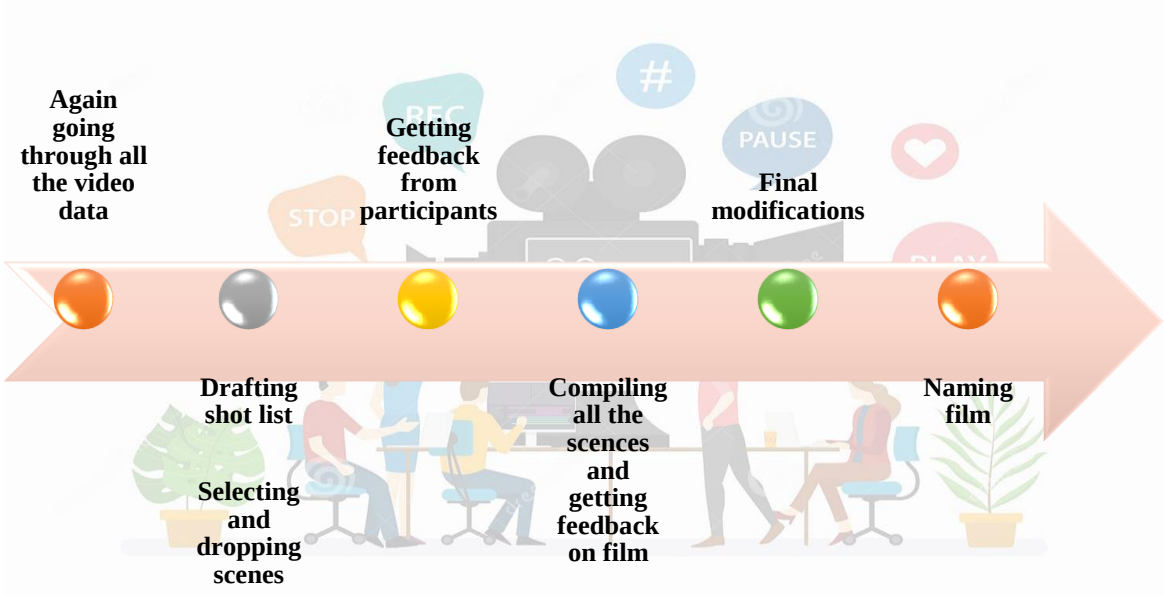
This multifaceted approach enriched the academic discourse surrounding my research. It served as a tool aiming to create social awareness about the challenges faced by the Sahariya community in accessing safe water.

4.3.9 Converting Videos into a Film Artefact

The various steps involved in converting video clips into a film artefact (as shown in Figure 14). These steps included going through all the video data, where existing footage was reviewed comprehensively, followed by drafting a shot list (explained in the following section) to guide the narrative. The next step was selecting and dropping scenes and shots, which involved choosing relevant clips and discarding unnecessary footage. Getting feedback from participants was also crucial, as it involved incorporating their input. Compiling all scenes and getting feedback on the film involved editing the scenes together and gathering further feedback. Final modifications were made based on the feedback from participants, ensuring the film was presentable. The last step was naming the film and deciding on a suitable title for the final artefact.

Figure 14

Stages of Converting Videos into Film



The fundamental nature of this project was that it was unscripted before filming and intended to capture aspects of real life—the water issue as expressed by the participants. Thus, participants created clips without any script. However, a structure or storyline was needed to convert several clips into a film which could be used for dissemination and sharing.

Scriptwriting is a critical step that defines a film and determines the message to be delivered by the film. I was unfamiliar with this process and felt vulnerable about writing a storyline or film structure. I tried writing the shot list and crafted a basic film outline, learning online from YouTube videos and websites such as https://templatelab.com/shot-list/. Then, I consulted a professional filmmaker to refine my ideas. He provided technical help, which improved the flow and quality of the film.

After reviewing the footage, I developed a shot list that pieced together individual scenes to form a cohesive film. In film production, it is of utmost importance to craft a coherent and impactful message that resonates with the audience. Achieving this goal starts with outlining the story's core themes and developing a compelling opening scene that immediately captures the viewer's attention. Additionally, it is crucial only to include scenes that are essential to the plot and serve to advance the story. To facilitate this process, I used a four-column scene and film structure template that allowed me to map out the various elements of the film and ensure that each scene served a purpose (see Table 5). This reflective approach enabled me to consider the nuances of the central themes and identify the most effective ways of conveying them to the audience.

Table 5

Shot List of the Film

S.No	Visuals	Commentary	Duration
1	Shots of people walking to fetch water	This is a daily routine for the Sahariya.	30 sec
	Shots of people carrying jars and bottles	2-3 hr journey, twice a day	
	Shots of people digging a ditch near the river	They do this because they must cook and wash.	
	Shots of dirty water	They drink this to survive	
2	Shots of drought-hit regions of India	India is facing the worst water crisis in its history.	40 sec
	Shots of packaged water are being sold.	It is visible in villages, towns and cities.	
	Shots of lines near handpumps and taps	According to a government think tank, 600 million people face acute water shortages.	
	Shots of older adults and young children from the Sahariya community	Moreover, perhaps some of the worst afflicted are the Sahariya	
	Shots of Renu talking to the volunteers and the villagers	This artefact hopes to help them by expressing the problem, suggesting feasible solutions and aiding the self-mobilisation of the community.	
3	Images or shots of the Sahariya community.	More than 4,000 Sahariya are native to Northern India.	15 sec
		Designated as a Scheduled Tribe, the community suffers from rampant illiteracy, extreme poverty, unemployment and discrimination.	
4	*Bite Renu*	*On the background and history of the Sahariya*	*40 sec*
		Impact of colonisation	

S.No	Visuals	Commentary	Duration
		Pushed out of the forest, Sahariya were prohibited from using forest products such as fuel, fodder, or traditional medicines. They lost their land, water, forest and cultural roots	
5	Shots of the villages.	Access to clean water is one of the community's most significant issues. Moreover, the causes are many.	15 sec
	Shots of handpumps followed by shots of dirty water	There are no safe water sources in the villages. The handpumps, if any, are poorly maintained. Moreover, the water is often brackish, polluted and unsafe	
6	*Bite of a Villager*	*The water here is polluted and smells bad.* *The government installed a hand pump here, but the water is saline.*	*30 sec*
7	Shots of women and children going to fetch water	The villagers, mainly women, are forced to fetch water from wells owned by other people or go to a nearby river.	15 sec
8	*Bite of Villager (refer to file 083010)*	*It takes 2 hours to fetch water. Even then, the water is polluted, and we suffer stomach ailments.* *Currently, 20 people are suffering because of polluted water*	*30 sec*
9	Shots of dilapidated houses and huts	Sahariya's problems are further magnified by disconcerting neglect on the part of the government.	25 sec
	Shots of the villages and bad roads	There are no health facilities in the village, a chronic shortage of electricity, poor road connectivity and ineffective governance.	

S.No	Visuals	Commentary	Duration
10	*Renu Bite*	*The effects of poor roads, lack of health facilities and ineffective governance*	*35 sec*
11	Shots of older women sitting	Amma can no longer walk to fetch water for herself. Today, she is entirely dependent on others for it	25 sec
	Shots of young children in the village	The consumption of polluted water jeopardises the growth of these children and the future of India.	
		The Sahariya community felt betrayed and dismayed by the state government	
12	*2 Bites of Villagers*	*Respondent: I only drink what someone else gets for me. I can no longer fetch water.*	*25 sec*
		Respondent in file 085047 – Are we not citizens of this country that the government is not providing us with basic facilities.	
13	Shots of the villagers talking to Renu	These issues facing the Sahariya are grave, but one must understand that they are not insurmountable.	20 sec
	Shots of the villagers organising discussions	To find viable solutions, the Sahariya must unite as a community and realise their potential.	
14	Each pointer comes as text in black followed by: Discussions between Renu and the villagers Shots of village meetings Individual interviews Shots of villagers creating videos on cell phones	Hence, there is a great need for Promotion of dialogue within the community Exploration of traditional techniques and practices About the process of conducting my research with the Sahariya community somewhere? Community capacity building and advocacy through videography self-representation of Sahariya through videos. Different generations come together to make videos and discuss issues. Older people share their stories about traditional water harvesting methods with the younger generations.	45 sec

S.No	Visuals	Commentary	Duration
		Challenging social structures, caste, gender and government through participatory videos.	
15	Villagers in a meeting	Today, consistent efforts are paying off. Slowly but surely, a new realisation is dawning; the Sahariya now understand that the solutions must come from within the community	20 sec
16	*3 Bites of Villagers (refer to file 083010)*	*We will form an association and go to the government.* *We will collect funds and dig our well.* *We must solve our problems ourselves.* *A call for action from policymakers/decision-makers?*	*40 sec*
17	Shots of villagers getting ready to work.	This is but the beginning of a long journey.	20 sec
	Shots of community members singing and laughing	And together, the Sahariya may well prove to be the masters of their own destiny. THE END	

4.4 Post-Production-Final Editing of the Film

I must accept at the beginning of this section that I was leading the editing process. I had to leave the field for the editing process due to technical and personal reasons. As explained earlier, my fieldwork was in a very remote area. There was no electricity, internet, or technological support. I had a limited budget to stay in the field. The participants proposed that I do the final editing of the videos. It is essential to understand that participants do not have the resources and time to invest in technical activities like film editing. Ideally, participants work at all stages of the participatory video project, from pre- to post-production. In this study, participants decided not to get involved in the final editing due to limited resources and skills. They were ready to see the edited version and comment on it. I did not push participants into something they were not interested in; however, they reflected on the film, the topic of the film, how videos were created, and the film's final version. Their contribution was present at all levels.

During the COVID-19 lockdown, I could not travel from New Zealand to India for 3-years, so I decided to send a draft film through WhatsApp and get feedback from the community on the phone. The feedback was to include Hindi in the subtitles. I already planned to do that. It took me 6-months to create my first film cut. I began with viewing all available footage and gained awareness of all the components, such as the photographs and audio clips. Then, I studied all the tapes and footage in depth. I started placing all the preferred elements on the timeline. I watched them through to determine what worked and what needed removal or replacement. The film began by introducing the problem of low access to safe water, progressed to the participation process, and then proposed strategies to solve the issue of access to safe water. I edited the film many times; some scenes were relocated or removed from the final film for better flow. I also decided to send a professional cameraperson to the field to take extra shots to fill the gaps in the film, like background traditional folk songs and pictures of the villages. This visit fulfilled the practical demand of the film to make it more appealing. I also took the filmmaker's help in finalising the film's flow. I feel this film will portray Sahariya's youth stories and deliver their desired message. The film currently available is not the final

version. A better version will be released in the near future for distribution. Click on the link below to watch a film.

4.4.1 A Link to a Film: https://youtu.be/AODuocliBOs

This film effectively communicates the message to the audience and encourages them to think about it. This film is also different because it creates a partnership with Sahariya participants and goes beyond the conventional form of filmmaking; generally, in most films, the subject has little or no say in the filmmaking process. In contrast, in this film, participants are involved in video making.

4.5 Challenges of Participatory Videography Project

4.5.1 Practical Difficulties

Mistry and Berardi (2012) emphasise the importance of timing when conducting fieldwork. If the timing overlaps with the community members' daily tasks, like fishing, hunting, agriculture, and household work, their participation decreases significantly. Therefore, I scheduled my sessions based on the availability of my participants. Most men preferred participating in FGDs early in the morning before going to work. At the same time, women found it more convenient to participate in the afternoon after completing their major household tasks.

An issue that frequently arises in research is the perception among participants that they are being used solely for the purpose of gathering data. To foster active engagement, researchers must cultivate a sense of curiosity and interest in the project among participants. Additionally, answering questions that fall outside of the project's scope can further enhance engagement (Mistry & Berardi, 2012). The present study established a safe and inclusive environment to promote active participation. Most participants were highly engaged due to the significant issue of water scarcity in their community, which they were eager to discuss. As the facilitator, I ensured that every participant felt valued and respected and had the opportunity to share their personal experiences.

Language is another major constraint to reaching people in the marginalised community. Language should not be a barrier to communication within the community and should be interpreted for future research. The dialect of my first language (Hindi) differs from the Sahariya community language, but I can understand them. They could understand and speak my mother tongue (Hindi). The field coordinator also helped me with translation; I ensured I was listening correctly. We all decided that Hindi subtitles would be included in the video so a larger population in India could understand it.

4.5.2 The Validity of Video Data

There is a significant debate in the field of social science regarding the accuracy of video data. This debate revolves around two primary concerns related to videography. Firstly, the 'in-situ camera effect' refers to how video recording impacts a naturally occurring event. It raises questions about the researcher's data collection method and camera usage; thus, it is crucial to address various dimensions to ensure the validity of the data collected through participatory videography. Secondly, the researcher's use of the camera to frame a specific event can also alter the reality and validity of the video record. This issue has both social and technological aspects. Socially, it involves the participants' participation and influence in the recording process, while technically, it involves the production aspects. Continuously evaluating the influence of any data collection method and its impact is critical for any research method. Social researchers who use videos for their research regularly have conducted multiple studies to address these issues and assess the actual influence of video recording on research subjects. Another factor affecting the validity of video data is the visibility of the data (i.e., what can be seen in the research video data). Penn-Edwards (2012) has argued that a research video does not record a social situation but instead captures the visual impression of an actual event, transforming the social process into an audio-visual presentation. Erikson (2011) has emphasised that video records should be treated as a source of data rather than data itself. He cautioned against using researchers' own views as narratives or relying on their previous experiences.

In this project, participants took on the roles of both cameraperson and actors, with some using cell phone cameras to capture discussions. As the facilitator, I ensured the smooth running of the discussions and avoided any personal biases. After a workshop, most participants were comfortable using mobile cameras and were not overly concerned about being recorded. They discussed their water resource situation, comparing past and present conditions and brainstorming possible solutions. While the quality of the videos was not professional-grade due to the use of phone cameras, the focus at this stage was on participation rather than film production. The discussions were unscripted and natural. Participants chose not to be involved in the final editing stage but were willing to provide feedback to ensure the necessary changes were made.

4.5.3 Issues with PhD Participatory Video Project

The participatory video and mobile videography process proved more manageable for participants than initially anticipated. Despite budget and time constraints, a considerable amount of data in video and audio format was gathered for my PhD research. Unfortunately, due to limited funding I had to leave the field within the established time frame, which impeded the thorough analysis of all recorded videos while in the field. Although participants discussed the collected data during FGDs, their reflection was restrained. Nevertheless, they established connections between the problem and its underlying causes, debating past, present, and future strategies. After departing the field, I undertook responsibility for analysing data for academic purposes, which represented a limitation of this participatory PhD project. Chapter 7 outlines other limitations and challenges encountered during this project.

4.5.4 Legal and Copyright

I obtained consent to use all the pictures and videos. Before beginning the film process, I completed an ethics application with the AUT ethics committee.

4.5.5 Distribution

To overcome the issue of access, I will create e-copies of the film and give access to the Sahariya community for use and distribution. I will also upload it online and distribute copies during conferences and seminars.

4.6 Summary

This chapter has discussed my and the participants' processes and experiences of making a film about water, which is equally vital in the participatory video process. I have discussed three stages of the participatory video-making process. As a PhD student, I faced barriers at each stage, and it was not as flawless as described in theory. The findings reveal that participatory video can create safe spaces for participants to have dialogues that create opportunities for self-expression through videos and promote self-determination. Chapter 5 covers water analysis and narratives related to access to water.

Chapter Five: Situation Analysis of Drinking Water Resources and Views of the Sahariya Community on Access to Safe Water

5.1 Introduction

This chapter begins with a situational analysis of water resources, followed by an exploration of the participants' narratives on access to safe water (research objective 1). The situational analysis provides the necessary contextual background for the participants' narratives. Chapter 4 focused on action-oriented focus groups and the participatory video pre-to-post-production process (research objective 3). Chapter 6 of the critical commentary delves into the Sahariya aspirations and strategies and takes action on one of the proposed strategies of creating a film linked to research objectives 2 and 3.

Research Aim and Objectives

The presented study aimed to create a space for Sahariya youth in rural Rajasthan, India, to develop strategies to improve access to safe water. The aim of this study was addressed with the following objectives:

1. To explore the views of the Sahariya youth regarding safe water access.
2. To explore the potential contribution of Sahariya youth to improve safe water access in the Sahariya community.
3. To explore the use of PAR to create a safe space for the Sahariya youth and building agency using participatory video.

Based on existing information, this chapter presents a situational analysis of water resources in three villages—Pathari, Chhipol, and Goyra—of Baran District in Rajasthan state of India. It is important to note that water quality testing for this study was not conducted in the selected villages. Instead, a review of secondary data from local sources was conducted to understand the hydrological condition of the Baran district. The water analysis is based on observations and information provided by the Sahariya community, as well as their perception of water quality and quantity.

The narratives of the Sahariya community are included to examine socio-political discrimination within historical and contemporary contexts, as these provide a critical context

for the issue of water. The findings reveal a common thread among all three villages: displacement from forest land and shared challenges such as water scarcity, loss of forest land, minor forest products, loss of access to water resources, structural and caste discrimination, malnutrition, and limited access to health and education resources. The narratives demonstrate that these issues are interconnected across various domains, including displacement, social, political, economic, and cultural discrimination. This discussion is further illuminated through a film artefact, supporting deeper insights into the intersection of water access and discrimination experienced by the Sahariya community. The film can be accessed at the following link: https://youtu.be/AODuocliBOs

Before delving into the water resource analysis of the three villages, it is crucial to remember the concept of safe water (see Chapter 2). Safe water refers to water that is free from harmful contaminants and suitable for human consumption, agriculture, or other uses, with its definition varying depending on the context (World Health Organisation, 2024a). In terms of drinking water, it must meet specific quality standards, such as those outlined by the World Health Organisation (2024a), which are based on scientific research to protect public health. Similarly, in agriculture, safe water should be free from hazardous microorganisms and pollutants that are harmful to crops and food (World Health Organisation, 2024a). This concept closely aligns with water quality, which encompasses its physical, chemical, and biological properties. Ensuring clean water is crucial for public health and environmental well-being, requiring continuous monitoring, identification of sources of contamination, and effective management plans (World Health Organisation, 2024a). India adheres to the WHO's updated safe drinking water guidelines (Saxena et al., 2023).

Accessing safe water is a complex challenge that involves various factors, including availability, quality, reliability, affordability, and accessibility. It has a significant impact on public health, and socio-cultural barriers, climate change, and groundwater quality play crucial roles in ensuring access. To ensure equitable and reliable access to clean water for daily needs, it is essential to address challenges related to infrastructure, sanitation, water treatment, and distribution systems (Singh & Jayaram, 2022).

Furthermore, the findings of this research emphasise that for Sahariya women and girls, the issue of safe water extends beyond bacteriological contamination. The process of collecting water, which often requires travelling long distances and leaving their homes, is just as unsafe, abusive, humiliating, and threatening situations as drinking it when contaminated.

The structure of this chapter is divided into four sections:

i. Mapping the water resources of Pathari, Chhipol, and Goyra villages.
ii. The impact of colonial and government state policies on access to water resources.
iii. Stories of Sahariya women about access to safe water and their issues.
iv. Stories of Sahariya men about access to safe water and their issues.

5.2 Mapping the Water Resources of Pathari, Chhipol, and Goyra Villages

This section discusses the availability of water resources in Pathari, Chhipol, and Goyra villages, and the Sahariya community's perception of these resources. The data are collected through various participatory tools such as resource maps, transect walks, participatory videos, still photography, FGDs, interviews with locals, visits to local government officials, and secondary data (as shown in Figs. 15-18).

