Centre for International Health

Applying a participatory action research model to assess and address community health concerns among tribal communities in Gujarat, Western India: the potential and challenges of participatory approaches

Clancy Read

This thesis is presented for the Degree of
Doctor of Philosophy
of
Curtin University of Technology

May 2012

Declaration

To the best of my knowledge and belief this thesis contains no material previously published by any other person except where due acknowledgment has been made. This thesis contains no material which has been accepted for the award of any other degree or diploma in any university.

Clancy Read

Signature:

Date: ………10/05/2012……………….

Copyright Statement

I warrant that I have obtained, where necessary, permission from the copyright owners to use any third-party copyright material reproduced in the thesis (e.g. questionnaires, artwork, unpublished letters), or to use any of my own published work (e.g. journal articles) in which the copyright is held by another party (e.g. publisher, co-author)

Clancy Read

Signature:

Date: ………10/05/2012……………….

Abstract

Scheduled Tribes are a highly marginalised minority population in India as a result of discrimination and oppression of the historic caste system that still exists post-independence. Poverty is endemic amongst the tribal population along with poor health indicators disparate to those of the broader population. It is within this challenging environment of layered disparity (geographical, socio-cultural, gendered and socio-economical) in addition to tribalism, casteism and conflict with government and corporate structures, that this international collaborative research study was undertaken. Using a multi-stage approach, the objective of this study was to explore community perceptions of health issues in five rural, tribal villages in Gujarat, Western India and transform community knowledge into action. A modified framework of the widely used applied research methodology, participatory action research (PAR) was used for this study.

Stage 1 generated knowledge of community health problems by applying rapid participatory appraisal (RPA). Based on the knowledge and perceptions of the local community, and using the RPA information pyramid as a framework, data was collected from each village in 2009, using a combination of semi structured interviews with community key informants, direct observation through community visits, focus group interviews and review of existing records. In total, 82 people were interviewed throughout the RPA process. Later returning to communities, a process of confirming and prioritising the health concerns was undertaken in preparation for Stage 2.

Community based participatory research (CBPR), an action focused approach, was applied in **Stage 2** to design action-interventions to address community prioritised health issues. In the early stages of Stage 2, the practicality of developing and implementing action-interventions was impeded by multiple contextual, social and cultural factors and the research was discontinued before completing a full cycle of PAR. To further understand the complexities of working with communities for change, insider perspectives and experiences of working with local communities

towards empowerment and social change were sought from eight key informants, contributing to further understanding of the study.

The results of this study reveal the priority health issues identified by the communities, uncover challenges inherent in participatory research, and present key informants' perspectives of their work with marginalised communities. The RPA results provided a documentation of community-identified and prioritised health problems in each of the five selected study villages. Alcohol abuse was endemic in all study villages. Sanitation issues were also significant with 50% of homes in some villages having no access to toilets. Further issues of concern were environmental pollution, access to and quality of health care, road traffic safety, and underlying poverty. The employed participatory methods produced new shared knowledge unique to this study setting. For the first time, perceptions and voices of marginalised communities in these villages have been recorded, study findings compiled and distributed among the community.

The transparent audit trail of activity in Stage 2 of the research combined with the documented perspectives of local social activists informed the discussion on the challenges of participatory research approaches in complex environments. It also provided information to further modify the PAR framework for future application. The resultant modified framework presents a practical approach and proposes some new improvements to practice when working with communities for knowledge generation through needs assessments, to needs-based action-interventions. Its combination of theoretical and practical considerations makes it suitable for non-government organisations (NGO), field practitioners and academics.

The researcher argues that tested methodologies, approaches and methods alone cannot ensure a successful outcome to the knowledge to action transition and subsequently, PAR approaches. External factors separate from methodological decisions impact on a study and combined with the complex nature of community problems can cause less than desired outcomes. A recommendation is made for further research into these factors, as resources may be better directed by assessing if community efforts are likely to evoke action, leading to beneficial change. Whilst

participatory action research is inherently challenging when applied in disadvantaged communities in complex environments, there is hope that with continual improvements community led action can bring about change for the communities where the applied research is undertaken.

Acknowledgements

This thesis is dedicated to each and every individual who, because of factors out of their control, never had the opportunity to pursue their education.

***

I am acutely aware of how privileged I am to have the opportunity to write this thesis; to learn, travel, understand, contribute and experience all that I have during this time as a PhD candidate. I am submitting this thesis with great appreciation, including to the Australian Government for supporting students studying higher degrees by research. It would not have been possible for me to complete this research had I not received scholarship through the Australian Postgraduate Award.

I cannot take all the credit for this work. There are many people who, both knowingly and unknowingly, contributed their time and effort to help me complete; even just by contently listening to my rants and offering their experience and advice where they could. I am grateful to all of you.

My supervisors, Associate Professor Jaya Earnest and Mohammed Ali from the Centre for International Health (CIH), Curtin University, Western Australia had a direct contribution to my thesis with countless hours of advising, reviewing, and encouraging. My heartfelt thank you to Jaya and Ali for never once doubting me, especially during the times I doubted myself. To Jaya, for sparking the idea to pursue my PhD and for making the process so smooth, I thank you.

This research received funding from the Centre for Advanced Studies in Asia, Australia and the Pacific (CASAAP) and was a collaborative study with the Center for Rural Development (CRD), Research Center for Women's Studies (RCWS), SNDT Women's University, Mumbai India. Thank you to Professor Veena Poonacha for accepting me to work with the CRD throughout this research. It is an experience that will shape the direction of my future endeavours in this field. Thank you to everyone at CRD in Udwada for graciously hosting me and assisting me with my research.