Figure 15

Resource Mapping of Water Resources in Pathari Village

Note: Own photo

Figure 16

Resource Mapping in Goyra Village

Note: Own photo

Figure 17

Transect Walk in Chhipol Village

Note: Own photo

Figure 18

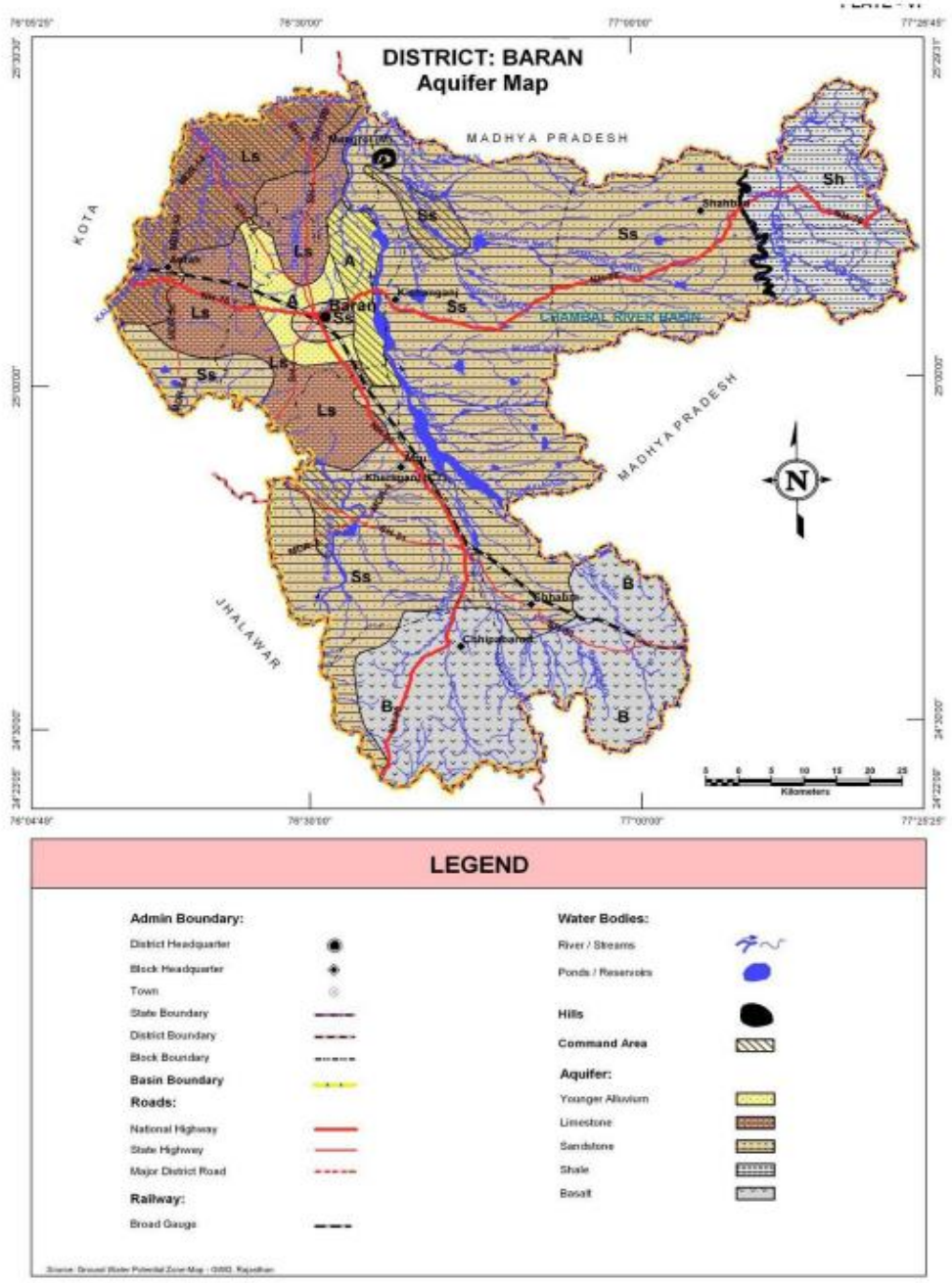
FGD in Goyra Village

Note: Own photo

Pathari, Chhipol, and Goyra villages are situated in the Baran district, the south-eastern part of Rajasthan. Baran covers 6,994km^2 and is positioned between latitude 24°25'00" and 25°27'00" east and longitude 76°12'00" and 77°25'00" north. The entire region is a part of the Chambal River Basin (see Figure 19). The area experiences sub-humid weather that is often dry and gets moderate amounts of rain during monsoon seasons to needs agricultural and water needs of region. November through February is the winter season, while March through mid-June is the summer season. The monsoon season lasts from the middle of June to the middle of September, and then the monsoon retreats from October to the middle of November. The average annual rainfall in the district is 838.7mm. January is the coldest month, with an average maximum temperature of 24.3ºC and an average minimum temperature of 8-10ºC (Central Ground Water Board, 2016).

Figure 19

River Map of Baran District



Note: Central Ground Water Board Department of Water Resources, River. (2019) *Map of the aquifer of Baran district:* Ministry of Jal Shakti Government of India, https://cgwb.gov.in/cgwbpnm/public/uploads/documents/16872463985656004file.pdf

The Baran district is classified as an arid to semi-arid zone. Rainfall is scarce and erratic. The average annual rainfall in 2001-2011 was 707mm (Central Ground Water Board, 2013). The depth of groundwater levels varies in the district from less than 10m to around 60m

below ground level. In nearly half of the district area, groundwater occurs at shallow depths less than 10m below ground level. Water levels of 10-20m depth are also found in approximately 38% of the district. The areas with less than 20m depth to ground water level account for nearly 83% of the district. Deeper water levels are seen in the western part of the Chambal River in the blocks of Atru, Baran, and Chhipabarod, as well as a small area in Shahbad towards the east (see Fig. 19). The principal means of irrigation in the district are wells/tube wells, though canals and tanks also irrigate some areas. Groundwater is the primary source of irrigation and is utilised through dug wells, dug cum bore wells and tube wells. Groundwater is drastically depleting or of poor quality, which is a significant concern.

Resource mapping was done by Sahariya youth to locate water resources in their settlements. It represents the location of different water resources available to the community for their uses. Sahariya community has only included resources they can access or are part of their basti (settlement). They have excluded dug wells and handpumps that are privately owned by the upper caste community and not accessible to the Sahariya community. Table 6 below shows data on water resources in selected Sahariya villages.

Table 6

Data of Water Facilities Accessible to the Sahriya Community in Their Village

Village	**Schedule Tribe Sahariya population**	**Dug well**	**Functional handpumps**	**Non-functional handpumps**	**Tap water. Jal Jivan Mission**	**River**	**Rainwater harvesting structure**
Pathari	871	1(non-functional)	2	2	0 (till date)	1	1 (pond) Built by the community for irrigation
Chhipol	135	1	0	1	0 (till date)	1	0
Goyra	923	0	1	1	0 (till date)	1 (very far)	0

Drinking water in the village mainly comes from groundwater sources such as tube wells, dug wells, and handpumps. These water resources are considered village resources and

are located within the village boundaries. In contrast, resources like rivers can be outside the village boundaries. The location of the river near Pathari and Chhipol villages can be seen in Figures 20 and 21. The Government of India has installed hand pumps in all three villages; however, due to poor infrastructure maintenance many hand pumps need repair. In 2019, the government launched the Jal Jeevan Mission with the promise of providing tap water to every household by 2025 (Ministry of Jal Shakti, 2024). Unfortunately, the selected village has yet to benefit from this scheme, and its houses are still without tap water.

Figure 20

Shahabad Kuno River Near the Settlement of Sahariya Community of Chhipol Village

Figure 21

Palku River Near the Settlement of Sahariya Community of Pathari Village

According to participants, water resources, such as rivers and streams, which were once perennial have now become seasonal due to the rising population and excessive water usage for irrigation and domestic needs. This shift has had a detrimental impact on water availability. Additionally, other sources of water, such as handpumps and dug wells, dry up during the summer months, further disrupting the supply of water for daily use.

According to a study by Jacob and Jahanara (2019) conducted in Baran districts, rivers and streams near villages only have water for 2-3 months during the monsoon season. Out of 300 respondents, 87% believed this to be true. None of these rivers were accessible year-round, according to 100% of the respondents. In the past, when the water table was higher, people could dig shallow pits near their homes to collect clean water. However, the study found that only 6% of households had access to groundwater at a depth of less than 50ft. Similarly, only 4% of households could access groundwater at a depth of 50-100ft, compared to 40% 30 years ago.

The issue of water scarcity in many villages is of great concern, particularly considering the impacts of climate change. A study by Kumar (2022) revealed that farmers in Baran district were already experiencing the effects of climate variability and change, with a significant majority of respondents (80%) predicting a reduction in water availability in the future. Additionally, most respondents (78%) believed that the monsoon season is receding earlier than in the past due to changing climate scenarios. Lack of access to water resources is pervasive in all three villages studied, and the community has struggled to develop effective coping strategies to address the shortages. This problem is further compounded by historical and current government policies that have restricted access to water resources.

5.3 Impact of Colonial and Indian Government State Policies on Access to Water Resources

"*We were forced to leave our forest because of forest laws*".

(Male Participant, Pathari village, 3rd FGD)

During British rule in India, from 1858 to 1947, extensive deforestation occurred for timber acquisition (Gadgil & Guha, 1994; Haeuber, 1993). A tribal community like Sahariya were pushed out of the forest they had lived in for many generations. They lost their forest land; access to forest products; and spiritual connections to their forest, mountains, rivers, water streams, culture. No access to forest and forest products resulted in low access to food, fodder, herbal medicine, water, and loss of livelihood. This is a common situation in all three selected villages in the current study.

India is now an independent country, but British laws still influence some of the Indian laws and have not been updated since independence in 1947. Reported incidences show the Indian government's insensitivity towards tribal communities inculcated during the British era, such as criminalising entire communities by designating them as habitual criminals under the Criminal Tribes Act (CTA), displacing them forcefully from their forest land (Jain, 2023). After independence, the Government of India launched many development projects and schemes like food security, water and sanitation, housing, education, and employment, including for tribal communities. These policies are bringing change but are limited and slow, and, often, policy needs to be reflected in action. Some reports also show that welfare policies and programmes are designed without understanding Indigenous' worldviews and their needs, failing welfare policies, and the failure to protect the fundamental rights of the tribal population in India (Kumar, 2020).

The provision of potable water in Rajasthan is managed by various departments and programmes of both the state and central government. The Public Health Engineering Department (PHED, 2024) ensures access to clean drinking water. Additionally, the Ground Water Department plays a crucial role in activities such as groundwater evaluation, survey and

investigation, deep tube well drilling, groundwater quality monitoring, and technical support for artificial recharge and rainwater harvesting structures (Central Ground Water Board, 2016).

At the village level, Gram panchayat plays a crucial role in the management and development of water resources. They identify the water supply needs of the village, plan water resource development projects, and actively involve the community in the development of water resources (Prakash, 2022). The panchayat is responsible for implementing water resource development schemes in the village, monitoring the quality of water resources, establishing tariffs for water supply services, and collecting fees from the community to cover water resource operation and maintenance costs (Ministry of Jal Shakti/Department of Drinking Water and Sanitation, 2024; Prakash, 2022). However, the gram panchayat of the three villages covered in this study faces many challenges in providing a safe water supply. Inadequate infrastructure, corruption, and limited funds pose challenges in providing safe water. The availability and continuity of funding can be uncertain, leading to financial instability and delays in project implementation. Providing safe water requires ongoing operational and maintenance expenses such as electricity, chemicals, repairs, and staff salaries. These costs can be challenging for Gram panchayats to sustain, especially in cases where user fees or tariffs are insufficient to cover the expenses. Gram panchayats often need more financial resources allocated to water supply projects (Pal, 2019).

Access to water resources for tribal communities, like the Sahariya, is severely limited due to various factors; for example, rapid population growth; industrialisation; and urbanisation policies leading to deforestation, reduced water retention, and worsening water scarcity. These pressing issues have left these communities in a state of vulnerability, often losing control over traditional resources and sovereignty, leading to economic marginalisation and extreme poverty.

The experiences shared by participants affected by the government's housing scheme reveal the profound impact of displacement and resettlement. The following quote by a participant from Goyra village describes how they were abruptly dislocated from their familiar habitation, only to be rehabilitated in distant colonies provided by the government:

> *We were dislocated from our old basti (habitation) and rehabilitated in the colonies (houses provided by the government under the housing scheme). We were rehabilitated in different colonies, and some of our family members got houses in other villages. We cannot meet them every day. These colonies are built on the outskirts of the main village*. (Male participant, Goyra village, 3rd FGD)

This separation led to families being dispersed across various colonies and even other villages, making daily reunions unattainable. The geographical placement of these colonies on the outskirts further compounds the issue, creating physical and emotional barriers that intensify their feelings of isolation and detachment from their original community. The government's solution to relocate these communities and assimilate them into mainstream society raises questions. The effectiveness of such rehabilitation efforts is debatable, and the government needs to be more holistic to truly understand and address the unique needs of tribal communities.

Participants also highlighted issues related to accessing water; in particular, facing verbal abuse while collecting water from a well owned by upper-caste individuals in the main village. "*We face verbal abuse while collecting water from Yadav's well (upper caste people live in the main village) because they own a well. When they refuse to access water from their well, we go to the river*" (Male participant, Goyra village, 2nd FGD). This statement indicates underlying tensions and discriminatory practices based on caste dynamics. Due to the challenges faced at Yadav's well, participants mentioned resorting to fetching water from the river when denied access to water from the well, illustrating the lengths to which the community had to go to secure a basic necessity like water.

A male participant of Pathari village (4th FGD) shared, "*There are many problems here. We also do not have our land here*". Participants shared that land ownership is a significant issue linked to control over water resources. Traditionally, the Sahariya community lived in the forest and were forest dwellers. Depending on who was living or harvesting the land they were users/caretakers of the land; there was a mutual understanding of the community that it was

their ancestors' land. However, no official records were maintained for claiming land. There was no practice of registering land under a personal title. During the 4th FGD, a male participant from Pathari village shared story about his uncle:

> *My uncle is still fighting a legal case. Yadav has taken his land and created false land papers to claim ownership. Unfortunately, my uncle does not have the money to pay the tehsildar, a land revenue officer, who can prove that my uncle is the rightful owner of the land.*

This statement shows that Sahariya have been exploited, even if they were the first people to use that land. In modern times, upper caste people and the government took advantage of this practice and encroached on their land, forcing them to migrate from their land and leave water resources like ponds and wells.

The Sahariya families have been victimised and exploited because they do not have legal proof of the land used by their ancestors. Loss of land means loss of access to water resources on that land. This forced them to be displaced from the forest to new barren land, which led to no access to forest products and water resources. They also lost their spiritual connection to their mountains, forests, and rivers:

> *We have been displaced from our old basti and relocated to Chhipol village. Although my cousins live in Pathari, our God and forest are in Pathari village. During the village festival, we have to walk a long distance to get there. Sometimes, we are not able to attend the pooja due to the distance.*
> (Male participant, Chhipol village, 4th FGD).

In Sahariya culture, forests, mountains, and rivers are their deities, and they worship them. Due to displacement, they feel the loss of cultural roots and trauma. The Forest Rights Act (FRA) of India, enacted in 2006, grants forest-dwelling communities ownership and consent rights over forestlands, as well as the right to cultivate and utilise forest produce. The Act also protects forest dwellers against forced eviction and displacement from their traditional lands and forests, requiring the consent of the Gram Sabha[2] for any relocation or resettlement activities in forest

[2] A Gram Sabha is a village assembly of all adult residents, playing a crucial role in local governance and decision-making in India's Panchayati Raj system,

areas (Mathew, 2019). It aims to address historical injustices and secure the livelihoods of forest-dependent communities. Despite the Act, several studies have highlighted the challenges faced by Adivasi (tribal) communities in accessing and utilising forest resources due to bureaucratic hurdles, lack of awareness, and resistance from vested interests (Choudhury, 2020; Kjosavik, 2021; Mathew, 2019). The Act has had both positive and negative impacts on tribal communities, with some experiencing improved socio-economic and livelihood outcomes. In contrast, others struggle to realise the full benefits of the Act. NGOs and community organisations are playing a significant role in supporting tribal communities in asserting their land rights and ensuring effective implementation of the FRA (Choudhury, 2021; Mathew, 2019). Despite the Act, forest dwellers still face difficulties in accessing and utilising forest resources due to restrictions, lack of training, and dominance of private agencies in marketing channels of non-timber forest products (Datta & Sarkar, 2012).

The Sahariya tribe is facing ongoing challenges with forest land ownership which affects their livelihoods and well-being. Because they own less land, Sahariya youth go outside for construction or farm labour work, and they are treated as inferior by upper-caste farm owners. Sahariya are generally poorly educated, so they find it difficult to secure skilled jobs.

There is an increased rate of alcoholism among males. They spend a significant part of their wages on alcohol. Women shared occurrences of domestic violence, indicating violent behaviours towards women and children. A Sahariya women participant from Pathari village (3rd FGD) stated,

> *Alcoholism and domestic violence cases are increasing. Previously, this was not the case. There were few alcohol shops near Basti, and alcohol was not readily available. Now they go to town, or a van comes to our village to sell alcohol. Men spend most of their money on alcohol. After drinking, they go crazy (out of control) and beat us; if we say anything or stop them, they become violent.*

The youth of Patahri and Chhipol villages have expressed concern that traditional knowledge is disappearing and that communal togetherness, which is highly valued in their tribe, is fading away. They feel demotivated and believe that they need to start thinking more

about the community. Furthermore, they stated that nobody listens to tribe leaders: "*In the past, everyone listened to Pradhan, and on his instructions, everyone worked collectively to solve the problem. Pradhan is not powerful nowadays; no one is ready to listen to him*" (Male participant, Pathari village, 3rd FGD).

In the past, volunteering for community resources, like building wells and ponds, was a common practice. "*In the olden days, a water well was built by a pradhan (head). He generally asked Basti (hamlet) people to volunteer to build well*" (Male participant, Pathari village, 4th FGD). The statement shows that pradhan (head of the tribe) was a leader; everyone respected his order. If the elder and pradhan decided to build community resources like a pond and well, each family in the village had to contribute to it. The contribution was in the form of money or labour. This way, community resources were built within 10-20 days, depending on the number of people in the hamlet. This system is dying because *bhaichara* (community brotherhood) is fading, and dependency on the government welfare state policies is increasing.

The young generation does not come together to build community resources; in their words, "*log sath nahi ate (people do not come together)*" (male participant, Pathari village, 4th FGD). According to older people in the community, they never went to the government asking for water or relied on the government to maintain their water resources. The community people used to come together and dig their wells. During the FGD, the youth of Pathari village comprehended and expressed concerns about dying old systems and decided to discuss how to rebuild old systems and strengthen their local governance.

Having considered water access and quality from the local data and the political and colonial context, the following two sections cover water stories shared by women and male participants. They have been separated because of gender differences, distinct roles, and perspectives in relation to water and access to it. Women often carry the burden of fetching water and their experiences are different from those of men, as explored below.

5.4 Stories Shared by Sahriya Women About Water

A Sahariya woman from Pathatri village (3rd FGD) said, "*Hand pumps do not provide clean water. The water is yellow or red and smells bad, and some handpumps give salty water.*" The participant showed me a bowl of yellow water that they use for cleaning or bathing (see Fig. 22). They explicitly mentioned that they do not use this water for drinking purposes; instead, they only use it for washing or cleaning.

Figure 22

Woman Participant from Pathari Village Showing Yellow Water Collected from Handpump

Note: Own photo

The participant also said, "*There were two hand pumps, one of which is broken and dry. Everyone uses this hand pump, which has yellow water*" (Female participant, Pathari village, 3rd FGD). During my fieldwork in three villages, I observed that the local government had installed hand pumps to improve access to safe drinking water. However, it was concerning to note that a significant number of these hand pumps were not currently working, highlighting the urgent need to address the issue of clean water in these communities. Despite the government's efforts to provide this essential resource, the deteriorating condition of the hand pumps is a significant obstacle for the villagers. It is crucial to resolve this problem promptly and effectively in order to ensure a continuous supply of clean and safe drinking water.

During my fieldwork, I also had the opportunity to witness the daily struggles faced by Sahariya women. One of their biggest challenges is collecting drinking water, a basic necessity of life. From what I observed, these women have no other option but to walk long distances

every single day to fetch water. This journey is both physically exhausting and emotionally draining for them (see Fig. 23).

I remember accompanying a few women and girls on their journey to collect water from a river (see Fig. 23). It was tiring and time-consuming, taking a toll on their physical and mental health. They had to carry heavy pots of water on their heads and walk for miles under the burning sun, often leading to dehydration and fatigue. Additionally, the water they collected was often unclean and contaminated, posing a severe health risk to them and their families. When water sources are further away, they require more time to collect, meaning less time for other activities such as school. It was disheartening to see how collecting water was not just a hectic and humiliating job for these women and girls but also a matter of survival.

Figure 23

Women and Girls of Chhipol Village Fetching Water

Note: Own photo

In rural Sahariya villages, most water resources are controlled by the powerful upper caste community of the village. Thus, a vulnerable and marginalised community like Sahariya is often socially excluded from receiving safe water or access to water systems. The Sahariya women feel unsafe collecting water because of the experiences of being abused by the upper caste. The women participants shared several stories of discrimination and untouchability:

> *Sometimes, the well owner refuses to access the well and withdraw water. They use bad words when we cross their farms to access their well and keep abusing us verbally. However, we have to collect water. If we cannot access the well, we go to the river to collect water.* (A female participant from Chhipol village, 2nd FGD)

Orthodox social norms like untouchability still exist and play a critical role in access to water resources. Sahariya encounters untouchability and verbal and physical abuse. During the FGD at Pathari village, a woman shared an incident of untouchability: "*When I collect water from Yadav's well, they call me - whore, bitch do not take water from my well. Go, die, and do not come here to fetch water*" (Women participant, Pathari village, 2nd FGD). All Shariya women participants voiced that they face discrimination and humiliation while accessing water from the wells controlled by the upper caste. The upper caste prefers not to share their water resources with Scheduled Tribes as they are considered impure and dirty. Although, in the constitution of India, several laws have been formed to abolish untouchability and discrimination still Scheduled Tribes such as Sahariya still face discrimination and marginalisation. In rural India, the responsibility of collecting water mainly falls on women. The situation becomes complex for Scheduled Tribe women when they access water from shared resources. They must face humiliation and verbal and physical abuse and wait longer for their chance to fill the water. Although none reported sexual abuse or assault, it may be because of the discomfort of sharing in the group.

Sahariya women are the most vulnerable among the vulnerable. They represent the most marginalised segment of society, facing intersecting forms of discrimination based on caste and gender. In rural India, the division of work assigns the primary responsibility of water collection to women, necessitating their vital role in ensuring access to drinking water for their families. This responsibility exposes them to daily hardships, humiliation, tragic circumstances, and physical strain associated with the arduous task of water procurement. The changing rain patterns induced by climate change have further exacerbated the frequency of droughts, thereby intensifying the burden on these women who have to undertake long journeys to fetch water. In

addition, women participants highlighted the inseparable link between limited access to water and various forms of distress in their lives.

In Pathari village, women showed the same emotions; they felt helpless and forced to bring water from long distances, and they risked their lives every day on the way to the water:

> *We bring water around 1 Kosh (3km). The water is dirty and smells, but we have to drink it… We get it from the sky (too far). We must bring water from distant places. We have to bring water from around 2 to 3 km, and that water is not clean. We are drinking water with many problems and difficulties. We filtered it ourselves using fine clothes and drank it*. (Female participant, Pathari village, 1st FGD)

Sahariya women face numerous challenges in accessing clean water. They are forced to navigate slippery and muddy pathways, often having to drink smelly and filthy water. The situation could be significantly improved if they had access to a reliable source of clean water. Currently, these women endure daily struggles, walking 2-3km to fetch water. Each trip takes around 1-2 hours, and they have to make these trips multiple times a day. Balancing heavy pots of water on their heads while traversing steep and slippery pathways puts them in hazardous situations, increasing the likelihood of accidents and injuries. It is not uncommon for them to slip and return home empty-handed, which is embarrassing and causes tension within their families.

> *The main issue is that to bring water, we have to go to the river or well, and both the water sources are too far for us. If we go to the well, it is around 1-1.5 kilometres. The lake is almost dried up. Now, if we come here to fill the water. We feel very embarrassed if we cannot take a full pot of water at home. It wastes a lot of our time to come here and return the empty pot. If we go without filling water, everyone becomes angry, saying, give us water. The road is also slippery; sometimes, we fill water in our pots, but while returning home, we slip, and water spills on the ground* (Female participant, Chhipol village, 4th FGD)

Moreover, during summer, as water scarcity escalates, women and children have to cover more distance to bring water, and they feel exhausted by bringing water pots on their heads (see Figs. 24 and 25). "*I do not have any option; I have to walk a long distance and drink*

this dirty water. A hand pump is broken, and no one is coming to fix it" (Shariya girl, Chhipol village, Transect Walk).

Figure 24

Sahariya Girl from Chhipol Village with Water Pot on Head

Note: Own photo

Figure 25

Sahariya Girl from Chhipol Village Returning from the River

Note: Own photo

Girls who aspire to pursue their education are compelled to engage in domestic chores like fetching water, which leaves them feeling helpless. This is the main factor contributing to the low literacy rates among Sahariya girls. A 9-year-old girl from Pathari village (3rd FGD) stated, "*No, I do not go to school. I help my mother with domestic work, including collecting water, and school is very far away; collecting water is a necessity*". Figure 26 shows girls of Patahti village collecting water. If the Indian government could ensure convenient access to safe water, children would be able to attend school. While education is of utmost importance, in my perspective, I acknowledge that in the current circumstances, collecting drinking water for basic survival takes precedence over formal education.

Figure 26

Girls of Pathari Village Collecting Water by Handpump

Note: Own photo

Sahariya women want to reduce stress by ensuring a water source is available throughout the year and close to their houses. "*This could be done by getting our well in our basti (hamlet), building a big water tank connected to the well, and installing taps*" (Female participant, Goyra village, 2nd FGD). This would make their life easier; they would save time to focus on other aspects of life.

The interviews with participants in Goyra village revealed critical insights into the daily challenges of women and girls and highlighted the pressing issue of water scarcity. One female

emphasised the arduous journey required to access water, stating, "*We have to step up the hilly region and cross it for water. We have to cover a distance of 1 Kosh*" (Female participant, Goyra village, 2nd FGD). This distance, as clarified by the field coordinator, translates to approximately 3kms.

Further inquiry into the availability of water infrastructure uncovered a stark reality. When I asked, "*How many hand pumps do you have in your village?*" The response was disheartening: "*Just one*." This single hand pump is the sole source of water for the entire village, leading to significant inconveniences and hardships for the residents.

The participant elaborated on the daily routine surrounding water collection: "*Yes, we leave in the morning, and we have to form a queue. We get water only when our turn comes. It takes over an hour to be in the queue, waiting for the water. It is almost 12 o'clock when we return back*" (Female participant, Goyra village, 2nd FGD). This narrative underscores the time-consuming nature of accessing water, with individuals spending hours in queues before obtaining this essential resource. A field coordinator added, "*That means she leaves at 7 in the morning and returns at 12 noon. The major problem is that of water. After bringing water, she prepares the food*". This sequence of events highlights the domino effect of water scarcity, impacting daily routines and tasks crucial for sustenance, such as food preparation.

In Pathari village, research participants decided to collect information from community members to gain more insight. Dialogue with the elderly disabled women in Pathari village poignantly reflects the multifaceted challenges they face, particularly concerning water access, healthcare, and economic stability. The respondent's dependence on her daughter-in-law for water fetching showcases the limitations imposed by disability and hints at broader issues of vulnerability and reliance on others for basic needs.

> *Participant as camera person: What is your problem here related to water? Respondent (disabled, elderly woman): Many problems […], we have problems related to water.* This exchange immediately sets the stage for understanding the gravity of the situation.
>
> *Participant: From how far do you bring water?*

Respondent: No, I do not bring water. I am handicapped.
Participant: I mean, from where do you arrange drinking water? Who brings the water?
Respondent: My daughter-in-law.

The respondent's inability to fetch water herself due to disability is a stark reminder of the barriers faced by vulnerable populations in accessing essential resources. This probing question delves deeper into the logistics of water procurement, revealing the complex dynamics of water collection in the absence of personal mobility.

Participant: If we have to try to solve water-related issues, what actions are required to be taken? Any suggestions?
Respondent: We (respondent and her husband) are handicapped here. Everyone can go to fill water to a distance, but we cannot go anywhere. We have to remain dependent on others. Water is really very problematic for us. Do whatever you can to solve our problems.

The respondent's plea for assistance and recognition of their limitations highlights the urgency of addressing water-related challenges through inclusive strategies that empower and support disabled individuals. The dialogue also touches upon broader socio-economic issues, such as limited employment opportunities and financial constraints, further exacerbating the challenges faced by the disabled elderly population.

Participant: How much land do you have?
Respondent: I do not have any idea how much land we have. My husband also cannot walk.

This exchange sheds light on the economic marginalisation experienced by the respondent and her family, contributing to their overall vulnerability and limited access to resources.

Participant: What other problems do you have?
Respondent: Right now, I am not working. I do not have any work. I am sitting idle.

The respondent's statement underscores the need for comprehensive interventions that address both water access and broader issues of livelihood and economic empowerment for marginalised communities.

The above dialogue between the research participant and respondent in Pathari village underscores the intersecting challenges faced by disabled and older women and the urgent need

for inclusive policies and support systems. It prompts reflection on societal responsibilities in ensuring equitable opportunities and fundamental rights for all individuals, irrespective of age or ability. The following section delves into stories shared by male participants.

5.5 Stories Shared by Sahariya Men

This section explores the deep concern of Sahariya male participants regarding the accessibility of water within their community. Their primary desire is for the provision of clean water and the implementation of functional drinking water systems in their village. Consequently, they are actively urging the government to assume responsibility for ensuring the availability of safe water systems and maintaining them adequately. This would alleviate the need for Sahariya women and children to embark on long journeys to obtain water; thereby, bringing a sense of comfort and stability to their lives. However, the government has installed handpumps in the village but failed to carry out regular maintenance. According to government policy, a minimum of 40l per capita per day should be available within a distance of less than 1.6km (Shah, 2005). Regrettably, the government is currently unable to meet these stipulations. While all three selected villages do have handpumps located within the specified distance, the majority of Sahariya women are compelled to travel considerable distances due to the malfunctioning of these handpumps.

> *We have a hand pump installed here in the village, but when it breaks down, we have to go far away to get water. Even when the hand pump is working, it gives dirty water, which may make us sick*. (Male participant, Pathari village, 2nd FGD)

The above quote sheds light on the specific challenges associated with water quality, specifically the existence of saline groundwater which results in contaminated and hazardous water. It emphasises the crucial connection between water pollution and the high occurrence of waterborne illnesses, underscoring the urgent necessity for enhancements and upkeep of water infrastructure.

Another participant of Pathari village (3rd FGD) said, "*The sarpanch (local governance leader) needs to listen to our problems*". He highlighted the significance of local leaders,

including the sarpanch, in tackling community issues and ensuring the provision of vital services like water supply. Thus, it emphasises the importance of efficient governance and communication in resolving infrastructure problems and enhancing the quality of life for rural residents.

> *We used to collect water from a hand pump, but it broke down. I do not know what happened to that pump. The pipe was damaged, or something else happened, but it is not working now*. (Male participant, Chhipol village, 1st FGD)

The statement reflects the frustration and helplessness experienced by villagers when essential water infrastructure like hand pumps breaks down. It highlights the lack of information about the cause of the malfunction and its impact on the community's access to clean water.

A participant from Chhipol village (3rd FGD) said, "*Broken hand pumps are because of broken government promises; they leave us without water. They have water as much as they want*". The presence of broken hand pumps is a tangible manifestation of broken government promises, leaving the Sahariya community without access to water. Water is a fundamental human right. It is a precondition for human survival and for the development of a just and equitable society. The contrast is stark when those in power have abundant access to water resources while many suffer from its scarcity. Another participant from Chhipol village (3rd FGD) said-

> *Getting water is not merely a task for us; it is a daily struggle […], it takes around 1 hour just to dig a pit […], and farmers also yell when we cross their field to go to the river […], In the rainy season, it gets muddy and risky to carry water.*

Accessing water is not as simple as turning on a tap. It involves long walks, strenuous labour, and constant effort to secure this essential resource. This reality underscores the resilience and determination of the Sahariya community facing water scarcity, highlighting the need for sustainable solutions that ensure everyone has the right to clean and accessible water.

Participants created a video clip showing how water is collected from the river in Chhipol village. Click on the link to watch: https://youtu.be/uhLpdKxyejI. Other participants

from Chhipol village shared that they walk to the river to fetch water and use traditional methods to purify it. In Figures 27 and 28, the youth demonstrate how they collect and filter water from the river.

Figure 27

Chhipol Village Youth Collecting Water from the River

Note: Own photo

Figure 28

Sahariya Youth from Chhipol Village Collecting and Filtering Water at the River Bank

Note: Own photo

The youth participant of Chhipol village (4th FGD) said, "*Look there; they have dug the pit there. We have no options. We filter this water using a fine cloth*". This reveals the limited options available to villagers for accessing water, resorting to filtering water from pits using basic methods like cloth filtration. It highlights the challenges faced due to the lack of proper water infrastructure, necessitating improvised solutions to ensure water safety.

> *Look here; sometimes, this worm comes along as we dig the pit. If it comes along with the water in the pot, it drinks up to 250 grams of water. It is found in the sand near the river. Look that it is getting bigger. When children go, they bring dirty water; we get diseased if we use it.* (Male participant, Chhipol village, 4th FGD)

The above quote describes the health hazards associated with using water from pits, including the presence of worms that can contaminate the water. It highlights the dire consequences of relying on unsafe water sources, especially for vulnerable groups like children. It underscores the urgent need for clean and reliable water infrastructure in the village. The river water's contamination is severe and renders it unsuitable for drinking, primarily due to untreated sewage and domestic waste discharged through urban drains (Sharma, 2020). This contamination visibly manifests in its muddy appearance and the presence of faecal coliforms exceeding safety thresholds during monsoon seasons. Consequently, villagers have developed a rigorous water collection protocol to address these hazards. Initially, a small pit is excavated and filled with river water. However, the visibly contaminated water necessitates its removal to make room for clean water. Following the pit's refill, villagers patiently wait for sedimentation to occur, ensuring the water's visual clarity. However, this visual clarity does not guarantee safety. The subsequent, critical phase involves further settling of sand and dirt particles, crucial due to their potential health hazards if consumed. Only after this settling process is completed is the water meticulously collected and transferred into containers. Throughout this process, stringent precautions are essential, particularly concerning the presence of worms commonly found in the water. Ingesting these contaminants can result in severe gastrointestinal illnesses, especially among children unaware of these risks. Therefore, educating children about the

significance of water filtration and the danger of consuming unfiltered water is imperative for preventing prevalent diseases such as diarrhoea and vomiting.

In brief, the three selected villages are equipped with public hand pumps provided by the government. However, the issue lies in the regular maintenance of these hand pumps. Given that the families residing in these villages have low incomes, they are unable to afford private wells or tube wells. Consequently, they lack the financial means to repair the public hand pumps. This deprivation of safe water disproportionately affects the Sahariya families, who must rely on public water sources that require repairs. The limited access to safe water and reliance on unhygienic sources leads to the prevalence of diseases like diarrhoea among Sahariya. In addition to water, the Sahariya community requires improved infrastructure, such as roads and connectivity to health centres and schools. The absence of a connection to the main road, known as the 'pecca' road, deters visitors from venturing into their village. The majority of participants strongly believe that the government should prioritise their village and address their issues adequately: "*Why is the government ignoring us? They should do something to solve the issue of water; if they can provide water in other villages, why do they ignore us?*" (Male participant, Chhipol village, 3rd FGD).

Lack of attention from the government highlights the marginalisation of the Sahariya community, as their voices remain unheard within the social, political, and geographic power structures. The Sahariya participants demand an explanation from the government,

> *we will go to the village development officer and block development officer and ask them if they are going to do something about handpump in our village; if they do not listen, we will give videos in media, and we will also plan to come together dig our own well and put the pump.* (Male participant Goyra village, 3rd FGD)

This statement shows that if their concerns continue to be overlooked, they plan to organise themselves and actively engage in discussions to address their problems, as discussed in Chapter 6.

5.6 Summary

This chapter has analysed the current water situation and the perspective of the Sahariya community on access to water. In this chapter, findings revealed that Sahariya have very low access to water and are discriminated based on caste and untouchability in collecting water from water resources controlled by the upper caste. During British colonial rule, and after India gained independence, the Indian government forcibly relocated the Sahariya community from their forest homes. This displacement resulted in numerous losses for the Sahariya people, including their land, homes, access to forest resources, water sources, cultural heritage, and overall sense of identity. Unfortunately, the Sahariya community has consistently been overlooked in terms of development initiatives and policy frameworks. The forest policies that have been implemented have only worsened their deprivation, leading to widespread malnutrition and hunger. In an effort to challenge prevailing social structures and hold the government accountable, Sahariya youth have taken it upon themselves to share their truths and stories through participatory videos. The following chapter discusses the possible strategies and solutions to improve access to water.

Chapter Six: Strategies Proposed by Sahariya to Improve Access to Water

6.1 Introduction

This chapter focuses on the strategies proposed by Sahariya to improve access to safe water in their villages (research objective 2). Sahariya youth also acted on one of the proposed strategies by using participatory video and making a film, which is linked to research objective 3 (see below).

Research Aim and Objectives

The presented study aimed to create a space for Sahariya youth in rural Rajasthan, India, to develop strategies to improve access to safe water. The aim of this study was addressed with the following objectives:

1. To explore the views of the Sahariya youth regarding safe water access.
2. To explore the potential contribution of Sahariya youth to improve safe water access in the Sahariya community.
3. To explore the use of PAR to create a safe space for the Sahariya youth and building agency using participatory video.

Throughout the study, Sahariya youth were actively engaged in making suggestions, designing and refining proposed strategies aimed at improving safe water access, and addressing structural discrimination. One of the primary research objectives was to explore how youth Sahariya could contribute to improving access to safe water in their community. To continue a participatory dialogue during the fieldwork, I posed several critical questions to the participants: What can be done to improve the current water situation? What efforts have previously been undertaken to enhance water resources? What changes do they envisage for their village?