Terms, acronyms & currency exchange rate

Hindi/Gujarati language terms

Jilla (District)	An administrative division of a state.
Taluka	A subdivision of a district; a group of several villages organized for revenue purposes.
Gram (Village)	An administrative unit with defined boundaries.
Faliya (Hamlet)	A separate aggregate of houses within the village boundary, having a name and forming the whole.
Gram Panchayat	Local governments at the village level.
Sarpanch	Head of the Gram Panchayat.
Kucca	Houses made from non-permanent, makeshift structures that lack strength.
Pucca	Houses made from permanent structures.
Anganwadi	Literally a courtyard play center in Hindi, are government sponsored community-based institutions for children aged 0-6 years. They also provide basic health care and education in Indian villages.
Baldwadi	Nursery school for children developed with the intention of being a child's preparatory stepping stone to school.
Sakhi mandal	Program run particularly in rural areas of Gujarat to enable poor women to improve their access to micro-financial services and resources and consequently strengthen livelihoods and quality of life.
Dayan	Traditional birth attendant.
Gram Sabha	Village meetings of all who live in the area covered by a Panchayat.

Acronyms commonly referred to in the thesis

APL	Above poverty line
AYUSH	Ayurveda, yoga & naturopathy, unani, siddha and homoeopathy
BPL	Below poverty line
CBPR	Community based participatory appraisal
CHC	Community health centre
CRD	Centre for Rural Development, the collaborative research partner based in Udwada RS, Pardi Taluka.
GoG	Government of Gujarat
GoI	Government of India
HDI	Human development index
HW	Health worker
LMICs	Low and middle income countries
MAMTA	Malnutrition assessment and monitoring to act
MPI	Multidimensional poverty index
NRHM	National rural health mission
OBC	Other Backward Class: groups in the modern Indian caste system.
PDS	Public distribution system
PHC	Primary health centre
PRA	Participatory rural appraisal
RPA	Rapid participatory appraisal
RRA	Rapid rural appraisal
SC(s)	Scheduled Caste(s): groups in the modern Indian caste system.
ST(s)	Scheduled Tribe(s): groups in the modern Indian caste system.
UN	United Nations
UNDP	United Nations Development Program
UNICEF	United Nations Children's Fund
WHO	World Health Organization

Exchange rate reference

Average exchange rate for the year 2009 (year the study was conducted) was:

US $1 = INR 48.42

Table of contents

List of figures

List of tables

Chapter 1

Introduction

As individuals, we come to our careers with attitudes and motivations shaped by a globalising world that did not exist a generation ago, and influenced by a remarkable mix of experiences, education, and travel. These have formed our values, our view of the world and our place in it. [...] we are keenly aware of how global issues affect health and we feel an ethical imperative to respond to the research needs and priorities of low and middle-income countries. We approach our research with ideals of social justice, health as a human right, a sensitivity to the past failings of development, and a desire to reduce global disparities (Farmer 2003). We want our research to be more than the pursuit of new knowledge: it must respond to, and be translated into, solutions that address real-world problems. Excerpt from "How can PhD Research Contribute to the Global Health Agenda" (S. H. Walker, Ouellette, & Ridde, 2006, p. 618).

1.1   Introduction and chapter one overview

This doctoral research commenced with many of the ideals offered in the above excerpt. In a field as complex as international health, good intentions and desire to contribute to programs to address problems that claim lives of millions around the world are not enough. Our efforts must be grounded in a strong foundation of education, experience and understanding to ensure our endeavours are appropriately guided if we ever want to make a meaningful contribution to the global health agenda. Reflecting Walker et al. (2006, p. 618)'s remark, the PhD experience reported in this thesis has exposed the researcher to new tools and paradigms to think about health research for development; to imagine new possibilities and bring fresh questions to ethical and methodological issues.

This research study is set within rural communities in southern Gujarat State, India. A predominately tribal area, the study population has a long history of oppression and marginalisation, compounded by endemic poverty. As a result, the communities

experience great disparity in health and socioeconomic indicators. This study aims to explore and examine community perceptions of health issues in a selection of southern Gujarat villages, and subsequently transform the knowledge into action to address the issues. The study employs a participatory action research (PAR) framework and utilises participatory approaches to research, suitable for assessing and addressing health issues and disparity in marginalised communities.

The results of the study reveals the priority health issues of these communities, uncovers challenges inherent in this type of research, offers key informants' perspectives of their development work within similar communities, and compiles the learnings of this study to propose a practical PAR framework suitable to both academics and practitioners alike. This framework also highlights the association between its outputs of knowledge, action and change. It proposes that choice of participatory methodology, approach and method is only one consideration when determining the likelihood of achieving desired outputs of PAR. Numerous external factors affecting the knowledge to action transition can inhibit community and researcher efforts for change – and these factors deserve as much attention and consideration as researchers give to the choice of methodology, approaches and methods for application.

This chapter commences with a brief overview of the global context of community health development, reviews the intrinsic link between poverty and health, and sets the scene of the context in which this study was carried out – within the macro level of global health and within the micro level of disadvantaged communities. Introducing participatory action research, applied both to study and to change situations in collaboration with communities, this chapter presents the applied methodological framework and outlines the aims, objectives and significance of this collaborative research study.

1.2 Global context of community health development

1.2.1 International Health defined

Global health has areas of overlap with more established disciplines of public health and international health (Koplan et al., 2009, p. 1993). Public health is "the science

and art of preventing disease, prolonging life and promoting health through the organised efforts and informed choices of society, organizations, public and private, communities and individuals" (Winslow, 1920). International health is thus defined as "the application of the principles of public health to problems and challenges that affect low and middle-income countries and to the complex array of global and local forces that influence them" (Merson, Black, & Mills, 2006, p. xiv). Trends and phenomena of health at the international level are widely studied. One such example is the relationship between health and poverty.

1.2.2 The health and poverty relationship

The accepted definition of health, set in the constitution of the World Health Organization (WHO) in 1948, is: "A state of complete physical, social and mental well-being, and not merely the absence of disease or infirmity" (WHO, 1948). Affecting health of individuals and their communities are a multitude of factors, or determinants. Access to and use of health care services are such examples, but to a larger extent, factors such as our social and economic environment, physical environment and the person's individual characteristics and behaviours all have considerable influences on health (WHO, 2012a). Specifically, our income and education levels, social status, where we live and the state of our environment, our genetics, culture and our social support networks, all determine whether people are healthy or not (WHO, 2012a).

Globally, there is a social gradient in health that runs from top to bottom of the socioeconomic spectrum (WHO, 2012b). In general, within countries, the lower the individual's socioeconomic position, the worse their health, with the poorest of the poor, around the world, having the worst health. Poverty creates ill-health because it forces people to live in environments that make them sick, without decent shelter, clean water or adequate sanitation. Perpetuating or even increasing poverty, poor health can reduce household savings, lower learning ability, reduce productivity, and lead to a diminished quality of life (WHO, 2012b). Poverty is measured internationally and nationally to identify the poor in order to implement interventions that aim to alleviate poverty and subsequently health.

1.2.3 International measurements of poverty and development

Often, poverty is defined in absolute terms of low income. Income poverty can be measured on an international basis through the World Bank's US$1.25 per day poverty line allowing for comparisons between countries. The World Development Report 2011 reports 1.374 billion people living below the poverty line, representing a quarter of the world's population (The World Bank, 2011, p. 66). Certain regions share a higher proportion of the poverty burden. These are notably South Asia, with 596 million in poverty (456 million of those in living India); Sub-Saharan Africa (388 million living in poverty) and East Asia and the Pacific (316 million living in poverty, of which 208 million are in China).

The Multidimensional Poverty Index (MPI), published for the first time in the 2010 Human Development Report (UNDP), complements money-based measures by considering multiple deprivations and their overlap. The index identifies deprivations across the same three dimensions as the UNDP's Human Development Index (HDI): health, education and living standards; and shows the number of people who are multidimensionally poor. Using this measure, about 1.7 billion people in the 109 countries covered by the MPI – a third of their population – live in multidimensional poverty; that is, with at least 33% of the indicators reflecting acute deprivation in health, education and standard of living. This exceeds the estimated 1.374 billion people in those countries who live on $1.25 a day or less (UNDP, 2011c).

Although there are different perspectives to development, there is a general consensus that development is about much more than the rise or fall of national incomes. The people-centred approach is "Human Development", "a development paradigm that is about creating an environment in which people can develop their full potential and lead productive, creative lives in accord with their needs and interests" (UNDP, 2011a). It is within this paradigm that participatory research has emerged as an effective alternative to conventional research as it focuses on the importance of development change as a consequence of inquiry.

1.2.4   The application of PAR for development

PAR has roots in both the academic works of Kurt Lewin's (1946) spirals of planning, acting, observing and reflecting which offers a systematic approach to developing changes and innovations in the social world (Freshwater, 2005, p. 216); and emancipatory educator Paulo Freire's participatory research, described as "community-based research processes to support people's participation in knowledge production and social transformation" (Kindon, Pain, & Kesby, 2007, p. 10). In PAR, research is carried out with and by local people rather than on them. Local knowledge and perspectives are acknowledged and form the basis of research and planning (Cornwall & Jewkes, 1995). Participants have a central role in PAR, and the attainment of empowerment, capacity building and reciprocity is an explicit part of the action process. By engaging people to examine their knowledge and investigate the reality of their lives, they learn to develop their own strategies in order to change and improve their lives. Such research and action to address complex global health issues requires collaboration among local communities, NGOs, governments, and universities, and must transcend disciplinary and contextual boundaries if it is to be successful (S. H. Walker et al., 2006, p. 619).

An upsurge of interest to participate in global health and education programs to prepare practitioners to work in global health is accompanied by a recognised danger that such energy for global health will result in it becoming "an activity developed through the lens of rich countries, ostensibly for the benefit of poor countries, but without the key ingredients of a mutually agreed, collaborative endeavour" (Macfarlane, Jacobs, & Kaaya, 2008, p. 384). In response, they call for academic leaders to come together across geographic, cultural, economic, gender, and linguistic boundaries to reach for mutual understanding of the scope and nature of global health and to create collaborative education and research programs. It is in this context that this study was carried out.

1.3   Study setting and international collaboration

1.3.1   India, an overview

India, a South Asian country with an ancient and rich history, culture and diversity is the second most populous country in the world with a population of 1.21 billion

people (Government of India, 2011a). Although it is the 10th largest economy in the world (International Monetary Fund, 2011a), it also contains a third of the world's poor. 456 million (42%) of India's 1.21 billion population live under the international poverty line of US$1.25 per day (The World Bank, 2011, p. 66) and 53.7% of the population were considered to be living in multidimensional poverty (UNDP, 2011d, p. 144). India is ranked 134 among countries according to the HDI (UNDP, 2011b). Between 1981 and 2005 India reduced its poverty incidence from 60% to 42%, however the absolute number of poor people increased from 420 to 456 million due to the growth of its huge population.

Figure 1 demonstrates this and compares India to the People's Republic of China, the world's most populous country, which was able to reduce the number of its poor in both absolute and relative terms (from 835 million in 1981 to 208 million in 2005 and from 84% to 16% of the population).
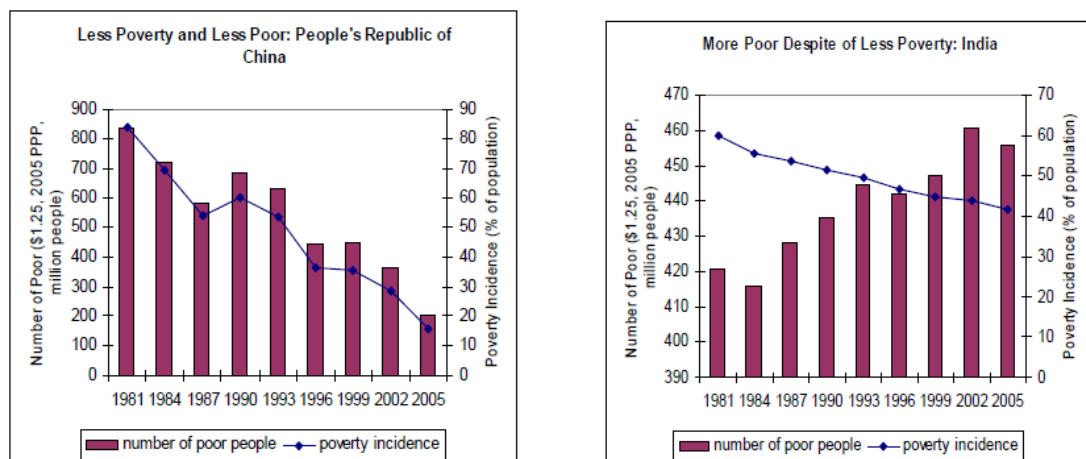
Figure 1. A Comparison of the number of poor people and incidence of poverty in the world's most populous countries.
Adapted from "The World Bank's New Poverty Data: Implications for the Asian Development Bank" (Bauer, Hasan, Magsombol, & Wan, 2008, p. 10).