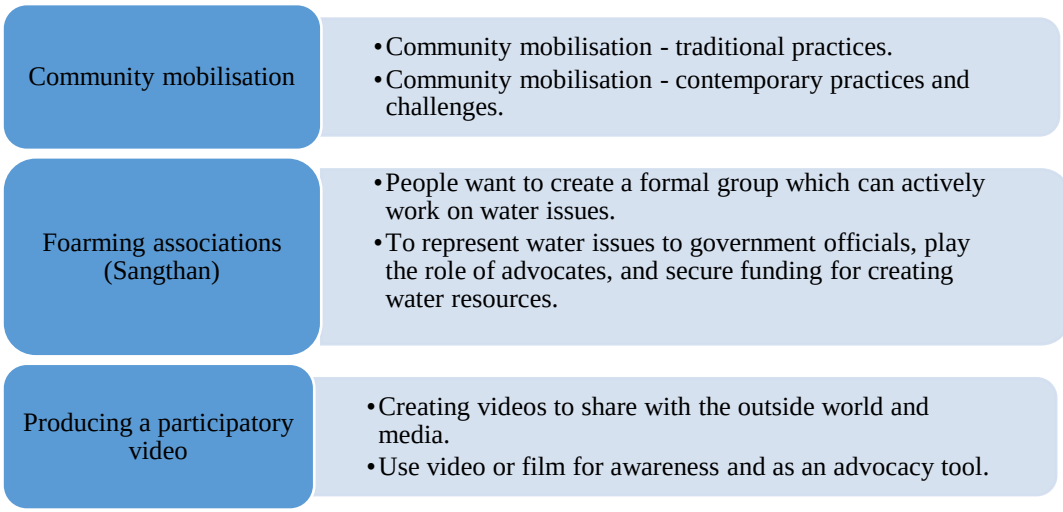
The dialogue expanded beyond the youth participants when they decided to take a broader community perspective by interviewing elderly villagers. The intergenerational exchanges enriched the discussions, bringing historical insights and actionable suggestions, making the research more comprehensive and insightful. Berkes (2009) elucidated the integral role of collaborative decision-making processes within Indigenous communities, including

tribal groups, wherein traditional knowledge and collective insights are harnessed to address complex environmental and social issues. This approach underscores the significance of cultural continuity and community-led governance in sustainable development. Similarly, Milne et al. (2012) delved into the use of participatory video methodologies for action, illustrating how tailoring these approaches to the preferences of co-researchers can significantly enhance the relevance and impact of the research outcomes. This adaptive methodology fosters inclusivity and aims to ensure that the research resonates with the lived experiences and aspirations of the participants. Complementing these perspectives, Berkes (2009) and Puri (20011) investigated the collaborative decision-making frameworks employed by tribal communities for sustainable natural resource management. Their findings highlight the pivotal importance of community involvement and consensus-building, demonstrating that sustainable resource management is most effective when grounded in the principles of local autonomy and collective action.

The participatory nature of this study was evident in the methods employed, such as participatory video-making. Although I introduced this method, it was enthusiastically adopted by participants who recognised its value and potential. To capture the vibrant discussions for this exegesis, I organised proposed strategies into three overarching categories (see Fig. 29) reflecting the emphasis placed by Sahariya youth: community mobilisation, forming associations or sangthan (organisation), and co-creating participatory video.

Figure 29

Strategies Proposed by Sahariya



6.2 Community Mobilisation

Community mobilisation is described by scholars as a dynamic process that involves engaging and empowering community members to collectively address specific challenges, achieve common goals, and promote positive change within their social, economic, or political environment (Khasnabis et al., 2011). Community mobilisation for community-based intervention requires the effective operationalisation of the principles of inclusivity, participation, and local ownership. However, this operationalisation is inherently complex. Meaningful involvement of community members necessitates strong leadership and well-defined communication strategies to ensure engagement and inclusion (Minkler & Wallerstein, 2019). Power dynamics within a community influence participation, necessitating efforts to address pre-existing inequalities and ensure equitable involvement (Labonte & Laverack, 2001).

While community mobilisation holds significant potential for positive outcomes, its success is often contingent upon the availability of resources and external support. Sustaining these efforts in resource-limited settings presents considerable challenges (Rifkin, 2014). Therefore, although the definition captures the essence of community mobilisation, a practical application must address these challenges to achieve sustainable and impactful results (Zakus & Lysack, 1998).

In the Indian context, the use of terms like *empowerment*, *participation*, and *sustainability* carries significant implications. These concepts are shaped and influenced by power dynamics within community mobilisation and organisation. While empowerment is often associated with noble goals, such as achieving gender equality and social justice, it can inadvertently mask the underlying power imbalances (Mukherjee, 2014). Similarly, the discourse around participation and sustainability reflects complex power relations (Cornwall, 2008; Mohanty, 2007). Kothari (2001) highlighted how participatory approaches can be co-opted, leading to new forms of social control; while Tandon (2008) discussed the role of civil society in governance, revealing how these terms are operationalised in practice.

Participation underscores the importance of involving community voices in decision-making processes but can be a tool for tokenism if not implemented effectively. Similarly, sustainability necessitates the careful consideration of economic, social, and environmental objectives, but can be a buzzword that is often misunderstood and misused (Chambers & Cleaver, 1997).

The discussions in three villages provided insights into the Sahariya tribe's approaches to organising the community and bringing people together. These approaches emphasise collective actions addressing communal issues and celebrating social events, which invariably involve bringing people together in groups. These gatherings enhance social cohesion and ensure that traditional knowledge and cultural practices are transmitted. Community mobilisation in the context of the Sahariya tribe extends to cooperative engagements in agriculture, home construction, and developing communal infrastructure like wells and community halls. Thus, Sahariya community mobilisation is underpinned by a strong communal ethos focused on collective needs and aspirations. Additionally, the community observes rules, such as preserving 'Dev bani'—sacred community forests—and integrating spiritual dimensions with environmental conservation. The Sahariya youth employed specific terms that reflected their community mobilisation and organisation (see Table 6). I have provided a more detailed discussion of the terms enclosed in quotes in the following section to provide context for their usage.

Table 6

Words Related to Community Mobilisation Utilised During Discussions

Term	Description	Quotes	Context
भाईचारा (Bhaichara)	Refers to the connection and solidarity between people who share common interests, values, or goals. It emphasises the sense of unity and mutual support within the community.	"भाईचारे से ही हम मिलकर सभी समस्याओं का समाधान कर सकते हैं, जैसे जल संरक्षण।" (Only through brotherhood we can solve all our problems together, such as water scarcity) – Male Participant, Goyra village 3rd FGD	Used during a FGD meeting to emphasise the importance of mutual support and solidarity in maintaining water resources.
सहभागिता (Sahbhagita)	Emphasises the active and inclusive involvement of all	"सहभागिता के बिना कोई भी जल संचयन परियोजना	Said during an FGD session in response to

Term	Description	Quotes	Context
	community members in decision-making processes and activities.	सफल नहीं हो सकती।" (No water harvesting project can be successful without inclusive participation) – Male participants, Pathari village 4th FGD	strategies to solve the water problem through constructing water harvesting structures.
सामूहिक समाधान (Samuhik Samadhan)	Refers to the process of working together to find solutions to common problems. It highlights the benefits of collective brainstorming and cooperation.	"सामूहिक समाधान के लिए सभी को अपने विचार साझा करने चाहिए, खासकर जल संरक्षण के बारे में।" (Everyone should share their ideas for collaborative problem-solving, especially about water conservation) – 2nd Village meeting, Chhipol village	Used in a community meeting to encourage open dialogue and idea-sharing for effective water management strategies.
सामुदायिक भागीदारी (Samhik Bhaghidari)	Refers to the involvement and collaboration of community members in various activities and initiatives. It emphasises working together towards common goals.	"सामुदायिक भागीदारी के बिना कोई भी जल संरक्षण परियोजना सफल नहीं हो सकती।" (No water conservation project can be successful without community partnership) – Male participants, 4th FGD Pathari village	Stated during the FGD to highlight the need for collective effort.
समुदाय योगदान (Samuday Yogdan)	Refers to the collective involvement, support, and contributions made by community members toward a common goal. It highlights the importance of everyone's effort in achieving success.	"हम सामुदायिक योगदान के माध्यम से कुओं जैसे जल संसाधनों का निर्माण कर सकते हैं।" (We can build our water resources such as wells through community contribution) – Male participant, Pathari village 3rd FGD	Used during a FGD to emphasise the importance of collective contributions to water-related initiatives.
सर्वमान्य नियम (Sarvmaniye Niyam)	Refers to the rules and guidelines that are agreed upon by the community to guide their behaviour and ensure harmony. It emphasises the importance of consensus and adherence to common norms.	"सर्वमान्य नियमों से ही हम अपने गाँव में जल संरक्षण और अनुशासन बना सकते हैं।" (We can maintain water conservation and discipline in our village only through community-approved rules) – Male participant, Pathari village 4th FGD	Used during a FGD to highlight the importance of following agreed-upon rules for sustainable water use.

Term	Description	Quotes	Context
संघ (Sangh) and संगठन (Sangathan)	Refers to formal groups or organisations formed to achieve specific goals. These terms highlight the importance of structured and organised efforts.	"हम अपने संगठन की ताकत के माध्यम से साफ पानी के लिए अपनी आवाज उठा सकते हैं।" (We can raise our voice for clean water through the strength of our association) – Male and Female participants, Goyra village 3rd FGD	Used during FGD, focused on discussing strategies to improve water conservation to emphasise the power of organised efforts.
समुदाय संगठन (Samuday Sangathan)	Denotes organised and structured community efforts to achieve common goals, emphasising the importance of coordination and collective action.	"समुदाय संगठन के बिना कोई भी जल संचयन परियोजना सफल नहीं हो सकती।" (No water project can be successful without collective efforts and sangathan) – Female participants, Pathari village 4th FGD	Stated during FGD to stress the importance of organised action.

These terms both define specific aspects of community mobilisation and offer insights into the tribe's cultural ethos. They showcase a sophisticated social organisation framework that integrates various aspects to foster sustainable and resilient community structures. Below, I discuss various traditional and contemporary community mobilisation practices as described by the participants.

6.2.1 Community Mobilisation - Traditional Practices

Sahariya youth proposed mobilising community members to create their own water sources, following the community's tradition of self-managed water resources. A poignant moment was captured during a participatory video created by the youth in Pathari village. A senior community member aged 70-75 years from Pathari village shared, "*We all built our own well together. We never went to the government*". This quote underscores the community's long-standing tradition of self-sufficiency and proactive problem-solving. "*I remember back in the day, we ate 'Jowar, Ramas, Sama, Ralo' for food. Everyone would gather to eat together*" acknowledges a communal dining culture that has evolved. However, the same elder also expressed concerns about the depletion of natural resources, stating, "*We bought gum, tedu, fruits, flowers [...] musli, gum, now we cannot access*". This stark observation underscores the

challenges faced by communities in accessing once-abundant resources. Additionally, he voiced frustration over resource mismanagement, lamenting, "*bureaucrats are eating everything*". This accusation suggests a systemic problem where resources meant for the community are being diverted elsewhere, leading to scarcity and inequity.

The Sahariya tribe has a long-standing history of living in harmony with the forests of central India. Their traditional way of life and community organisation are deeply embedded in the natural environment. However, the strict implementation of forest conservation laws and wildlife Protection laws has severely disrupted this relationship (Kabra et al., 2006). The designation of large areas of Sahariya ancestral lands as protected wildlife habitats has resulted in forced displacement and relocation of Sahariya villages, leading to the breakdown of their close-knit communities. This loss of access to forests, which the Sahariya relied on for their livelihoods, food, and cultural practices, has had a devastating impact (Kabra et al., 2006; Patel, 2020; Radhakrishna, 2009). The Sahariya have lost their traditional sources of sustenance and income, as well as their cultural identity and traditional knowledge systems due to the breakdown of their community organisation and social structures. As a result, the Sahariya are struggling to adapt to life in less fertile, upland areas; facing poverty and poor health; and the gradual erosion of their centuries-old way of living in harmony with the land (Kabra et al., 2006; Patel, 2023; Radhakrishna, 2009).

Click on the link to access a video clip of respondents discussing experiences and memories of the olden days; some of the quotes discussed above and below are from this video. https://youtu.be/A7fqw2rgBAc

Sahariya, an elderly member, commented, "*In the olden days, everyone had to listen and respect Patel Pradhan (tribe head) 's decisions […]. If he asked everyone to contribute to building village water resources, villagers listened to him*" (age 70-75 years, interview, Pathari village). This quote illustrates traditional governance and community dynamics in tribal societies, where Patel Pradhan's authority spurred communal tasks, like building water resources, reflecting a structured social order with collective responsibility. Research validates the effectiveness of Rajasthan's traditional water management systems such as rooftop

catchments, underground tanks, and reservoirs adept at conserving rainwater (Agarwal et al., 2001). Community involvement is crucial in these sustainable practices with support from NGOs and local initiatives enhancing water resource management (Gleick, 2000). These traditional techniques have proven successful in addressing water scarcity through community-led restoration of water systems (Neuman & Payne, 2007; Tarun Bharat Sangh, 2022).

The Sahariya tribe is currently grappling with significant barriers that hinder their progress and development. Deep-seated marginalisation, systemic discrimination, and socio-economic challenges pose formidable obstacles to their well-being. Traditional authority structures, vital for community cohesion, are under threat from modern influences, making collective action and cultural preservation increasingly difficult (Baviskar, 1995). The erosion of these traditional norms due to modernisation disrupts social cohesion and complicates collective action, potentially leading to a loss of cultural heritage.

Displacement resulting from development projects, new forest policies, and deforestation are compounding the challenges faced by the Sahariya and leading to social fragmentation and dislocation. While migration can offer economic and social benefits, it also exacerbates dislocation and identity crises (Mohanty, 2011).

To comprehensively address these challenges, government bodies, NGOs, and the private sector must collaborate to provide the necessary support systems for the Sahariya. While modern influences hold potential for empowerment, it is crucial to ensure that Sahariya voices are genuinely amplified within the socio-political landscape for sustainable development and social justice. Spivak's (1988) critique emphasised the severe constraints that limit the marginalised communities' ability to articulate their concerns within dominant discourses. Despite the introduction of new instruments such as education, their voices continue to be marginalised within broader socio-political frameworks. Therefore, targeted policies such as improved water supply, better health and education programmes, digital literacy initiatives, availability of legal aid and advocacy are imperative.

During the discussion, the participant shared interesting information about a past community organisation that utilised "सामुदायिक भागीदारी" (Samuhik Bhagidari, meaning

community partnership) and "योगदान" (Yogdan, meaning community contribution). "*In the olden days, individuals provided unpaid labour to village resources as yogdan*" (Male participants, Pathari village, 3rd FGD). To ensure fair distribution of human resources, each basti or hamlet was divided into parts that worked on different days. The model of Samuhik Bhagidari and Yogdan days highlighted the importance of community contribution methods. "*If someone missed a day, measures were in place, such as imposing a fine or assigning an alternative day to work*" (Male participants, Pathari village, 3rd FGD). This approach enforced personal responsibility while considering individual situations. Additionally, those who could not physically contribute, such as the elderly, were allowed to contribute through cash or alternative commodities like wheat and millet. The focus was on ensuring that everyone participated in enhancing communal life and promoting fairness and continuity in community projects.

The Sahariya community faces significant cultural and economic shifts impacting their traditional practices. "*The forest used to provide us with all we needed. Today, it is barely enough to survive; we cannot take anything from the forest. I work as a labourer. It is tough*" (Female participants, Pathari village, 4th FGD). Younger generations within the community are increasingly gravitating towards wage labour to provide for their families, which is leading to a gradual abandonment of traditional methods of subsistence that rely heavily on the forest. This shift is partly due to the decreased availability of free resources from the forest, compelling them to seek regular employment to meet their daily needs. This trend underscores the critical need for evolving community practices to adapt to new economic realities and land disenfranchisement, ensuring that cultural traditions are preserved while adapting to contemporary challenges.

A Sahariya youth stated, "*In the olden days, if there was any conflict, it was resolved within the village. Now we go to the police and file a complaint*" (Male participant, Pathari village, 3rd FGD), highlighting a significant shift in how conflicts are resolved within their community. This transformation represents a broader cultural shift as Sahariya strive to reconcile its practices with modern legal frameworks. In the past, the community relied on

internal dispute-resolution mechanisms driven by community norms and leadership. However, there has been a move towards utilising formal legal authorities, such as the police, as these bodies control law and order and conflict resolution processes. "*Earlier, when disputes arose over land, the elders would sit together and settle the matter. Now, we have to go to the tehsil office and navigate paperwork we do not understand*" (Male participants, Pathari village, 3rd FGD). This shift indicates changes in communal dynamics and relationships and demands a revaluation of the role of cultural practices and traditional governance in an era dominated by legal formalisation. It exemplifies the intricacies of maintaining cultural integrity while adapting to new societal structures.

6.2.2 Community Mobilisation: Contemporary Practices, Challenges, and Societal Response

The Sahariya youth from Pathari village stated, "*Ten of us can convince another 10 to join together. It needs patience, but we know we can make it happen*" (Male participant, Pathari village, 4th FGD), illustrating their strategic and proactive approach to community mobilisation. They aimed to convince 10 others to join their cause, thereby promoting exponential growth in community engagement. This multiplication strategy demonstrates their understanding of the power of social networks and the importance of patience and persistence in bringing about meaningful change. By emphasising collective action and solidarity, the statement reflects a strong communal bond and shared commitment to their objectives which underpins their sense of empowerment and agency. This approach aims to broaden their influence and strengthen the community's cohesion, enabling them to address more significant issues collectively.

Staying motivated in the face of vulnerability presents profound challenges, especially for marginalised and tribal communities. These groups often lack power and resources, making sustained motivation and action difficult. Despite systemic barriers, they develop resilience and agency, mobilising and advocating for their rights out of necessity, hope, and community solidarity. However, romanticising resilience can obscure the harsh realities and structural injustices that necessitate such resilience (Southwick et al., 2014).

Spivak's (1988) work on subaltern studies offers critical insights into this issue. Spivak examined the silenced voices of marginalised groups and their struggles for agency within

dominant power structures. She argued that the subaltern, often lacking a platform to voice their concerns, continue striving for recognition and change. This persistence, while admirable, underscores a troubling dynamic where marginalised individuals must continually fight to be heard, often with minimal support (Morton, 2020; Spivak, 1988).

In tribal contexts, these challenges are further compounded by historical and ongoing exploitation, displacement, and cultural erasure. Tribal communities face heightened vulnerabilities due to systemic neglect. Efforts to mobilise for basic needs like water, education, and health services are met with significant obstacles; yet these communities demonstrate remarkable resilience. Research on tribal resilience highlights the role of traditional knowledge, community solidarity, and cultural practices in sustaining motivation and action (Geetha & Kumar, 2023).

Motivation in vulnerable tribal communities is driven by shared experiences and support systems. Research by Southwick et al. (2014) and Geetha and Kumar (2023) highlight how communities adapt and mobilise in adversity, showing that resilience is a collective process. Yet, this resilience often masks systemic failures that force these communities to rely on internal support mechanisms. Ryan and Deci (2017) argued that fulfilling basic psychological needs fosters motivation and agency, even in difficult conditions. However, this perspective can inadvertently shift focus from the structural changes needed to address the root causes of vulnerability.

By integrating these perspectives, the dynamics of motivation and action in the face of vulnerability can be better understood. However, how narratives of resilience might inadvertently perpetuate systemic neglect must be critically analysed. Spivak's (1988) insights, combined with recent research, provide a framework for analysing how motivation is sustained among those most at risk, challenging scholars and researchers to address the underlying causes of their vulnerability.

The statement by a Sahariya youth, "*We help each other with farming, building houses, celebrating weddings, and other family events. We see ourselves as one big family from the same village, always supporting each other in festivals and marriage*" (Male participant, Pathari

village, 4th FGD) reveals a sense of community and mutual support within their tribe. The quote highlights their collective approach to various aspects of life including farming, housing, and family gatherings. They view themselves as part of a cohesive unit, emphasising shared ancestry and village ties as the foundation of their unity. Analysing the quotes further, it is evident that the Sahariya youth prioritise communal activities and see them as integral to their identity. Their willingness to assist each other in farming and building each other's houses indicates a culture of cooperation and interdependence. Additionally, their involvement in celebrating weddings and family events underscores the importance they place on maintaining social bonds and traditions within their community. Overall, the participants' words reflect the close-knit nature of the Sahariya tribe, where collective support and a sense of belonging are fundamental values still embraced by the youth.

The profound challenge of community mobilisation and empowerment is encapsulated in the following participant's statement, "*It is challenging to build the capacity to stand up for ourselves and do something; people are fearful. They do not have the courage or intention to do something*" (Male participant, Pathari village, 4th FGD); this quote starkly illustrates the inherent difficulties individuals face when attempting to assert themselves, reflecting broader societal issues that hinder personal and collective agency.

Economic dependency and poverty can significantly impact personal empowerment, especially in tribal regions of India. Struggling to meet basic needs often prevents individuals from focusing on broader societal changes or achieving social causes (Jatav & Ghanghat, 2023; Nimisha, 2020). In such situations, mobilising for community benefit often becomes a secondary priority. People tend to prioritise individual survival over community engagement, which further exacerbates the problem. A proactive community spirit is essential for driving positive societal changes and promoting a sense of collective empowerment.