Within India, economic and social disparities have widened, with regional, rural-urban, social and gender disparities increasing in the past two decades (Kurian, 2007). In relation to health, great disparities exist between and within states and between populations as a product of "historical inequities, socio-economic inequities

and inequities in provision and access to health services" (Baru, Acharya, Acharya, Kumar, & Nagaraj, 2010, p. 50).

1.3.1.1 Gujarat State

Gujarat State is India's 10th most populous of its 29 states and 6 union territories, with a population of over 60 million people. Based on 2011 provisional census data, 57.4% of the state's population live in rural areas (Government of India, 2011b). According to the 2001 census (in-depth census data not yet released for 2011), indigenous tribes or the so-called Scheduled Tribes (STs) or *Adivasis* constitute 14.8% of the total population of the state; also, people from the lower Hindu social classes (Scheduled Castes (SCs)) constitute 7.1% of the population (Government of India, 2001a, 2001b). Both STs and SCs are recognised in the constitution of India as two groups of historically disadvantaged people who require affirmative government policies and programs for their uplift. Today, their groups comprise 8.2% and 16.2% of the Indian population respectively (Government of India, 2001e). ST populations, who carry high burdens of "diseases of the poor" (Mohindra & Labonté, 2010, p. 439), are particularly concentrated in certain geographic regions. In Valsad District for example, Gujarat State's most southern district and the district in which this research was conducted, more than half of the total population of the district (54.8%) is ST. It is within a selection of villages in Valsad District that this collaborative research study was undertaken.

1.3.2 Collaborating research partners

In 2008, collaboration was established between the Center for Rural Development (CRD), Research Center for Women's Studies (RCWS), SNDT Women's University, Mumbai India and the Centre for International Health (CIH), Curtin University, Western Australia. A research proposal was jointly conceptualised by Associate Professor Jaya Earnest of CIH and Professor Veena Poonacha, Director of CRD, RCWS. A funding grant was received by the Centre for Advanced Studies in Asia, Australia and the Pacific (CASAAP) to undertake this research.

The initial requirement of CRD was an assessment to gain a better understanding of available health care facilities and access to health of local communities in Pardi

Taluka, Valsad District, Gujarat State in Western India. Drawing from the collaboration study proposal, a research framework was developed by the PhD candidate. Ethics approval was gained from Curtin University and final design approval was obtained from the Director, CRD RCWS. The research candidate fulfilled the obligation to the CRD and conducted field work on two occasions at the CRD during 2009.

1.4   Purpose of the study and research objectives

The overall purpose of this study was to explore and examine community perceptions of health issues in a selection of rural villages in Gujarat, Western India and transform the knowledge into action; experiences from this application informing the development of a practical framework for conducting participatory action research in disadvantaged communities.

The following research objectives were formulated to meet the aim:

1. **Stage 1:** To conduct a rapid health needs assessment of selected villages in Pardi Taluka, Gujarat State, India that will explore and examine the health issues of villages and determine key priorities for developing a plan of action.
2. **Stage 2:** To transform knowledge generated in Stage 1 to action by applying a participatory approach to action-intervention.
3. To document the perceptions of grass roots practitioners regarding the challenges of community development work in tribal communities within the study setting context.
4. To develop a practical framework for conducting participatory action research in disadvantaged communities that generates knowledge of community issues as well as action to address these issues.

1.5   Methodology and design

1.5.1   Guiding framework

A conceptual framework, based on PAR methodology was designed and applied in this study (Figure 2). PAR is change focused, and works towards improving a problem that has originated in the community itself; the problem is then further

defined, analysed and solved by participants (Balcazar et al., 2004, p. 23). This methodology is therefore appropriate to the two objectives of the study: to conduct a Rapid Health Needs Assessment; and to transform knowledge generated in Stage 1 to action. The focus of these two objectives is reflected in the two stages of this framework.
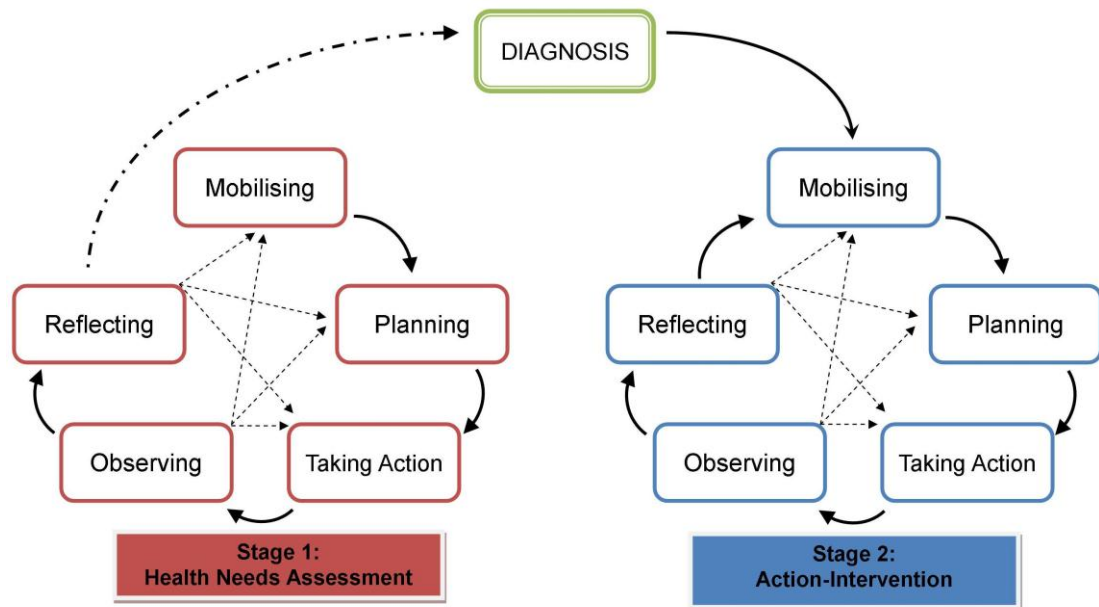
Figure 2. The applied methodological framework, a modified participatory action research model.

1.6   Significance and findings of the study

This study is significant for several reasons:

- The participatory research methods employed in this study produced new shared knowledge unique to the study setting. Researchers, CRD and most importantly, local communities were involved in the generation of this knowledge that directly related to the health situation of people in the study communities. For the first time, perceptions of local communities in these villages have been recorded and give voice to a population less heard.

- The information obtained will benefit the communities, whose involvement in the research process was empowering and potentially evoking of action as a result of the knowledge gained and shared; the CRD through knowledge to better direct services for the communities they work with; and the researcher, through academic reward and enhancement of skills.

- The reflective critiques of participatory approaches to research applied in this study and recommendations for improvements to the approaches may be beneficial to future researchers and practitioners by potentially yielding better results within communities.

- The proposed applied methodological framework presents a practical approach to working with communities from knowledge generation of needs assessments, to action, through needs based interventions. Testing this framework led to modifications and the presentation of a new practical framework for working with communities from knowledge to action – and as a result: change.

- This new proposed and modified framework brings new improvements to practice, and its combination of theory and practical considerations makes it suitable for field based practitioners and academics alike.

- Lastly, the personal experience and knowledge gained throughout the PhD experience has greatly enriched the learning experience of the primary researcher. With a solid basis on which to commence a future work towards improving health of disadvantaged communities, any future efforts may have more chance in making a meaningful and lasting impact.

1.7 Professional Context of the researcher

Prior to enrolling in the PhD program on August 8, 2008, I had completed, with distinction, Postgraduate studies in International Health at the Centre for International Health, Curtin University of Western Australia. I was compelled to study this topic to learn more about the health related issues people from low and middle income countries face, and the reasons, mostly underlying, why they experience these issues so disproportionately more than developed countries. Extensive travel had revealed the extent of disparity between countries and within countries and influenced the formation of ideals of social justice and equality.

I was made aware of the study collaboration between CRD and CIH when working as a research assistant at CIH. Realising the opportunity to be involved in the study and gain practical field experience, I applied to the doctoral program, Stage 1 of the study responding to the collaborative study requirements. I was accepted in the

program in August 2008 and awarded an Australian Postgraduate Award Scholarship.

Now, upon completion of this thesis, my future motivations are to further my understanding of "what works" in development. Having spent the final 18 months of candidature in the Philippines has exposed me to numerous examples of organisations applying PAR projects often without a full understanding of what PAR is and the complexities involved in applying this methodology. Their results are often limited and communities and practitioners are often left frustrated and perplexed as to: "what went wrong?" These examples and the complexities are however rarely presented in academic literature. This has been one of the motivating drivers in my PhD journey, namely to contribute to the body of knowledge on capacity building of NGOs, their practitioners and grass roots workers, whose potential to positively impact their communities is unlimited.

1.8   Outline of the thesis

This thesis is comprised of nine chapters. A background chapter follows this chapter, providing the context for the study. This chapter focuses on India, the historical, political and religious roots of the country and the situation of Indian people today with emphasis on the study setting.

A literature review presented in chapter 3 provides a comprehensive review of the methodology, approaches and methods applied in this study in the context of participatory research.

The research design and procedures applied in this study are outlined in chapter 4. Two approaches to participatory research - one in each stage - were applied in this study. First, rapid participatory appraisal (RPA) was applied in Stage 1 to establish the priority issues of the communities.

Chapter 5 reviews the findings of Stage 1 of the study. Community based participatory research (CBPR), an action focused participatory approach to research was applied in Stage 2 and the findings presented in Chapter 6.

To gain a more in-depth understanding of the challenges of working in community development and for social change, insider perspectives - thoughts, perceptions, and experiences of working with local communities towards empowerment and social change are explored in Chapter 7. The realities and practicalities of working with local communities within the study context are highlighted and this information strengthens the results of Stage 1 and particularly Stage 2.

The thesis concludes with two final chapters. Chapter 8 provides discussion of the main findings of each major component of the study and a reflective critique of the participatory approaches to research applied in the study. Limitations and strengths of the research and the study are drawn from the experiences and learning of each study component. Chapter 9 concludes the thesis by introducing a practical framework for conducting PAR in vulnerable communities followed by a review of the factors affecting the transformation of knowledge to action. Recommendations for the improvement of practice conclude the thesis.

Chapter 2

Background and Context

2.1 Introduction and chapter two overview

This chapter provides an overview of the historical, political and social context of India and how these impact on poverty and health indicators of the country. The chapter outlines the history of the caste system in India, and the resultant marginalisation and oppression still evident in today's Indian society. Government systems are reviewed with specific emphasis on local government systems responsible for basic services such as education, health, and water and sanitation. India's health profile is described revealing multilevel disparity with other countries, between geographic localities within India and between socio-cultural groups that comprise the Indian population. This chapter also reviews the national health system of the country along with the policies and programs that exist to protect the health of rural families.

A more detailed description of Gujarat State, its health system and health indicators are provided. This demonstrates that whilst Gujarat State's socio-economic indicators place the state better than the Indian average, Scheduled Tribes (STs) and Scheduled Castes (SCs) continue to have poorer health outcomes than the average population. Following this description, the study setting is reviewed. Locality information and key demographic data are provided which concludes the chapter.