> A participant noted that "*building capacity and bringing people together does not happen in one day. It will take time, and this process will take time. At this moment, we can bring 30-40 people together. If we get more time, we can mobilise more; everyone has to come together"*. (Male participant, Pathari village, 4th FGD)

Building capacity is inherently a long-term process, requiring sustained commitment and gradual progress. Yet, the participant also acknowledged that the group in Pathari village has a foundational level of organisation and mutual support, and that with more time and resources they have the potential to mobilise more people and enhance their collective power. The participant emphasised the need for inclusivity in community development which involves engaging all segments of the community and leveraging the unique perspectives and strengths of each group. Overall, the reflections from Pathari village serve as a compelling reminder of the challenges and possibilities inherent in community mobilisation; and underscore the importance of patience, resilience, and an inclusive strategy to bring about meaningful change.

The discussion emphasised the significance of *coming together* and starting the *community organisation* process. This step is highlighted as crucial, suggesting that the act of organising itself is foundational to any subsequent collective action. It sets the stage for communal activities and initiatives, providing a structured framework for individuals to operate and collaborate effectively. Following establishing a community organisation, the focus shifts to practical forms of mutual aid, such as "*working with each other on farms*" (Male participant, Pathari village, 4th FGD). This example illustrates how community organisations can lead to tangible economic benefits and support systems. By pooling resources and labour, community members can enhance productivity and ensure mutual benefits, which are essential for sustaining the community's economic viability.

The Sahariya participants also addressed the social challenges that can undermine community efforts, such as specifically pointing out "*avoiding negative attitudes and gossip, which bring differences in the groups*" (Male participant, Pathari village, 4th FGD). This statement acknowledges the internal threats to community cohesion—negative attitudes and gossip can erode trust and create fractures within the group. By identifying these behaviours as detrimental, the participants underlined the importance of fostering a positive social environment where supportive and constructive interactions prevail.

The community members in Chhipol and Goyra village have actively sought to improve their access to water by submitting multiple applications to the local Gram Panchayat to

maintain and repair hand pumps; thus, demonstrating that communities are taking action but are being ignored. Despite these efforts, the response from the Gram Panchayat has been inadequate. A participant from Chhipol Village highlighted this issue, stating,

> *We have submitted several applications to Gram Panchayat to maintain and repair handpumps. However, the sarpanch (head) of Gram panchayat belongs to the upper caste, and he does not show much interest in developing a water system in Sahariya basti.* (Male participant, Chhipol village, 4th FGD)

This lack of response suggests neglect, perhaps influenced by caste-based biases, as the sarpanch shows little interest in addressing the needs of the Sahariya basti. This situation emphasises the need to develop a more equitable approach to community mobilisation.

Addressing equitable community mobilisation for the Sahariya tribal community through an equity-based lens requires a deliberate and multifaceted approach. Given the economic and social disparities they face, as well as the potential influence of wealthier groups, ensuring that all Sahariya voices are heard in decision-making processes is crucial. It can be achieved through participatory planning sessions, regular consultations, and public meetings tailored to include Sahariya community members (Cornwall, 2008; Gaventa, 2004).

From my experience with Sahariya youth, it is evident that they can articulate their needs and desires to fulfil their basic needs and fundamental rights. However, there is a need for a system that can hear them and allocate resources accordingly. Local governance should actively include Sahariya representatives to incorporate their unique perspectives. Supportive policies and legislation that promote equity and protect the Sahariya's rights are necessary to ensure the fair distribution of resources and opportunities through affirmative action policies.

Equitable resource allocation ensures that resources, including funding, infrastructure, and services, are distributed fairly to support the Sahariya's development. Public and private sector partnerships focused on inclusive development can bring additional resources and expertise (Warner, 2013). Advocacy efforts should highlight the Sahariya's challenges and promote inclusive development practices. Utilising media and social platforms can raise awareness about the importance of equitable community mobilisation (Rospitasari, 2021).

According to Chambers (2014), transparency in governance is essential, with clear communication about decisions, resource allocations, and project implementations, particularly those affecting the community. Robust monitoring and evaluation mechanisms, such as community-led audits and social accountability tools, are vital to maintaining accountability.

Building capacity and promoting resilience involves supporting initiatives that preserve and promote cultural heritage, and integrate traditional knowledge into development projects, particularly those related to natural resource management (Berkes, 2009). Developing economic empowerment programmes, including skill development, entrepreneurship training, and market access, is crucial (Sen, 2001). Supporting cooperative models and community-owned enterprises can ensure that economic benefits are shared equitably within the Sahariya community.

A holistic perspective necessitates intersectoral collaboration, promoting partnerships between the health, education, and agriculture sectors to address multifaceted needs. Adopting a rights-based approach emphasises the rights in all development initiatives—in this case, Sahariya's rights—ensuring that the project respects and protects human rights (Cornwall & Nyamu-Musembi, 2004; Uvin, 2004).

By implementing these strategies through an equity-based lens, a more equitable, resilient, and inclusive approach to community mobilisation that empowers the Sahariya community and drives sustainable development can be established. This perspective is essential for fostering meaningful change and ensuring the Sahariya community thrives, countering the disproportionate influence of affluent and powerful groups.

6.3 Building Associations – Sangthan

> *We will make an association of 10-15 people to talk to the government about our water problems and also discuss and represent our village […] ask them why they are not implementing schemes in our village […] ask for funding*. (Male participants, Goyra Village 4th FGD)

The above quote from the male participants in Goyra Village highlights a community-driven initiative to tackle pressing local issues, specifically concerning water shortages. By

forming an association of 10-15 individuals, the community aims to create a structured and representative group capable of engaging directly with governmental bodies. Their plan to question the government's lack of action in their village demonstrates a proactive approach to civic engagement, emphasising accountability and the need for official intervention. The request for funding further underscores their practical understanding of the necessary resources to implement essential water schemes. This approach seeks to address immediate needs and fosters a sense of agency and participation among villagers, advocating for transparency and action that benefits the entire community.

Throughout the fieldwork discussing community mobilisation, Sahariya youth emphasised the importance of forming associations (Sangathan) to enact change. They proposed proactive measures to compel local government action, particularly concerning water schemes. "*Including women and children will protest, do rallies in front of BDO [Block development officer] office demanding water, well, handpumps or tank with pump*" (Female participants, Goyra Village 4th FGD). This suggestion reflects their belief in the government's responsibility to address communal issues and their determination to ensure their voices are heard. As citizens, the Sahariya youth asserted their right to engage with government entities through various forms of advocacy, including office visits, protests, rallies, and foot marches, aiming to exert pressure for improved water resources.

During these discussions, some participants referred to forming an association, a term likely influenced by local NGOs. They used the English word association which in their cultural context translates to 'संघठन' (Sangathan), indicating a formal group. This term encapsulates the idea of people coming together with a shared goal, similar to the traditional practices within their culture where forming groups to address communal problems was common.

In tribal societies, creating Sangathan is a well-established method for collaborative problem-solving. These associations can vary in size, ranging from small groups of 6-10 individuals to extensive networks spanning multiple villages. In the specific case of the FGDs in Chhipol village, participants proposed to form an association of a small number of representing villages to address the critical issue of unsafe water – "*We will form a sangthan to talk to*

sarpanch (head of local governance), BDO [block development officer] and discuss among ourselves to solve water problem" (Male and Female Participants, Chhipol village, 5th FGD). The same idea was proposed in Pathari and Goyra villages.

The participants from Chhipol village shared how they planned to deal with water problems if the government did not act. "*If nothing happens, we will dig a well in our village*". This plan demonstrates the community's self-reliance and determination. One participant also expressed frustration and criticised the government's failure to provide clean drinking water, "*The government could not even arrange clean drinking water for the villagers, and we are drinking clean water through our hard work*" (Male participant, Chhipol village, 5th FGD). This statement shows the community's willingness to address the issue of water on their own and highlights their efforts if the government does not provide support.

The participants' quotes, "*If we can dig the well on our own, then we can tell the authority that nothing is going on by the government for the village*" and "*If every person gives his consent, we will take a step to dig the well collectively, on our own*" (Male participants, Chhipol village, 5th FGD) indicate the community's proactive approach and readiness to act if needed. It reflects a sense of self-sufficiency and communal solidarity. At the same time, participants criticised the government's inactivity, stating "*The government could not even arrange clean drinking water for the villagers*" (Male participant, Chhipol village, 5th FGD). The participants voiced a common complaint and doubted the government's commitment to its people.

The Chhipol village community's interest in working as Sanghthan of "*10-15 villagers*" and the potential to "*arrange funds on our own*" to "*hire machinery for digging wells*" demonstrates community involvement and organisational potential. The participants questioned whether they were "*citizens of this country that the government does not provide basic facilities*" (Male participant, Chhipol village, 5th FGD), challenging the government's responsibilities and citizens' rights. This is not just a need for essential services but for recognition of their status and rights as citizens. The Sahariya community's proactive approach, which aims to manage their water resources amidst perceived government inattention, is a wise

and tactical decision. It underlines overarching concerns regarding citizenship, rights, and governmental responsibility.

From an equity-based approach, this scenario reflects a profound imbalance. The Sahariya community's proactive measures to manage their water resources amidst perceived governmental neglect underscore the broader concerns of citizenship, rights, and governmental responsibility. Equity in public policy demands that all citizens, regardless of their socioeconomic status, have access to basic services and resources. The literature on equity in public policy argues that true equity involves equal access to resources and the recognition and addressing of systemic disparities that hinder marginalised communities (Fraser, 2008; Rawls, 1971; Young, 2011).

While the Sahariya community's self-reliance is commendable, it raises significant questions about the role and effectiveness of local governance. Why must these communities bear such burdens themselves? It reflects a systemic failure, where a vulnerable population with limited resources is left to manage essential services on their own. Doing so stresses the community's resilience and highlights the need for more robust government intervention to ensure basic needs and rights are met, alleviating undue strain on such communities.

From the perspective of Gayatri Spivak's (1988) concept of voicelessness, the Sahariya community's situation exemplifies how marginalised groups often lack the agency and platform to assert their needs and rights effectively. Spivak's notion of the subaltern describes those who are outside the hegemonic power structures and whose voices are systematically excluded from dominant discourse. The Sahariya's proactive approach to organising and self-funding their water initiatives is a form of resistance against their imposed voicelessness, striving to reclaim their agency and assert their rights (Mohanty, 2003).

The literature on governance and public policy consistently points to the necessity of effective governmental support for ensuring the delivery of basic services and rights, especially to marginalised communities. Amartya Sen's (2001) work emphasised that development should enhance freedom and reduce unfreedoms, advocating for immediate government action that empowers communities rather than leaving them to fend for themselves. This approach aligns

with the equity-based perspective, stressing the importance of governmental responsibility in providing essential services and recognising the rights of all citizens.

The resilience and organisational capabilities demonstrated by the Sahariya are typical of communities under strain; such attributes are frequently celebrated but also highlight the abandonment by state mechanisms. The Chhipol village community's efforts underscore the urgent need for policies that address these systemic inequities and ensure that marginalised communities are not left to shoulder the burdens of basic survival alone. Robust government intervention and support are critical to achieving true equity and justice for all citizens, ensuring that no community is forced into voicelessness or self-reliance due to systemic neglect (De Sousa Santos, 2007; Dutta, 2011).

6.4 Making a Film – An Advocacy Tool

In this section, I discuss why the youth of the Sahariya community had developed an interest in creating participatory videos and how they believed it could help improve their access to water. Chapter 4 dealt with the stages of participatory video. This section focuses more on participatory video as a strategy for raising awareness and as an advocacy tool.

The Sahariya youth were familiar with media, primarily through television and smartphones. When I proposed participatory video as a method and to utilise mobile phone cameras to make videos during FGDs, they expressed their interest in exploring participatory video. Despite the economic barrier they may face, with some unable to afford smartphones, their familiarity with videos motivated them to engage in video production. Youth articulated the collective sentiment: "*Through video, we can show our struggles about the water crisis and how we feel and live here in water crises*" (Male and female participants, Chhipol village 3rd FGD). This statement reflects a broader understanding among the youth of participatory video as a platform for expressing their views.

Youth from Pathari village discussed and created videos (see Fig. 30) and emphasised the transformative potential of this participatory video: "*Learning and making videos will help in expressing our feelings and showing others*" (Male participants, Pathari village, 2nd FGD). By articulating their emotions through visual and audio, participants could convey complex

sentiments more effectively than words alone. This process allowed them to communicate water issues, stories, desires, and aspirations that might otherwise go unheard. This reflects the principles of PAR, which aims to empower individuals to construct their own knowledge, critically engage with their circumstances, and reflect on their actions, encapsulated by Gaventa and Cornwall (2008) through Freire's (1970) concept of *conscientisation.*

Figure 30

Sahariya Youth from Pathari Village Discussing and Recording Video on a Mobile Phone

Note: Own photo

The youths from Chhipol village expressed a desire for broader visibility of their plight and governmental neglect: "*We want the world to see and understand how the government is ignoring our water problem and ignoring us*" (Male participants, Chhipol village 3rd FGD). This narrative presents a video project to challenge and question systemic disparities.

As they participated, they used videos to articulate a broad range of emotions and challenges. A female participant from Goyra village (2nd FGD) highlighted this transformation*:* "*Through video, we can share our problems with others, and group discussions and village meetings also helped us in discussing our water problem; we all had this problem, but we never discussed it like this*". The Sahariya youths aimed to document the violation of their

fundamental right to safe water. They planned to use these videos in advocacy by distributing them to journalists and media outlets. One female youth from Goyra village (2nd FGD) expressed, "*We can use these videos and give them to journalists to show on TV how the government is ignoring and not repairing handpumps*", highlighting their strategy to leverage media for awareness and change.

Participatory videos are powerful tools for raising awareness and driving advocacy in marginalised communities (Ciszek, 2013). Creating these videos enabled the Sahariya community to control and share their own stories, thereby strengthening their influence. By documenting critical local issues, such as water scarcity, these videos serve as a visual medium that educates and informs wider audiences, including policymakers. They provide a direct communication channel for decision-makers, amplify community voices, secure support from NGOs and government bodies, and influence policy changes. This collaborative effort raises external awareness, reinforces community bonds, and encourages collective action.

However, social change through media is inherently complex. Participatory videos, despite their potential for immediate impact, often possess a limited lifespan within today's rapidly evolving digital landscape. The influence of these videos can diminish quickly as new content emerges, and the initial excitement may decrease over time (Ciszek, 2013). Moreover, the process of producing and distributing these videos can affect participants and viewers in multifaceted and sometimes unexpected ways. While creating these videos can empower participants by providing them with new skills and a sense of agency, it can also lead to frustration if their efforts do not result in visible change. For instance, the participatory process can initially inspire viewers to take action; however, this motivation can dissipate if it is not continuously reinforced through ongoing engagement and support (Tacchi & Kiran, 2008; White, 2003).

For the Sahariya youth, co-creating videos has been transformative, equipping them with new skills and fostering proactive engagement with water access issues. The Sahariya community views video as a complement to broader strategies like community organisation and

building associations, thus alleviating the pressure of creating a perfect documentary film and allowing each strategy to contribute uniquely.

The effectiveness of participatory video is significantly maximised when supported by external resources including NGOs, government bodies, wealthy champions, politicians, media figures, private philanthropists, and not-for-profit organisations. White (2003) highlighted the transformative potential of participatory video when communities actively participate in the storytelling process, emphasising the crucial role of supportive entities. High et al. (2012) outlined various case studies demonstrating how institutional support from diverse sources, including NGOs and private philanthropists, can amplify the impact of participatory video initiatives. Lunch and Lunch (2006) provided practical insights into the implementation of participatory video projects, stressing the importance of collaborations with NGOs, private sector supporters, and other external resources to ensure success. Shaw and Robertson (1997) discussed the practical applications of participatory video in community development, underscoring the need for external support from a wide range of stakeholders to scale the impact of these projects. Milne et al. (2012) presented extensive examples of participatory video projects, illustrating how institutional support from various sectors significantly enhances the empowerment of marginalised communities. Literature underscores that the effectiveness of participatory video is greatly enhanced when backed by comprehensive support from diverse external resources, driving meaningful advocacy and empowerment efforts (High et al., 2012; Lunch & Lunch, 2006; Shaw & Robertson, 1997; White, 2003).

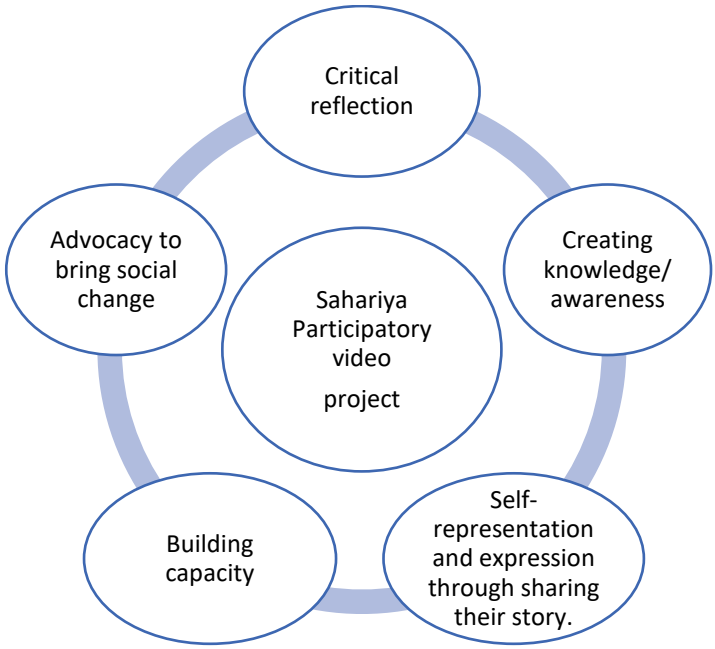
Collaboration with media and technology platforms can significantly extend the reach of participatory videos. The private sector can provide technical and financial support, while academic institutions contribute to research and evaluation, enhancing credibility (Shaw, 2012; White, 2003). Despite its strengths, participatory video, even with the active involvement of vulnerable communities, cannot dismantle entrenched systems and discriminatory practices alone. It needs to be part of a broader and more complex multi-stakeholder strategy. Sustained change requires systemic interventions like legal and policy reforms. Participatory video can catalyse these reforms by holding governments accountable and pressuring them to meet

commitments to marginalised communities (Tacchi & Kiran, 2008). Building cross-sector alliances is essential for effectively combating discrimination. By connecting local issues to global movements, participatory video can garner additional support and pressure for change.

In conclusion, while participatory video is powerful as a communication and empowerment tool, its effectiveness is enhanced when integrated with resources and networks from government, NGOs, and other influential agents, leading to more profound and sustainable social change. By incorporating participatory video, participants actioned one of the proposed strategies, which functioned as a powerful tool tailored to the community's needs and aligned with an anti-oppressive framework. It promoted the idea that individuals are not merely passive recipients of aid but active citizens with the right to demand social justice. This people-centred, rights-based approach has effectively raised awareness and promoted self-representation among the participants, contributing significantly to the pursuit of equitable treatment for the Sahariya community. I have summarised the project's key elements in Figure 31.

Figure 31

Main Components of the Participatory Video Project of Sahariya Youth



6.5 Summary

In this chapter, Sahariya youth outlined strategies to foster positive change within their community, which I have represented here as community mobilisation, building associations, and creating a participatory video film. They recognised the gradual and continuous effort required to mobilise the community and bring change, starting with the formation of associations to gather support and strengthen their collective voice. The youth also explore the potential of participatory video as an advocacy tool. They acknowledged that while video alone cannot solve their water issues, it was instrumental in generating awareness, building capacity, and enabling self-representation among participants. They demonstrated an awareness of the digital world and the role played by the internet in influencing change. This experience was particularly transformative for the Sahariya youth, many of whom had never before used video to express their views and challenges. From a research perspective, utilising participatory vidoe also provided unique insights into its effectiveness and the dynamics of initiating community-driven change.