2.2 India: an overview

The Republic of Indiais the world's largest democracy and second most populous country in the world, with a population of over 1.2 billion people spread across 35 States and Union Territories. India shares borders with Pakistan and Afghanistan to the north-west; China, Nepal and Bhutan to the north; and Bangladesh and Burma to the east. Separated from mainland Asia by the Himalayas, the Indian peninsula is surrounded by the Indian Ocean to the south, the Bay of Bengal to the east and the Arabian Sea in the west, forming the 7th largest country in the world in terms of land mass (Government of India, n.d.-a).

India's estimated Gross Domestic Product (GDP) in 2011 was US $1.7 trillion (International Monetary Fund, 2011a), placing it as the 10th largest economy in the world. Not all Indians however see the benefits of this wealth; its $3,339 dollar per capita income (based on 2005 purchasing power parity) ranks 137th in the world (International Monetary Fund, 2011a, 2011b). There is great economic disparity and poverty is rampant, with India being the fourth country in the world with most billionaires (Capgemini & Merrill Lynch Wealth Management, 2011) living alongside 41.6% of the population who are surviving off less than $1.25 a day (The World Bank, 2008). India is home to a third of the world's poor, with poor families spending more than 60% of their incomes on food (Government of the United Kingdom: Department for International Development, 2008; Narayan, 2011). Multiple factors influence the poverty situation in India; the basic causes are "low economic growth, high population growth, extremely unequal distribution of resources, [and] exploitation of rural masses who are uneducated and have no financial means to improve their economic lot" (Sami, 2010, p. 270).

According to the 2011 United Nations Human Development Report (UNDP, 2011b), India ranks 134th of 187 in the Human Development Index (HDI). The Oxford Poverty and Human Development Initiative (OPHI) showcases the spread of poverty in India, asserting that eight Indian states have more poor people than the 26 poorest African countries combined according to the Multidimensional Poverty Index (MPI) (Alkire & Santos, 2010). The OPHI also highlights the inequality amongst Indian states, comparing the 16% of MPI poor in Kerala to the 41% in Gujarat and 81% in the state of Bihar. The 2011 Global Hunger Index further illustrates the precarious situation of a large segment of the Indian population. India ranked 67 out of 81 countries on this report, released by the International Food Policy Research Institute (IFPRI). This composite index combines three equally weighted indicators: undernourishment, child underweight, and child mortality (Von Grebmer et al., 2010). Discussion on India and its disadvantaged people is not complete without a review of India's Caste system, provided in the following section.

2.2.1 Religion and the Caste system in India

Sana (1993, p. 1) affirms that "caste is the basic structural feature of Hindu society". Hinduism has been the main religion in India for the past few millennia. During this time, it has functioned as both a religion and social system, providing guidance on rituals and a social framework which assigns trades and roles to each different caste. Despite the many changes that have occurred in India in the last few decades with the processes of industrialisation and globalisation, the "caste not only survives but remains a force to be reckoned with" (Sana, 1993, p. 2). It is difficult to expunge a social structure that has been ingrained in the culture for so long, even when the caste system is increasingly questioned and the observance of rituals has become more difficult by the "spread of modern institutions, modern means of communication, production and distribution-making" (p.2).

In 1868 Max Muller predicted: "Caste cannot be abolished in India [...] As a religious institution it will die; as a social institution caste will live and improve" (Sana, 1993, p. 2). The term caste comes from the Portuguese word *casta*, applied by the Portuguese explorers in the middle of the sixteenth century to describe the social classifications observed amongst the inhabitants of the subcontinent, meaning "something not mixed" or "pure" (Sana, 1993, p. 2). This system determined the social and economic status of individuals by dividing them into hierarchical and hereditary groups (M. Jacob, 2006). The four main caste groups, or *varnas*, are: "Brahmins (priests, teachers), Kshatriyas (warriors, rulers), Vaishya or Bania (businessman) and Shudras (laborer, artisan)" (2006, p. 8). Within the castes there are thousands of sub-castes, which are determined by profession, religion and dialect. A fifth group, historically called the "untouchables" not belonging to the four previously mentioned groups was also established. The concept of untouchability derived from the belief that contact with untouchables would defile or pollute members from other castes (M. Jacob, 2006). Untouchables were forced into unpleasant or degrading activities such as removing human waste and animal carcasses from their villages. With limited access to resources such as school and religious functions, the untouchables, alongside the Shudras, were economically and socially disadvantaged, dominated by the first three castes, despite making up over three quarters of the Hindu population (Herrenschmidta, 2009; M. Jacob, 2006).

Over the years, the untouchables have received numerous names, as well as varying local names in different parts of India. Gandhi called them *Harijans*, which means children of God, while the currently used name *Dalit*, introduced by Dr. B.R. Ambedkar, means oppressed or struck down people (McDermont, 2008). Meanwhile, the Indian government uses the terms Scheduled Castes (SCs) and Scheduled Tribes (STs) (Kethineni & Humiston, 2010) to denote some of these people. The Indian government classification identifies two more categories in the constitution, the Other Backward Classes (OBCs), and Others (Baru et al., 2010). Most SCs are landless agricultural labourers who live in rural areas, constituting around 16% of the Indian population and are considered the lowest level in the hierarchy (p.49). The STs, comprise around 8% of the population and like the SCs, suffer economic and social deprivation. The rest of the population is comprised of the OBCs and Others (Baru et al., 2010, p. 49).

There are many different explanations to the origin of the caste system, but many authors point to religion as the most common explanation (Freitas, 2008; Sana, 1993; A. Sharma, 2005). Singh (2008) notes that a hierarchical system based on purity and pollution would not adequately address the reality of caste in India, which leads to inequality based on "unequal access to land and political power" (H. Singh, 2008, p. 119). This creates an intrinsic model of exploitation of the lower castes by the higher castes in the system. The caste system has ingrained discrimination in the fabric of the Indian society.

2.2.1.1 The situation for India's tribal and lower caste groups

Officially, untouchability was banned in 1950 when India adopted its Constitution, along with its Bill of Rights guaranteeing all citizens basic civil and political rights, and fundamental freedoms (Kethineni & Humiston, 2010). However, discrimination against Dalits remained strong and the government thus passed the Protection of Civil Rights Act (Anti-Untouchability) in 1955 (B. D. Sharma, 2002, p. 114). This was followed by the Bonded Labour Act in 1976 (p.122); the Scheduled Castes and Scheduled Tribes Prevention of Atrocities Act in 1989 (Haragopal, 2002, p. 139); and numerous land-reforms to redistribute land to the landless (p.156). Additionally, the Government established the National Commission for Scheduled Castes and

Scheduled Tribes and the National Human Rights Commission in the early 1990s to monitor and enforce these laws (Kethineni & Humiston, 2010).

Despite the efforts of the Indian government to eradicate the vestiges of the caste system, it still exists in Indian society and plays an important role in influencing career opportunities and social obligations (Freitas, 2008; M. Jacob, 2006; Munshi & Rosenzweig, 2006; H. Singh, 2008). For example, Jacob (2006) found that while trade liberalisation commencing in 1991 has led to a narrowing of the wage differences between male and female workers, the wage differential between low and high caste workers has not significantly changed. Munshi and Rosenzweig (2006) compared the survey data on school enrolment and income from 1980 and 2000 and found that children of lower caste continued to be educated in schools that lead to traditional occupations, even though their household incomes had risen substantially.

In their 2007 shadow report to the UN Committee on the Elimination of Racial Discrimination, the Human Rights Watch and the Center for Human Rights and Global Justice found that there was still widespread abuse perpetrated against the Dalits. The report estimates that 165 million *untouchables* still face segregation in housing, education and access to public services, and are often abused by the police and members of the upper castes (Center for Human Rights and Global Justice, 2007). The next section will review India's government systems, with particular emphasis on local government systems that have a major role in the lives of rural communities such as in the study settting.

2.3   India's government system

In the early 1600s, the British East India Company arrived in India which then came under British rule, also known as British Raj, from 1858 until 1947 when the country won independence. Prior to independence, India was divided into "the provinces of the British Empire, 554 "Princely States", some Portuguese and French enclaves, but also divided into religious "communities" (Hindus, Muslims, Sikhs, Christians, Parsis, Jains, Buddhists), into "castes" and "tribes", and into 179 languages and 544 dialects" (Herrenschmidta, 2009, p. 313). Today, India is "a Sovereign Socialist Secular Democratic Republic with a parliamentary system of government" In

addition to the Federal Government which is headed by the Prime Minister, every state has a Legislative Assembly and its own government headed by a Chief Minister (Government of India, 1950).

By 1991 India was experiencing an increasing current account deficit, high inflation, and a sharp decrease in their foreign exchange reserves, which led India to enter into an agreement with the International Monetary Fund. The structural adjustment reforms required the government to liberalise trade policy, de-regulate the financial sector, privatise most of the public sector and devaluate the rupee (M. Jacob, 2006). The economic reforms, while being initially controversial, have now affected almost all sectors of economic activity, and resulted in a consistently high GDP growth since their introduction (Sarvalingam & Sivakumar, 2009). Despite this positive growth, several commentators have critiqued the negative social impact they have had in the Indian population. Sarvalingam & Sivakumar (2009, p. 17) argue that the gap between "[the] haves and have nots have widened after the introduction of economic reforms", further increasing inequality. While the GDP has doubled in two decades, "53 million more people now go to bed hungry every night" (Narayan, 2011). On a cultural level, Johnson (2005, p. 51) states that the opening of the borders to international products and services created a consumerist culture in India, starting in urban centres first and then in villages and *faliyas* (hamlets within villages).

The challenges for the largest democracy in the world are many. A country with over a billion people and where more than 2,000 languages are spoken, India has the biggest Hindu (828 million) population in the world, the second biggest Muslim population (138 million), and the biggest Christian population of Asia (24 million) (Government of India, 2001d; Naidu, 2005, p. 6). Demands for secessionism arise mainly in political systems that fail to achieve peaceful resolutions to cultural minorities' grievances. Frustration often emanates from economic injustice, social inequalities, cultural depravation or political repression. These are reflected in exploitation, poverty, unemployment and poor wages, which act as triggers for conflict (Naidu, 2005, p. 3). India, with its large population hasn't been an exception, with secessionist movements from religious and ethnic backgrounds clashing with

right-wing Hindu nationalists (p.6). Even before its independence, India experienced the strengths of these movements as Pakistan was created as a separate state along the lines of Muslim majority provinces (p.6). Episodes of anti-Muslim violence have continued after independence across the country. In Ahmedabad, Gujarat's capital and other Gujarati cities, anti-Muslim violence erupted in 1992, following the demolition of the Babri Masjid mosque in Uttar Pradesh. Members from Rashtriya Swayamsevak Sangh, the most extensive Hindu nationalist organisation in India (Bacchetta, 2010, p. 551) incited people by calling for *dharma yudha* (Hindu religious duty to war) against Muslims (p.557). In 2002 another episode of violence flared up in Ahmedabad, leaving over a thousand Muslims dead according to official figures, with hundreds of bodies burned or multilated beyond recognition, besides the burning of mosques, shrines and thousands of Muslim business such as hotels, shops and trucks (p.564-5).

Secessionist movements based on ethnic-linguistic divisions have also surfaced after independence in South India, North East India, the Punjab and Jammu & Kashmir state (Naidu, 2005, p.7). Alongside, powerful Maoist rebel groups have emerged, claiming to be fighting for the farmers and poor agrarian tribes (Bahree, 2010, p. 83). Their movement has strengthened as injustice proliferates, fighting for tribal rights in Chhattisgarh and West Bengal, over rich mineral deposits in Orissa and Jharkhand, over caste discrimination in Uttar Pradesh and over-farming in Punjab (p.89). In the name of poverty reduction, tribal communities are displaced, losing their land and resources to mining companies that leave only impoverished wasteland behind (Padel & Das, 2010, p. 334). Some figures place the number of displaced around three million people in Orissa State alone (Padel & Das, 2010) and hundreds of thousands in Chhattisgarh State (Bahree, 2010, p. 84). While these practices further impose impoverishment, mining companies defend that they are practicing sustainable mining, providing training and opportunities to indigenous families (Bahree, 2010; Padel & Das, 2010). Yet Padel and Das (2010, p. 334) equate this process to cultural genocide, as tribal communities experience dispossession and violence, bringing discontinuity and uprooting to communities that place emphasis on continuity. Additionally, they argue that their social structure, economy, identity,

political structure, social relations, religion and material culture are being destroyed (p.336).