Chapter Seven: Discussion

7.1 Introduction

In this chapter, I summarise the study's key findings and explore the methodological and practical implications of practice-oriented research conducted with the marginalised Sahariya community to improve access to safe water. I critically examine the PAR process, identify the challenges encountered, and offer recommendations for future policy and research.

The study is framed within critical theory, particularly through the lens of anti-oppressive practice. As a social worker, my approach is influenced by anti-oppressive practice which addresses systemic inequities and injustices. Using an anti-oppressive lens, and its principle of critical reflexivity, I focused on amplifying the voices of young Sahariya. This intersection of critical theory, anti-oppressive practice, and reflexivity is essential for understanding and challenging systemic oppression (Baines, 2017; Denzin et al., 2008; Lazard & McAvoy, 2017).

Spivak's (1988) seminal work "Can the Subaltern Speak?" highlighted the exclusion of marginalised voices, underscoring the responsibility of those with an agency to create spaces for these voices. My findings indicate that the Sahariya face exclusion and lack of agency, being treated as subalterns by the State and upper-caste communities. They aspire to change their lives by creating spaces for their voices and mobilising to build their water resources.

I positioned myself as an academic collaborator working with the Sahariya community to create a safe space and develop strategies for safe water access. Guided by the anti-oppressive approach and social work principles of social justice, human rights, self-determination, and social equity, I am deeply committed to advocating for water rights as fundamental to a dignified life.

PAR supports a practice-oriented study aimed at creating a space for Sahariya youth in rural Rajasthan, India, to develop strategies to improve access to safe water. The aim of this study was addressed with the following objectives:

1. To explore the views of the Sahariya youth regarding safe water access.

2. To explore the potential contribution of Sahariya youth to improve safe water access in the Sahariya community.
3. To explore the use of PAR to create a safe space for the Sahariya youth and building agency using participatory video

This research represents the completion of one action cycle within the PAR framework. Beginning with forming a collaborative team of Sahariya youth, they articulated their concerns and linked a chronic lack of safe drinking water to governmental neglect, ineffective policies, and social discrimination. They also developed strategic responses, including creating a short film (utilised as an artefact in this study). The following section delves deeper into the study process and key findings.

7.2 Discussion of Findings

In this section, I synthesise the findings from Chapters 4, 5, and 6. Chapter 4 highlighted the participatory video process and my practice. Chapter 5 focused on local water resources analysis and the narratives of Sahariya women and men regarding their access to water. Chapter 6 detailed the aspirations and strategies proposed by the Sahariya community to improve their water access. These findings were then compared with existing literature to discuss their broader implications.

7.2.1 Chapter 4: Commentary on Participatory Video Practice

In Chapter 4, I delved into a critical commentary on my practice-oriented FGDs and participatory video practice, divided into three key stages of production of participatory video and filmmaking: pre-production preparation, production, and post-production. During the pre-production preparation stage, I discovered that meticulous planning and securing necessary approvals and funding were crucial for the project's success. The selection of the research topic and method was driven by a passion for addressing water access issues in a participatory way, which underscored the importance of aligning research with personal motivations. This alignment helped maintain focus and dedication throughout the project. At pre-production

preparation I also recommend building strong relationships with stakeholders early in the project could facilitate smoother operations and more robust support networks.

The production stage revealed the effectiveness of using action-oriented focus groups and video production techniques within an anti-oppressive framework. This approach successfully fostered inclusivity and built the capacity of participants by prioritising their voices and experiences. Utilising an anti-oppressive approach and reflexivity framework was crucial in ensuring that the participatory video method was ethically sound and respectful of the community's agency. This methodology encouraged active participation and co-creation, which enriched the data collected and provided deeper insights into the community's perspectives. These findings were supported by Kindon et al. (2007), who advocated for participatory video as a tool for empowering marginalised communities and fostering democratic engagement. Implementing participatory video techniques required careful facilitation to balance power dynamics and ensure all voices were heard. I found training in these methods essential, or at least helpful, for researchers to effectively guide the process and support participants in articulating their stories, a point also noted by High et al. (2012) regarding the technical demands of participatory video projects. I completed my Bachelor's in Social Work (Hons) with a specialisation in rural development. During my placement, I used various participatory rural appraisal tools such as transect walk, timeline, Venn diagram, resource mapping, and village mapping. I received training in working with rural communities which I believe greatly helped me in working with the Sahariya community. Therefore, it is important for researchers to receive training to use PAR tools as not everyone gets exposure to working with the rural community and utilising PAR tools. Having some experience or training in engaging with the community is crucial.

The post-production stage highlighted the challenges of editing participatory video content while maintaining the authenticity of the participants' narratives. The final product needed to accurately reflect the community's experiences and insights into water access challenges. Editing participatory videos to make an advocacy film (one of the strategies proposed by participants, discussed later) involved ethical considerations about representation

and voice. I had to navigate the tension between creating a coherent narrative for audiences and preserving the authenticity of the participants' stories. This stage underscored the importance of reflexivity and ongoing dialogue with participants to ensure their perspectives were accurately represented. These challenges were discussed by Shaw (2012), who emphasised the ethical complexities of representing participant narratives in research outputs. Creating a safe and supportive environment for the participants during the post-production process was critical. It included transparent communication about how the footage would be used and providing opportunities for participants to review and provide feedback on the final product. Additionally, the technical aspects of video editing required significant time and expertise, emphasising the need for adequate resources and training, as highlighted by Mitchell et al. (2017) in their work on participatory video.

Overall, this chapter provided valuable insights into the complex process of using participatory video to explore water access challenges among a marginalised Sahariya community. It highlighted the importance of community engagement, ethical considerations, and the practicalities of video production. The critical commentary highlighted the necessity of adopting ethical and inclusive research methods that prioritised participants' voices and experiences. It also emphasised the value of reflexivity and adaptability throughout the research process. From a practical standpoint, the findings suggested that successful participatory video projects required comprehensive planning, adequate funding, and facilitation skills. Researchers must be prepared to invest time in building relationships, acquiring technical skills, navigating ethical dilemmas, and networking with influential stakeholders, NGOs, and policymakers to ensure the project's integrity and success. This chapter contributed to the broader academic discourse by situating the findings within the existing literature on participatory research methods and offering practical guidance for future projects.

7.2.2 Chapter 5: Water Resource Analysis and Narratives of Sahariya Women and Men on Access to Safe Water

The water resource analysis based on secondary data and information provided by the Sahariya community in the three study sites—Pathari, Chhipol, and Goyra villages—revealed

critical findings, notably the unfulfilled promises of the Jal Jeevan Mission (the national water supply programme), which aimed to provide tap connections to all rural households by 2024, leaving many still dependent on unreliable and contaminated natural water sources (Sheel et al., 2024). The community's remote or arid geographic locations exacerbate this scarcity and infrastructure challenges. Economic limitations further prevent meaningful investment in water systems, while governance gaps hinder effective policy implementation. Additionally, the impact of urbanisation, industrialisation, and climate change has reduced safe water availability. These findings underscore the need for a comprehensive approach to improve water access, incorporating infrastructure development, enhanced governance, community engagement, and climate adaptation strategies (Nelson et al., 2021).

Delving into the historical and governmental responses Sahariya community struggles revealed a troubling pattern of systemic neglect and tokenistic interventions. The colonial legacy of land dispossession and resource exploitation continues to echo, leaving communities like the Sahariya neglected and deprived. Despite well-meaning initiatives, such as housing policies and education, the persistent gaps in service delivery, infrastructure development, and access to basic amenities like water highlight the urgent need for substantive, rights-based approaches that prioritise the voices and agency of marginalised communities.

As I delved into the stories surrounding the struggles of Sahariya communities in accessing drinking water, I found myself feeling frustrated when facing uncomfortable truths about entrenched power dynamics, systemic discrimination, and caste discrimination. Despite legal frameworks aimed at eliminating untouchability, the lived experiences of schedule caste and schedule tribes groups in rural India reveal a stark reality of ongoing marginalisation and denial of fundamental rights. The denial of water resources by upper castes, rooted in outdated beliefs about purity and hierarchy, not only perpetuates social inequalities but also leads to violent confrontations that further marginalise already vulnerable communities (Dutta et al., 2018; Wahi, 2022).

The insights gained from studies by Bros and Couttenier (2010, 2015) highlight the harsh realities faced by schedule caste and schedule tribes, particularly women, who endure

verbal, physical, and sexual abuse during water collection. The report of the National Commission for Women (Irudayam et al., 2006) on violence against Dalit women reports the incidents of assaults, rape, and violence against women who draw water from water resources owned by the upper caste. The hesitancy to report such incidents, driven by mistrust in corrupt law enforcement systems, speaks volumes about the deep-seated barriers to justice and protection for marginalised communities. In these three studies and many others, the issue of caste discrimination and untouchability is highlighted. It is important to implement laws and policies that protect lower castes from such discrimination and to build better infrastructure to support marginalised women. Engaging directly with the narratives of Sahariya women, I was confronted with stories of discrimination, assault, and the pervasive fear that underscores their daily lives, prompting me to question societal norms and power structures.

Exploring the intersecting oppressions of caste and gender shed light on the layered complexities of Sahariya women's experiences. Their narratives vividly portrayed the insidious nature of discrimination embedded within caste, class, and gender hierarchies, exposing the harsh realities of economic exploitation, limited educational opportunities, and the burden of domestic responsibilities that disproportionately affect them (Dutta et al., 2018). The concept of Triple Dalit resonated deeply with Sahariya woman—being a woman, being a Dalit (scheduled tribe) woman, and suffering from economic deprivation or another social disadvantage; encapsulating the compounded challenges faced by Dalit women who navigate intersecting forms of discrimination and violence in their daily lives (Kharbe, 2021).

As I explored the experiences of Sahariya male youth, I found it essential to critically evaluate the broader societal frameworks that sustain cycles of disempowerment and societal fragmentation. The enduring impacts of displacement, the erosion of traditional knowledge, and persistent economic instability highlight the urgent need for comprehensive, community-driven strategies. These interventions should focus on cultural revitalisation, creating awareness, and promoting sustainable development to address the root causes and long-term effects of these challenges (Kathe et al., 2024; Tikam & Shukla, 2023).

To truly address the multifaceted challenges faced by the Sahariya, it is essential to prioritise the preservation and revitalisation of their cultural heritage while simultaneously fostering economic opportunities that can support them in overcoming poverty. Collaborative efforts involving local leaders, government bodies, and NGOs are crucial in creating sustainable solutions that empower the Sahariya people. By focusing on education, healthcare, and skill development tailored to their unique context, the aim is to dismantle the systemic barriers that have long hindered their progress. This holistic strategy aspires not only to uplift the Sahariya community but also to promote inclusivity and equity within the broader societal framework. Through these concerted efforts, there is a hope to build a more just and equitable society where the Sahariya can thrive and contribute to the rich tapestry of shared cultural heritage.

7.2.3 Chapter 6: Aspirations of Sahariya Youth

In Chapter 6, Sahariya youth's engagement in addressing water scarcity highlighted their nuanced understanding of local challenges and the potential for community-driven solutions. This initiative provided valuable insights into the application of participatory methods in water management, emphasising the critical role of community involvement in sustainable development practices. Their approach aligns with existing scholars (discussed below) on participatory development and offers practical examples that enrich academic discourse on the subject. Through this study, the practical implications and benefits of involving local communities in problem-solving processes are clearly demonstrated.

Community Mobilisation.

A primary finding from the study was the emphasis on community mobilisation as a crucial strategy for addressing water scarcity. Participants underscored the significance of engaging and uniting community members to tackle the issue of common water resources. Khasnabis et al., 2011 suggest that community mobilisation enhances the implementation of sustainable solutions by fostering a shared sense of responsibility and action. The participants recognised that mobilising the community requires consistent effort and engagement, leading to more sustainable and adaptive management of water resources.

However, Spivak (1988) posits that subaltern groups are often denied a voice in mainstream discourses, and even when provided a platform, their voices are mediated and frequently distorted by those in power. This perspective necessitates a deeper inquiry into how these strategies interface with broader political and economic systems and whether they can overcome entrenched institutional barriers. For example, Berkes (2004) and Cleaver (2001) discussed how community-based management often encounters challenges due to existing power dynamics and resource allocation issues, which can undermine collective action and limit the effectiveness of community mobilisation efforts. Mohapatra (2022) emphasised that without ongoing support and institutional backing, community mobilisation efforts can struggle to maintain momentum and achieve long-term goals. In the context of the Sahariya youth, questions remain about the longevity and impact of their efforts amidst such challenges.

Spivak's analysis elucidates why it is particularly arduous for subaltern groups, like the Sahariya youth, to raise their voices or mobilise effectively. They face structural barriers including entrenched social hierarchies, lack of access to resources, and systemic marginalisation. These barriers are not merely logistical but deeply rooted in historical and socio-economic inequalities. Studies by Hildyard et al. (2001) and Kumar (2002) highlighted that community mobilisation can sometimes be co-opted by powerful local actors, thereby reinforcing existing inequalities rather than challenging them. This underscores the need for continuous monitoring and adaptation to ensure that mobilisation efforts remain genuinely inclusive and representative of the entire community. Cooke and Kothari (2001) argued that participatory initiatives can unintentionally perpetuate existing power imbalances. Spivak's (1988) critique suggested that without addressing the underlying power structures, these efforts may fail to empower subaltern voices within the community genuinely.

Building Associations.

Another key finding was the importance of building associations. This strategy was seen as essential for strengthening community ties and facilitating collective action. Studies affirm that associations can serve as powerful mechanisms for resource management, enabling communities to leverage collective resources and knowledge (Mohapatra, 2022; Zavala-

Figueroa & Velázquez-Zapata, 2017). The Sahariya youth expressed that through these associations, they could increase community involvement and support, thereby enhancing the capacity to manage water scarcity effectively.

Yet, the sustainability and scalability of building associations must be scrutinised. Questions remain about how these strategies interact with larger political and economic systems and whether they can overcome deep-seated institutional obstacles. Cleaver (2001) and Mansuri and Rao (2013) highlighted that while local associations can be effective, they often struggle with issues of representation, accountability, and the ability to influence broader policy frameworks. Berkes (2004) pointed out that associations must navigate existing power structures which can be resistant to change and may co-opt local efforts for their own ends.

Moreover, Woolcock and Narayan (2000) emphasised the importance of external support for local organisations. Without adequate resources and capacity-building initiatives, these associations may struggle to achieve their goals. This is echoed by Pretty and Ward (2001), who explored that successful community associations often require sustained support from NGOs and government agencies to build capacity and maintain momentum. The Sahariya youth associations will need such support to navigate the complexities of local power dynamics and achieve lasting impact.

Additionally, Leonard (2002) discussed the importance of transparent governance structures within local associations to ensure accountability and prevent the consolidation of power by local leaders. The Sahariya youth must incorporate these governance principles to maintain the integrity and effectiveness of their associations. In the Indian context, Narayan (2002) highlighted how grassroots organisations in India have successfully addressed local issues through effective governance and community engagement, suggesting that similar strategies could benefit the Sahariya associations (Sanghthan). Rajasekhar (2021) further discussed the role of local NGOs in promoting sustainable development in India, emphasising the need for strong organisational structures and external support. Spivak's critique highlights the necessity for these associations to transcend mere representation. True empowerment involves enabling the subaltern to speak and be heard in ways that influence policy and practice.

This requires structural support and a fundamental shift in power dynamics that allows marginalised voices to shape outcomes genuinely.

Advocacy Through Participatory Video

The use of participatory video as an advocacy tool emerged as a significant strategy and finding in our FGD sessions. The Sahariya youth valued this method for its ability to document and communicate their experiences and solutions regarding water scarcity to a broader audience. Visual storytelling is compelling, raising awareness and fostering capacity building and self-representation among community members (Capila & Sachdev, 2010; Sitter, 2015). This method democratises knowledge creation and dissemination by empowering marginalised groups to produce media; thereby, giving participants a sense of agency and empowerment (Lunch & Lunch, 2006). The Sahariya youth's engagement with participatory video illustrated its potential to amplify their voices and highlight their issues.

However, it is crucial to critically evaluate the impact of participatory video. Raising awareness does not automatically lead to change due to complex bureaucracies and entrenched inequalities (Chambers & Cleaver, 1997; Cornwall, 2008). Participatory methods can sometimes be tokenistic, serving to legitimise external agendas rather than effecting real change. This critique is particularly relevant for participatory video, where content might appeal more to external audiences than address local needs. Distinguishing between symbolic and transformative participation is essential. Symbolic participation involves superficial engagement, while transformative participation ensures active community involvement in all research phases, leading to meaningful change (Cornwall, 2008).

The success of participatory video hinges on the content, quality, and the broader context in which it is used, including supportive networks and resources. In India, participatory video has addressed social issues and promoted local development (Singh et al., 2017), demonstrating its potential but also highlighting the need for careful planning to ensure sustained impact. Gubrium and Harper (2016) underscored the complexities of participatory visual methods. While powerful for advocacy and empowerment, they risk reinforcing existing power dynamics if not carefully managed. The framing and editing of participatory videos can

privilege certain narratives, skewing the representation of community issues. Reflexivity is crucial to ensure the process remains genuinely inclusive (White, 2003).

In brief, participatory video, often praised for its potential in advocacy and empowerment, necessitates a critical examination of its implementation and impact. Its effectiveness relies on the integration of resources and support from government bodies, NGOs, and other influential entities. Without this support, initiatives risk becoming tokenistic and superficial. A thorough understanding of the broader socio-political context is essential to ensure that participatory video promotes genuine, transformative participation rather than performative actions. This critical perspective is crucial for dismantling power imbalances and achieving meaningful, lasting change within marginalised communities.

7.3 Methodological and Practical Implications

7.3.1 Implications of PAR

PAR provides a profound framework for engaging directly with participants to elucidate social dynamics and catalyse change (Cornish et al., 2023). However, the implementation of PAR, as highlighted by my own practical experiences, stresses the intricate challenges of conducting research within contexts that are often constrained by resources and real-world complexities. These reflections have led to a deeper examination of the inherent methodological difficulties associated with PAR and underscore the need for robust strategies to navigate these issues effectively.

Navigating power and knowledge: A perennial challenge in PAR is the negotiation of power dynamics between researchers and community participants. While PAR espouses democratic values that advocate for equitable participation in the generation of knowledge, there frequently exists a disjunction where academic objectives might subtly predominate, potentially undermining the empowerment process. This tension between fostering equitable participation and adhering to rigorous academic standards recurs throughout the literature and has been pivotal in my reflective practice (Bergold & Thomas, 2012; Braye & McDonnell, 2013; Cooke & Kothari, 2001). My approach involved actively working to mitigate power imbalances by

integrating community members in research data collection (discussed in the following section), data analysis, and decision-making processes, ensuring that the research agenda authentically reflected their priorities and insights (Reason & Bradbury, 2008). This integration was critical in maintaining the democratic ethos of PAR and was supported by practical findings that highlighted the importance of community or participant involvement in enhancing the validity and impact of research (Kindon et al., 2007).

Fieldwork in a challenging environment: When I carried out fieldwork in remote and isolated areas with little to no infrastructure, it became necessary to employ a variety of data collection methods to communicate with participants effectively. My experience navigating challenging terrain and devising makeshift logistical solutions pointed out the importance of adaptability. However, conducting research and engaging with participants in such conditions was difficult, and there was always a risk of gathering data that did not accurately reflect the community's circumstances. To tackle this challenge, I involved participants in the data collection and analysis processes, utilising methods that they had agreed to and approved of by giving their oral and written permission (Stringer, 2013). This participatory approach significantly enhanced the comprehensiveness of the data collection process. Moreover, employing more than one method for data collection provided a more holistic understanding of the research context (Creswell & Clark, 2017).

Constraints of time and resources: The constraints of time and resources present formidable barriers. In the trajectory of my doctoral research, adherence to academic timelines frequently conflicted with the ideals of a comprehensive, thorough, participatory process. I left the field after a few months of fieldwork to return to New Zealand to fulfil my academic requirements. This tension is not unique to my experience. Still, it is broadly acknowledged within scholarly discourse and can lead to truncated participatory phases or partially implemented action plans, thereby compromising the depth and sustainability of interventions (De Oliveira, 2023). To overcome these constraints, researchers could consider being flexible with research timelines and actively seek additional funding to ensure a more thorough engagement process (Mackenzie et al., 2007). I was not in the field throughout my project,

although I continued to communicate with participants through phone calls to get feedback on the film.

Building Trust and Managing Relationships: Cultivating trust and establishing credible relationships within tribal communities are crucial yet fraught with challenges. My reliance on a fieldwork coordinator facilitated initial community entry but introduced a dependency that potentially influenced the authenticity of the connections I endeavoured to build. To sustain these relationships, I emphasise long-term engagement and ongoing interaction, even post-study, to reinforce trust and demonstrate sustained commitment. I was in touch with participants on the phone, which helped in getting feedback on the film and incorporating their ideas to improve the film (artefact). This practice aligned with findings from other PAR studies that underscored the importance of maintaining ongoing communication and engagement with communities to build trust and ensure the sustainability of research outcomes (Fals-Borda & Rahman, 1991; Wallerstein et al., 2020; Wallerstein & Duran, 2010).

Balancing roles and expectations: Effectively managing the expectations of community participants is crucial. There were instances where participants anticipated direct solutions or advice challenged the participatory ethos for collaboration of solutions (Horowitz et al., 2009). To circumvent these issues, I prioritised transparent communication about the goals and methodologies of PAR from the project's inception, setting the stage for a genuinely collaborative and empowering process. Participants understood the nature of the research and agreed to get involved in the project (Wallerstein & Duran, 2006).

Balancing academic goals with community interests: Reflecting on my PhD project, I often questioned whether it truly served the Sahariya community's interests or advanced my academic agenda. This tussle aligns with broader issues in participatory research, emphasising the need to ground research in community-specific opportunities and ensure genuine benefits (Ortiz et al., 2020). My goal was to amplify the voices of Sahariya youth regarding their access to safe water while being mindful of presenting their narratives to fit my outcomes. Authentic engagement with Sahariya youth required flexibility in the research process and methods, as well as maintaining research integrity. Genuine collaboration with community partners is

crucial in participatory research. I practised reflexivity and acknowledged my positionality to minimise its impact and authentically represent Sahariya youth's voices (Ortiz et al., 2020). This PhD project with Sahariya youth led me to balance my academic goals with community interests. By committing to reflexivity, authentic engagement, and community alignment, I aimed for meaningful and sustainable outcomes. The youth actively participated, discussed their challenges, and explored solutions. This engagement provided a safe space for them to voice their concerns about access to safe water, aligning with the project's core objectives.

Academic constraints and data interpretation: Navigating the academic environment entails adhering to frameworks for data interpretation that can sometimes feel restrictive or misaligned with community needs (Chilisa, 2019; Smith, 2012). My approach to reconciling the integrity of academic requirements with honouring Sahariya community perspectives involved the use of hybrid analytical frameworks that incorporate both scholarly theories and community insights, ensuring that the research outputs are both credible and contextually relevant. As discussed earlier, I utilised a participatory data analysis process to involve participants in the data analysis process (see Chapter 3). This process was helpful in shaping and representing their narratives.

The unique, context-specific nature of the project: Each setting is imbued with distinct socio-cultural, economic, and political dynamics that shape the research process and outcomes (Creswell & Miller, 2000). Insights derived from one context cannot be indiscriminately transplanted to another without meticulous consideration of these unique factors. Even if researchers are well-versed in PAR and PAR methods, challenges will be different and unique depending on the context. Therefore, there is no one fixed way of practising or resolving challenges. I advocate for the utilisation of PAR insights to inform broader theoretical frameworks and practices in a nuanced manner, acknowledging the specificity of each context while exploring their broader implications.

Through these strategies, I endeavoured to strengthen the application of PAR in this study, ensuring that it remained an effective instrument for the collaborative process. This reflection underscored the paramount importance of adaptability, reflexivity, and a steadfast

commitment to the principles of equity and inclusion in research practices. In the following section, I discuss the implications of participatory research methods in more detail.

7.3.2 Implication of Participatory Research Methods

In this research with the Sahariya youth, I integrated a multifaceted suite of participatory methods, including FGDs, transect walks, resource mapping, and participatory video. This ensemble of methods was designed to capture a comprehensive depiction of the Sahariya youth's experiences while ensuring the engagement of diverse perspectives and the meticulous collection of nuanced data.

FGDs were pivotal for facilitating collective discourse among the Sahariya youth, providing a platform where participants could articulate and critically evaluate communal concerns. These discussions created an environment that encouraged open communication and mutual understanding, essential for uncovering the nuances of the participants' experiences. FGDs proved particularly effective in eliciting shared perspectives and social dynamics that might have remained concealed in individual interviews. This method enriched the dataset with layered communal insights, capturing the complexity of the Sahariya youth's social interactions and collective viewpoints. The literature highlighted the effectiveness of FGDs in producing shared perspectives, noting that this method allows participants to build on each other's ideas, leading to a more comprehensive understanding of the issues at hand (Hennink, 2013; Kumer & Urbanc, 2019).

Transect walks augmented this dataset by enabling a kinetic exploration of the community's physical and cultural landscapes. During these walks, participants and I collaboratively identified and discussed significant locations and resources, offering direct, contextual insights that static methods might overlook. This method enhanced the spatial comprehension of the community's layout and underscored environmental and cultural contexts that shape the daily lives of the community (Chambers, 2004; Narayanasamy, 2009).

Concurrently, resource mapping involved participants in the visual documentation of their community's resources, promoting an interactive exploration of spatial and water resource-related dynamics (Narayanasamy, 2009). This method facilitated a hands-on representation of

local assets and vulnerabilities and provided a tangible overview of community assets and potential intervention points.

Participatory video complemented these methods by allowing youth to document their daily lives and struggles through a dynamic visual medium. This method built participants' capacity by placing the narrative documentation process tools in their hands, ideally fostering a sense of agency and ownership (Milne et al., 2012). Participatory video helped enable creative expression and bridged communication barriers, capturing the vibrancy of community life in ways that traditional research methods may fail to achieve. Using this method also leads to taking action on one of the strategies discussed above, making a film for advocacy and awareness use, which is also utilised as an artefact in this research.

Reflecting on my experience of the participatory video process and considering the broader academic discourse, it is evident that participatory videography offers significant potential to amplify marginalised voices (Dlugosz, 2024). However, this approach is not without its limitations and is highly dependent on numerous factors, including participant dynamics and the specific sociocultural context in which it is employed. During participatory video sessions with young Sahariya youth, I observed that this method facilitated a degree of self-determination by helping participants articulate their narratives and build a sense of agency by controlling their narratives. This underscores the critical importance of creating spaces where marginalised communities can freely express themselves. However, the impact of participatory video varies, and its effectiveness can be influenced by the specific context and demographics of the participants, highlighting the need for a cautious interpretation of its efficacy.

The observed enthusiasm and increased sense of inclusion among participants aligned with the assumptions that participatory methods can deepen engagement and lead to more meaningful outcomes. Nonetheless, it is crucial to assess these observations critically and not overstate participatory video's transformative capabilities without acknowledging its limitations and the nuanced contexts in which it operates (Loewenson et al., 2014).

The transitions observed during discussions, from identifying challenges to exploring broader aspirations and strategies, illustrate the utility of participatory video utility in

facilitating nuanced conversations by involving participants in creating videos, allowing them to express their experiences visually and narratively. It encouraged deeper reflection and storytelling. Participatory video effectively breaks down cultural and language barriers, conveying complex emotions and ideas more efficiently than words alone. Its interactive nature enhances participant engagement and investment in the research process. By combining visual and verbal elements, participatory video captures rich, contextual data, providing comprehensive insights and fostering meaningful discussions. While this is promising, it is essential to maintain a critical lens when evaluating participatory video's role within the broader framework of research goals (Milne, 2016; Shaw & Robertson, 1997).

Moreover, the process of creating an advocacy film as artefact, through participatory videography, was a vital aspect of this project. This collaborative filmmaking approach ensured that the participants were not merely subjects of the film but active co-creators. It involved training them in basic videography and storytelling, equipping them with applied skills, ideally fostering a sense of ownership in the final product. This skill development and narrative control is crucial as it helps shift the traditional researcher-subject dynamic towards a more egalitarian and participatory relationship, potentially leading to sustained engagement and advocacy beyond the life of the project (Sitter, 2012).

In brief, while participatory video showed promise in amplifying marginalised voices and facilitating participatory research, maintaining a balanced and critically reflexive perspective is necessary. According to Mistry et al. (2016), exploration and careful consideration of participatory video strengths and limitations across different contexts is essential to effectively harness its potential without overclaiming its benefits. Moreover, the need for a more nuanced, context-aware, and critically engaged application of participatory video in social research is highlighted, especially given its potential to inadvertently perpetuate existing power structures if it does not sufficiently challenge the socioeconomic conditions underpinning marginalisation (Loewenson et al., 2014)

The film's creation also aligns with my commitment to practice-oriented research (Format 3), bridging the gap between theory and practical application. Crafted through a

collaborative process, the film ensured the voices and perspectives of Sahariya community members were at the forefront, enhancing authenticity and building participants' agency by giving them control over their narrative.

The advocacy film serves as a visual and emotional narrative that conveys the urgency and importance of addressing water access issues in the Sahariya community. With considered approach and further consultation on dissemination, such as screenings, uploading on online platforms, and collaboration with NGOs and advocacy groups, this film aims to reach a wider audience, including policymakers, NGOs, and the general public, amplifying the research's impact and advocating for tangible change.

This practice-oriented research offers a tangible and impactful means of disseminating findings to a broad audience, enhancing the potential for real-world change. I hope the dissemination of the film as an advocacy tool will demonstrate the value of incorporating creative and participatory methods into academic research, making it accessible and relevant to both academic and non-academic stakeholders.

To sum up, the integration of these diverse methods necessitated meticulous management of power dynamics to ensure that no single method or group of participants dominated the research narrative. This balanced approach helped mitigate potential power imbalances and supported inclusive participation, allowing for comprehensive engagement across different participant groups. Different scholars have also discussed the idea of a balanced approach (Kindon et al., 2007). In addition, the various research methods used in the study required a great deal of flexibility in the research process. It was crucial to be open and responsive to the insights that arose from these interactive methods. This meant making necessary adjustments, such as modifying FGDs based on themes identified during transect walks or expanding resource mapping to gain a better understanding of the village's water resources.

Synthesising data from FGDs, transect walks, resource mapping, and participatory video into a coherent analytical framework can be challenging. This process required an intricate approach that respected the richness and integrity of the collected data, ensuring that

the data analysis was both comprehensive and insightful. These methods also encouraged participants to reflect and analyse data. Participatory data analysis can only be possible by using feasible participatory methods (Biggs et al., 2021; De Vos et al., 2021; Minkler, 2005). By integrating local insights and promoting collective ownership, participatory data analysis can deepen the understanding of community issues and potentially strengthen the impact and sustainability of the resulting intervention strategies (Cargo & Mercer, 2008).

By utilising a balanced array of participatory methods, my research with Sahariya youth diversified the types of data collected and deepened participant engagement in the reflection and analysis of data. This methodological approach ensured a richer, more inclusive, and contextually sensitive collection and analysis of information. It was instrumental in accurately understanding and effectively addressing the complexities of their lives and community interactions. There are other PAR methods, such as the Venn diagram, social mapping, drama and role-playing, timeline or historical analysis, and problem tree analysis, which can be utilised by researchers to collect participatory data depending on the research aim and whether those methods generate the required data (Chambers, 1994; Kindon et al., 2007)

7.4 Recommendations

This study highlights severe discrimination and neglect faced by the Sahariya community, impacting their access to safe water. It is recommended that the government implement inclusive policy changes and promote truly participatory methods that actively involve marginalised groups in decision-making. Empowering the Sahariya community to engage in local government structures is essential for the successful implementation of water schemes, like the Jal Jivan mission, which aim to provide tap water to every rural household in India by 2024. However, it has not been achieved in their villages (Ministry of Jal Shakti/Department of Drinking Water and Sanitation, 2024).

Addressing the nuanced challenges the Sahariya youth community faces is crucial to ensuring their effective contribution to creating safe water resources in rural India. Participatory projects, while resource-intensive, may not always align with the community's needs and can

sometimes reinforce existing power structures thereby marginalising the very groups they aim to empower (Cooke & Kothari, 2001; Cornwall, 2008). The study found that Sahariya youth felt included and heard during the video-making process. These efforts must be designed with a deep understanding of the community's specific needs and dynamics to ensure meaningful and inclusive participation. In brief, participatory methods must be critically examined and adapted to address the specific challenges of vulnerable tribe groups like the Sahariya.

7.4.1 Recommendations for Policymakers

India is facing a number of water-related challenges including poor water quality, limited access to clean and safe drinking water, and excessive groundwater extraction. These problems are particularly severe in rural areas, and tribal communities are disproportionately affected. Policymakers need to pay more attention to improving water policy in India to ensure that everyone has fair and equal access to water. This section provides recommendations for improving water policies and practices in rural areas, especially those with tribal communities.

Water policy in India has been inadequate for too long, resulting in millions of people lacking access to clean and safe water, particularly in rural areas. Despite the government's efforts, tribal populations have significantly lower access to water compared to other parts of the country (Chaudhuri & Roy, 2017). To improve this situation both central and state governments need to take several measures. Better data collection can help policymakers understand the current water supply and access deficiencies. Improved infrastructure, such as pipelines, stronger storage units, and more water harvesting structures, would ensure that water is preserved and easily available. Providing financial incentives can encourage local communities to invest in improving their quality of life by accessing safe drinking water.

India needs to protect rural drinking water availability and quality, and conserve groundwater resources by adopting sustainable resource management practices. Planning and implementing water schemes involving local governance structures and communities is crucial to achieving desired goals. Decentralisation of governance and community participation are the keys to creating sustainable, safe drinking water resources. For instance, the NGO, Tarun Bharat Sangh, worked with community leaders in Rajasthan to create efficient water resources and self-

sufficient communities. This example shows that local community-level organisations and people can create their own water resources.

Strengthening and enforcing anti-discrimination laws is essential to ensure that the Sahariya people have equal access to public water sources. Caste-based discrimination remains a significant barrier to their ability to utilise essential resources, impacting their health, livelihoods and overall quality of life. By robustly implementing laws that prohibit such discriminatory practices, the government can help dismantle the systemic inequalities that hinder the Sahariya community. Moreover, clearly defining and protecting the water rights of the Sahariya is crucial. Legal entitlements to access and use water resources would empower this marginalised group, ensuring they are not deprived of this fundamental necessity. This legal protection would also provide a framework for addressing violations and holding offenders. In short, it is crucial to develop infrastructure, such as water harvesting structures, to increase the availability of water, provide capacity-building programmes to enhance participation in marginalised communities such as Sahariya and implement water supply policies and anti-discrimination laws to improve access to safe water.

The Jal Jeevan Mission Scheme is a flagship program of the Indian government aimed at providing piped water supply to all households in the country by 2024 (Ministry of Jal Shakti/Department of Drinking Water and Sanitation, 2024). Its objective is to ensure access to clean and safe water for everyone, including those residing in tribal villages. However, implementing the scheme in these villages has been slow and inadequate due to several challenges including lack of infrastructure in remote areas, making it challenging to lay pipelines and install water supply systems. Another challenge is the lack of participation from local communities who are unaware of the benefits of the scheme. Therefore, awareness and capacity-building programmes need to be initiated at the local governance level to increase tribes' participation in deciding on the allocation and implementation of water schemes in their villages (Ministry of Jal Shakti/Department of Drinking Water and Sanitation, 2024; Singh & Singh, 2023).

It is crucial to include the Sahariya community and not exclude them from the scheme. Studies show that Sahariya youth are competent in managing their resources and are open to using digital media to share their stories and advocate for their community. Connecting with communities and hearing their voices and stories is easy in this digital world. The success stories of the scheme in states like Goa achieved 100% household tap water coverage in rural areas, with Village Water and Sanitation Committees playing a crucial role. Telangana state achieved 97.8% coverage. In Telangana, over 11,000 'Water Committees' manage village water supply systems, with women-led groups promoting water conservation. These community-led initiatives have improved the implementation of the Jal Jeevan Mission, fostering ownership, better maintenance, and sustainability of water supply systems (Ministry of Jal Shakti/Department of Drinking Water and Sanitation, 2024).

The sustainability of the water supply scheme is also a challenge. Jal Jeevan Mission aims to provide 55 litres per capita per day, which equates to 275 litres for the average household for drinking, bathing, washing, and such. The government needs to allocate appropriate funding for the maintenance and repair of pipelines, as often local panchayats do not have the means or knowledge necessary to fix broken pipes or pay for expensive repairs. It is also essential to encourage traditional water harvesting methods to maintain the surface and groundwater level to avoid a shortage of water supply for piped water. The reuse or recycling of water is not part of the Jal Jeevan Mission scheme but needs to be addressed through the Swachh Bharat Mission funding for greywater management (Balamurugan et al., 2024; Gupta & Gupta, 2020; Singh & Singh, 2023).

The Jal Jeevan Mission scheme is a significant step towards ensuring access to clean and safe water for all, including those living in tribal villages. However, several challenges need to be addressed to ensure the scheme's success. The government needs to allocate appropriate funding and encourage traditional water harvesting methods to maintain the surface and groundwater levels (Balamurugan et al., 2024; Singh & Singh, 2023). Including the Sahariya community and raising awareness among them is essential in promoting the scheme's success.

To achieve sustainable water management in India's tribal villages, a holistic approach involving various stakeholders, such as environmental science experts, local communities, NGOs, and the government, is necessary. Collaborative efforts can ensure that every person in India enjoys the fundamental human right to access safe water (Tikam & Shukla, 2023).

7.4.2 Recommendations to Bring Changes to Land and Forest Policies

It is imperative that the constitutional and legal framework pertaining to the right to water in India is given immediate attention. As per the research conducted by Wahi in 2012, Indigenous people's entitlement to water is closely intertwined with their right to land and forest, which are regarded as an indivisible ecosystem. The present policies and large-scale projects that have been implemented are putting undue pressure on their land and driving them away from the forest, which could lead to severe crises and limited access to water. It is crucial for the government to take necessary measures to protect the right to land and forest of India's tribal population, as only then can they ensure the safeguarding of their right to water. The exploitation of the forest, land, and water has worsened the situation of the Sahariya community, compounded by discrimination and caste. Consequently, it is imperative to have laws in place to safeguard their rights and dignity, including access to a safe drinking water system (Kabra, 2009; Kalagnanam, 2012).

7.4.3 Recommendation for Future Research

To ensure safe access to water for the Sahariya community, future research must explore several key areas. First, it is essential to investigate the extent and nature of the Sahariya community's participation in water management schemes, identifying barriers to their involvement and strategies to enhance their engagement. Examining the government's role in facilitating inclusive spaces for the Sahariya to participate in decision-making is also crucial. It includes evaluating existing policies and programmes to ensure their needs are adequately represented. Collaborative approaches, such as participatory methods, should be studied for their effectiveness in building local capacity and resilience, with a focus on tailoring these methods to the specific cultural and social contexts of the Sahariya.

Furthermore, research should delve into the socio-economic factors affecting the Sahariya community's access to water, such as poverty and land ownership. Understanding how these factors influence water access can help in developing comprehensive strategies to address the issue.

Another crucial area of study is the impact of climate change on water resources in the regions inhabited by the Sahariya community. Investigating the effects of changing weather patterns, droughts, and other climate-related phenomena on water availability can provide insights into long-term solutions for sustainable water management. Additionally, research should investigate how the participatory approach can influence self-perception and the development of agency within the community, exploring its potential to enhance collective awareness and strengthen capabilities.

The role of gender dynamics in water access and management within the Sahariya community also demands attention. Understanding how gender roles and relations impact water-related decision-making and access can lead to more equitable and effective interventions. Caste discrimination against the Sahariya community in accessing water and water resources is another issue that needs urgent attention from social scientists. Moreover, examining traditional knowledge and practices related to water conservation and management in the Sahariya community can offer valuable insights into sustainable practices that can be integrated with modern approaches. Future research can significantly contribute to improving water access and management for the Sahariya community and other marginalised indigenous groups in rural India by addressing these research questions and implementing the proposed project.

7.5 Concluding Remarks

In this chapter, I have provided a comprehensive summary of the critical findings and practical implications of my research on enhancing access to safe water for the Sahariya community. This chapter served as the culmination of my study, where I delved deeply into the intricacies of the research methodology, outlined the theoretical frameworks employed, and

evaluated the effectiveness of various participatory approaches, including the creation of a film as an artefact of this study.

First and foremost, I detailed how the application of critical theory and anti-oppressive practice formed the backbone of my research methodology. These frameworks were essential in addressing the systemic inequities and injustices that the Sahariya community faces daily. Critical theory enabled me to scrutinise power structures and social constructs that perpetuate marginalisation. At the same time, anti-oppressive practice ensured that the research process was inclusive, respectful, and aimed at dismantling oppressive systems. This methodological approach was not merely academic; it was a deliberate and necessary stance to foster social justice and equity.

The principle of critical reflexivity guided this research from inception to conclusion. Critical reflexivity required me to continually reflect on my own positionality, biases, and the power dynamics at play throughout the research process. By acknowledging my own role and potential influence on the research, I aimed to mitigate any unintended biases and ensure that the voices of the Sahariya community were authentically represented. This ongoing self-reflection was crucial in maintaining the integrity and ethical foundation of the research, ensuring that it remained true to its anti-oppressive goals.

I presented a thorough evaluation of the effectiveness of PAR in creating a safe space for Sahariya youth to discuss strategies to improve access to water. The PAR approach was pivotal to my research, as it actively involved the youth in developing strategies to improve access to safe water. Through PAR, the youth participants became active agents of research, contributing their insights, experiences, and solutions. This approach enhanced the relevance and impact of the research outcomes and fostered a sense of ownership among the participants. The process demonstrated that when marginalised groups are provided with the tools and opportunities to voice their needs and ideas, they can effectively build strategies to drive meaningful change.

In synthesising and analysing the key findings of the study, I explored the potential of participatory videography in amplifying the voices of marginalised communities. Participatory

videography emerged as a powerful tool in my research, enabling the Sahariya people to document and share their stories in their own words and images. By presenting their lived realities through their own lens, participatory videography facilitated a more authentic and impactful representation of the community's struggles and aspirations.

A significant aspect of the research involved creating an artefact, a film, as an outcome of a participatory video, which played a pivotal role in the project. The artefact included visual and tangible representations of the community's experiences and challenges regarding water access. This artefact was a dynamic tool that facilitated dialogue and reflection among the participants and community. It provided concrete means for the Sahariya people to express their realities. The advocacy film can be a powerful medium for raising awareness and mobilising support. It served as a visual and emotional narrative that conveyed the urgency and importance of addressing water access issues in the Sahariya community. The film was crafted through a collaborative process, ensuring that the voices and perspectives of the community members were at the forefront. This approach both ensured authenticity and created an opportunity for the Sahariya community to control their narrative. The advocacy film can be instrumental in reaching a wider audience, including policymakers, NGOs, and the general public; thus, amplifying the impact of the research and advocating for tangible change.

However, I also acknowledge the contextual intricacies and potential limitations associated with implementing participatory action research, particularly participatory videography. Despite its transformative potential, this method is not without challenges. Issues such as representation, power dynamics, and the sustainability of its impact are critical considerations. For instance, the process of videography itself can inadvertently reproduce power imbalances if not carefully managed. Moreover, the long-term impact of these participatory projects depends on continued community engagement and support, which can be challenging to sustain. By identifying and addressing these complexities, I offer a comprehensive and nuanced perspective on the impact of participatory videography, highlighting its strengths and limitations within the context of my research.

Based on the findings, several key recommendations were proposed. Strengthen the enforcement of anti-discrimination laws. Define and legally protect the water rights of marginalised communities like the Sahariya. Empower the Sahariya through education, awareness programmes, and community-led advocacy. Invest in infrastructure to improve water access, involve marginalised communities in policymaking, and build local authorities' capacity to manage resources equitably. Continuous research and data collection are essential to monitor policy effectiveness and make necessary adjustments.

The integration of critical theory, anti-oppressive practice, and participatory methodologies, along with the creation of an artefact as an advocacy film, has enriched the research and provided actionable insights and strategies for fostering social equity. This study underscores the importance of inclusive and participatory approaches in creating safe spaces for suppressed and unheard voices and building the capacity of marginalised communities, like Sahariya, to improve access to safe water and protect their fundamental right to water and life.

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Glossary

Term	Definition
AOP	Anti-oppressive practice – recognises and aims to counteract the effects of oppression in all its forms.
Ground Water	Water located beneath the earth's surface in soil pore spaces and rock formation fractures is often used as a source for wells and springs.
Improved Water	Water sources that have been improved by human intervention, such as piped water, boreholes, or protected wells, to ensure better protection from outside contamination.
JJM	Jal Jeevan Mission – an initiative by the Government of India aimed at providing safe and adequate drinking water through individual household tap connections by 2024 to all rural households.
PAR	Participatory action research – an approach to research in communities that emphasises participation and action, seeking to understand and improve the world by changing it.
PV	Participatory video – a method in which a group or community creates their own video to document an issue or tell their story, often used as a tool for advocacy and empowerment.
PVTG	Particularly vulnerable tribal group – a classification created by the Government of India to address the most marginalised and vulnerable tribes in the country.
Safe Water	Water that is free from contaminants and safe for drinking, cooking, and personal hygiene.
ST	Schedule Tribes are indigenous communities identified by the Indian Constitution as socially and economically disadvantaged and eligible for specific government support and protections.
Surface Water	Water that collects on the surface of the ground including rivers, lakes, reservoirs, and oceans, as opposed to groundwater.
UNDP	United Nations Development Programme – the UN global development network, advocating for change and connecting countries to knowledge, experience, and resources to help people build a better life.
UNESCO	United Nations Educational, Scientific and Cultural Organisation – a specialised agency of the UN aimed at promoting world peace and security through international cooperation in education, the sciences, and culture.

Term	Definition
UNICEF	United Nations International Children's Emergency Fund – the agency responsible for providing humanitarian and developmental aid to children worldwide.
Unimproved Water	Water sources that are not protected from outside contamination such as unprotected wells, rivers, or ponds.
WHO	World Health Organization – a specialised agency of the UN responsible for international public health.
Water Aid	An international non-governmental organisation focused on water, sanitation, and hygiene (WASH) initiatives.

Appendices

Appendix A: Ethics Approval

AUTEC Secretariat

Auckland University of Technology
D-88, WU406 Level 4 WU Building City Campus
T: +64 9 921 9999 ext. 8316
E: ethics@aut.ac.nz
www.aut.ac.nz/researchethics

18 July 2017

Cath Conn
Faculty of Health and Environmental Sciences

Dear Cath

Re Ethics Application: **17/235 Creating a space for youth social entrepreneurship to improve access to safe water for indigenous Sahariya, in northern India**

Thank you for providing evidence as requested, which satisfies the points raised by a subcommittee of the Auckland University of Technology Ethics Committee (AUTEC).

Your ethics application has been approved for three years until 18 July 2020.

Standard Conditions of Approval

1. A progress report is due annually on the anniversary of the approval date, using form EA2, which is available online through http://www.aut.ac.nz/researchethics.
2. A final report is due at the expiration of the approval period, or, upon completion of project, using form EA3, which is available online through http://www.aut.ac.nz/researchethics.
3. Any amendments to the project must be approved by AUTEC prior to being implemented. Amendments can be requested using the EA2 form: http://www.aut.ac.nz/researchethics.
4. Any serious or unexpected adverse events must be reported to AUTEC Secretariat as a matter of priority.
5. Any unforeseen events that might affect continued ethical acceptability of the project should also be reported to the AUTEC Secretariat as a matter of priority.

Please quote the application number and title on all future correspondence related to this project.

AUTEC grants ethical approval only. If you require management approval for access for your research from another institution or organisation then you are responsible for obtaining it. If the research is undertaken outside New Zealand, you need to meet all locality legal and ethical obligations and requirements. You are reminded that it is your responsibility to ensure that the spelling and grammar of documents being provided to participants or external organisations is of a high standard.

For any enquiries, please contact ethics@aut.ac.nz

Yours sincerely,

Kate O'Connor
Executive Manager
Auckland University of Technology Ethics Committee

Cc: renusisodia@gmail.com; Nadia Charania

Appendix B: Information Sheet

Appendix D1

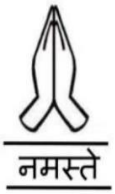
AUT
TE WĀNANGA ARONUI O TĀMAKI MAKAU RAU

Participant Information Sheet

Date Information Sheet Produced:

Project Title: Creating a space for youth social entrepreneurship to improve access to safe water for indigenous Sahariya, in northern India

An Invitation



Hello, my name is Renu Sisodia. I grew up in Jaipur city of Rajasthan. I did my schooling in Jaipur. For higher studies I went to Tata Institute of Social Sciences, Mumbai. My father is environmentalist he works on rain water harvesting in rural Rajasthan. I also worked with his organisation in Alwar district of Rajasthan. I am inspired by his work. I know that water scarcity is a major problem in rural Rajasthan especially for indigenous communities. I am currently a PhD student at Auckland University of Technology in New Zealand. I would like to invite you to participate in my research on developing "Creating a space for social entrepreneurship to improve access to safe water for indigenous Sahariya". This research seeks your views about the strategies of indigenous Sahariya community on ways of improving safe water access and contribution of social entrepreneurship to safe water access. This research is to fulfil the requirement of my PhD study. I am the main researcher of this project. Other members of the project are my supervisors: Dr Cath Conn and Dr Nadia Charania. Although your participation in this research may not benefit you personally, result of this research will be useful to the community to improve access to safe water for Sahariya. Your participation in this research is voluntary.

What is the purpose of this research?

This research aims to create a space for social entrepreneurship to improve access to safe water among the marginalised indigenous Sahariya in Rajasthan state of northern India. Despite the importance of safe water for health-related, economic and social reasons, the indigenous scheduled tribes of India— an example of which is the Sahariya —face deprivation and discrimination with regard to accessing safe water. This research will extend knowledge of the role of social enterprises initiated by indigenous communities to improve access to safe water in India. The study aims to provide a space and an opportunity for local entrepreneurs from the Sahariya community to share their innovative ideas, expert knowledge and experiences through a participatory action research approach. An artefact, such as a pilot enterprise, short film expressing the self-mobilisation of the community, will emerge to contribute to improved access to safe water for the Sahariya.

Cont.

How was I identified and why am I being invited to participate in this research?

Youth community members who are willing to participate and share their innovative ideas, expert knowledge and experiences to contribute to improved access to safe water for the Sahariya. Selected participants will be co-researchers in this research. For this research, youth between 18-29 years will be considered as eligible candidate to give consent and become co-researcher (participants). Participant who do not meet the criteria will not be included. If you are chosen, you will be given the choice to ask more questions about the research. You have 2 weeks to say yes to taking part in the study, a consent form will be provided to you to read, sign and return to the researchers. If there are more youth volunteering to participants than required for the study, participants will be selected on a sequential basis (first in, first served)

How do I agree to participate in this research?

Once you have said yes to taking part in the study, a consent form will be provided to you to read, sign and return to the researchers. If there are more youth volunteering to participants than required for the study, participants will be selected on a sequential basis (first in, first served). Your participation in this research is voluntary (it is your choice) and whether or not you choose to participate will neither advantage nor disadvantage you. You are able to withdraw from the study at any time. If you choose to withdraw from the study, then you will be offered the choice between having any data that is identifiable as belonging to you removed or allowing it to continue to be used. However, once the findings have been produced, removal of your data may not be possible.

What will happen in this research?

After the selection process participants will become a member of participatory focus group discussion (FGD) in which co-researchers use a variety of tools to generate knowledge and co-create an artefact. One possible tool for the study is use of participatory video. It is a tool that is relatively easy, engaging and fun to use. Also, as a tool in social entrepreneurship having visual representations of ideas and actions in the form of film or blog. You will be part of 6-8 FGD in which group will discuss and co-create an artefact. Material created by the videos/photographic sessions is deemed to be owned by the participants however researcher can use photos/ videos for academic purposes. If researcher uses photos/ videos for any other purpose she has to obtain a written permission from participants.

Whom do I contact for further information about this research?

Researcher Contact Details:

Renu Sisodia, 918890494636, renusisoida@gmail.com,

Project Supervisor Contact Details:

Dr Cath Conn, cath.conn@aut.ac.nz

Approved by the Auckland University of Technology Ethics Committee on

AUTEC Reference number.

Appendix C: Consent Form

APPENDIX E

Consent and Release Form

Project title: Creating a space for youth social entrepreneurship to improve access to safe water for indigenous Sahariya, in northern India.

Project Supervisor: *Dr. Cath Conn, Dr. Nadia Charania*

Researcher: *Renu Sisodia*

1. I have read and understood the information provided about this research project in the Information Sheet dated.
2. I have had an opportunity to ask questions and to have them answered.
3. I understand that identity of my fellow participants and our discussions in the focus group is confidential to the group and I agree to keep this information confidential.
4. I understand that notes will be taken during the focus group and that it will also be audio-taped and transcribed.
5. I understand that taking part in this study is voluntary (my choice) and that I may withdraw from the study at any time without being disadvantaged in any way.
6. I understand that if I withdraw from the study then, while it may not be possible to destroy all records of the focus group discussion of which I was part, I will be offered the choice between having any data that is identifiable as belonging to me removed or allowing it to continue to be used. However, once the findings have been produced, removal of my data may not be possible
7. I understand that the photographs / videos will be used for academic purposes only and will not be published in any form outside of this project without my written permission.
8. I understand that any copyright material created by the videos/photographic sessions is deemed to be owned by the participants but researcher can use photos/ videos for academic purposes.
9. I agree to take part in this research.
10. I wish to receive a summary of the research findings (please tick one): Yes○ No○

Participant signature: .....

Participant name: .....

Participant's Contact Details (if appropriate):

.....

.....

.....

.....

Date:

Approved by the Auckland University of Technology Ethics Committee on approval was granted AUTEC Reference number

Note: The Participant should retain a copy of this form.

Consent form (Hindi)

APPENDIX E

AUT
TE WĀNANGA ARONUI O TĀMAKI MAKAU RAU

सहमति पत्र

फ़ोकस समूह शामिल होने पर उपयोग के लिए।

परियोजना का शीर्षक: **उत्तरी भारत में युवा आदिवासी सहरिया के लिए सुरक्षित पानी में सुधार लाने के लिए सामाजिक उद्यमिता के लिए जगह बनाना**

प्रोजेक्ट सुपरवाइजर: डॉ कैथ कॉन, डॉ नादिया चरनिया

शोधकर्ता: रेणु सिसोदिया

1. मैंने इस शोध परियोजना के बारे में प्रदान की गई जानकारी को पढ़ और समझ लिया है।
2. मेरे पास प्रश्न पूछने और उन्हें उत्तर देने का अवसर है।
3. मैं समझता हूं कि मेरे साथी प्रतिभागियों की पहचान और फ़ोकस समूह में हमारी चर्चा समूह के लिए गोपनीय है और मैं इस जानकारी को गोपनीय रखने के लिए सहमत हूं।
4. मैं समझता हूं कि फोकस समूह के दौरान फ़ील्ड नोट्स रिकॉर्ड किए जाएंगे और यह ऑडियो-टेप और ट्रांसक्रिप्टेड होगा।
5. मैं समझता हूं कि इस अध्ययन में भाग लेना स्वैच्छिक (मेरी पसंद) है और मैं किसी भी समय वंचित किए बिना किसी भी समय अध्ययन से बाहर जा सकता हूं।
6. मैं समझता हूं कि यदि मैं अध्ययन से बाहर जाता हूं, फोकस ग्रुप की चर्चा के सभी अभिलेखों को नष्ट करना संभव नहीं हो सकता है, जिसकी मैं हिस्सा था, मुझे मेरा डेटा जो मेरी पहचान से संबंधित है, निकालने या उपयोग करने के लिए मुझे विकल्प दिया जाएगा। हालांकि, निष्कर्ष के बाद, मेरे डेटा को हटाने संभव नहीं हो सकता है हालांकि, एक बार निष्कर्ष का उत्पादन किया गया है, मेरे डेटा को हटाने संभव नहीं हो सकता है
7. मैं समझता हूं कि फोटोग्राफ केवल शैक्षणिक प्रयोजनों के लिए उपयोग किए जाएंगे और इस लिखित अनुमति के बिना इस प्रोजेक्ट के बाहर किसी भी रूप में प्रकाशित नहीं किया जाएगा।
8. मैं समझता / समझती हूं कि वीडियो / फोटो सत्रों द्वारा बनाई गई कोई भी कॉपीराइट सामग्री प्रतिभागियों के स्वामित्व में है लेकिन शोधकर्ता अकादमिक उद्देश्यों के लिए फोटो / वीडियो का उपयोग कर सकते हैं।
9. मैं इस शोध में भाग लेने के लिए सहमत हूं।
10. मैं शोध निष्कर्षों का एक सारांश प्राप्त करना चाहता हूं (कृपया एक पर टिक करें): हाँ या ना

प्रतिभागी के हस्ताक्षर: ....

प्रतिभागी का नाम: ....

प्रतिभागी के संपर्क विवरण (यदि उपयुक्त हो):

....

....

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तारीख:

ऑकलैंड विश्वविद्यालय की प्रौद्योगिकी आचार समिति द्वारा .....स्वीकृति दी गई है

AUTEC संदर्भ संख्या लिखें

Appendix D: Research Questions Guide

Appendix G

Focus group questions

The focus group discussions (FGDs) will follow a semi-structured format in which some central questions will be asked and will also allow for flexibility for the participants to discuss what they feel is most important regarding the topic at hand. As this research is designed using a Participatory Action Research (PAR) methodology, some indicative questions are included below but these are subject to change slightly depending on input from involved community members and co-researchers.

Indicative questions for focus group discussions

1. What are your thoughts on the availability and access to safe water in your village?
2. What factors influence access to safe water in your village?
3. What is the current source of water for your household or community?
4. How far do you have to travel to access water for drinking, cooking, and other domestic uses?
5. Can you describe the quality of the water available in your village? Are there any concerns about its safety or cleanliness?
6. Have there been any instances of waterborne diseases in your community? If so, how often do they occur?
7. Are there any existing water infrastructure projects or initiatives in your village? If yes, how effective have they been in improving water access and quality?
8. What are the major challenges or barriers to accessing safe water in your village?
9. How do seasonal changes, such as droughts or heavy rainfall, affect water availability and quality in your area?
10. Are there any cultural or traditional practices related to water use in your community? How do these practices impact water access and sanitation?
11. What role do local authorities or government agencies play in addressing water-related issues in your village?
12. Are there any community-led initiatives or organizations working to improve access to safe water? If so, what are their main activities and achievements?
13. How do you think access to safe water could be improved in your village? What strategies or solutions would you recommend?
14. Are there any specific technologies or innovations that could help enhance water access and quality in your community?
15. What are your thoughts on the current water sources and management practices in your village?
16. What are the current challenges with accessing safe water in your village?
17. What could be strategies to improve access to safe water in your village?
18. What are your thoughts about creating a group to discuss strategies to improve access to safe water?