While companies and non-indigenous people are not permitted to buy land in densely tribal populated areas, the government is allowed by law to acquire this land and sell it to third parties (Bahree, 2010, p. 336). Villagers, including farmers, fishermen and shepherds are jailed and attacked by police and company thugs to force them to sell or relocate, making evident the collusion between mining companies and the police (Bahree, 2010; Padel & Das, 2010). Additionally, corruption has been rampant, with several government officials being arrested due to their involvement in scams (Padel & Das, 2010, p. 334). Unfortunately, middle-class Indians support the government and these mining projects, as they identify them with prosperity opportunities (Padel & Das, 2010, p. 335).

2.3.1   The role of local government systems in rural India

The 2011 census reveals that 69% of the population lives in rural areas, the majority in 640,867 villages (Government of India, 2011a). *Gram panchayats*, or village councils, are local deliberative bodies that ideally reflect the presence of "difference" within its boundaries (Rai, 2007), marking different religions, castes, and classes and insisting upon a working process by which difficult issues are deliberated and decisions arrived at that transcended the particular interests of the panchayat members. By having representatives of the different religions, caste and classes in the village, panchayats can work on difficult issues beyond particular interests to reach consensus through deliberated decisions. Panchayats are recognised in the Indian constitution as units endowed with the power and authority necessary to function as units of self-government (Rai, 2007, p. 66). This concept comes from the time of independence, when Gandhi insisted on preserving the concept of village self-sufficiency (referred to as *gram swaraj*) within the state framework (p.66). The *gram swaraj* was translated into village self-governance, or *panchayati raj*, which decentralized state authority to some extent.

Since their inception, the concept of panchayati raj has undergone several changes through amendments to the constitution, changes to the State Panchayati Raj Acts

and by grass-root activities (D'Souza, 2006). Amongst other responsibilities, the Panchayats are expected to provide basic services, such as primary education, primary health, safe drinking water, sanitation and street lightning, environment protection and common property resources management (Government of India, n.d.-b).

In 1993, the Indian state enacted the Panchayati Raj Institutions with the aim of "devolving community development to elected local bodies called panchayats" (Daftary, 2010, p. 1693). Amendments 73 and 74 to the constitution introduced direct election and five-year terms for all seats, as well as a quota system, requiring panchayats and urban local bodies to have at least 33% of women as members and leaders (Rai, 2007). According to Rai (2007), this amendment, which inducted over 79,500 women into politics, acknowledges inequality and seeks to rectify historical exclusions, as "state institutions are gendered spaces that also reflect the socioeconomic inequalities of class and caste" (2007, p. 65).

Amendment 73 also required each state to establish a three-tier system of local government with governance bodies at the village, intermediate and district levels. Gram panchayats or *gram sabhas* became the lowest tier of this system. These local government bodies, which came to be known as *Panchayati Raj institutions* (PRIs), were given 29 areas of administration, "including decisions over health and education services, roads, sanitation and other local services" (Iyer, Mani, Mishra, & Topalova, 2009, p. 11). To provide PRIs with further political, administrative and fiscal decentralization, State Finance Commissions were set up to provide them with grants and recommendations on revenue-sharing. According to the Government of India (Government of India, n.d.-b), "the prime objectives of the three tiers panchayati raj system are to eradicate poverty, uplift standard of living of people in the rural areas, and bring about a healthy society by creating awareness for hygiene, sanitation and eradication of illiteracy" (pp. 1-2).

However, and despite efforts to reduce inequality and exclusion in panchayats, the channelling of funds by the central government and "across-the-board devolution of powers, responsibilities and resources to panchayats has made local elected office

highly lucrative" (Daftary, 2010, p. 1693). Daftary (2010) and Rai (2007) affirm that the panchayat positions, including the *Sarpanch* position, are increasingly dominated by individuals of higher class position and/or wealthier leaders, who can afford to invest in costly electoral campaigns. The *Sarpanch* is the panchayat leader, who is elected by direct election by the entire village (Daftary, 2010). When elected leaders belong to the economic elites, they are "likely to implement development in favour of wealthier households because leaders share not only the material circumstances but also the worldview of elites" (p. 1693).

Adding to these issues is the fact that panchayats are not paid for their work, which limits the participation of members of lower castes, who cannot afford to stop working to fulfil the obligations of the role. Besides, the position of Sarpanch requires travelling often, which represents an additional cost. This context not only tends to exclude panchayats from the most disadvantaged groups, but also promotes corruption which undermines their work (Rai, 2007). The following section reviews India's methods of estimating national poverty and the benefits the below poverty line label brings to beneficiaries.

2.3.2   National measurements of poverty

The Indian poverty line was first quantified as a minimum per capita consumption expenditure of INR 20 per month in 1962 (Fernandez, 2010). Once the poverty line has been fixed, the National Sample Survey Organisation (NSSO) surveys the household consumption expenditure. Frequent changes in the methods of data collection and who define these make results debatable (Fernandez, 2010). Fernandez highlights that while calculations by the NSSO showed a 10% reduction in poverty ratios between 1994 and 2000, other studies found that the decline was less than that estimated or even detected an increase in poverty ratios among the Scheduled Castes (SCs) (2010, p. 419). According to the National poverty line in India, 28% of the population live in poverty (GoI: Ministry of Finance, 2008; The World Bank, 2011). The poverty line criteria was based on NSSO's 61st round survey of "INR 356 per capita [US$8.76, based on the average exchange rate for year ending 31st December 2008] for rural families and INR 540 [US$13.28] per capita for urban families … based on an expenditure level at which an average per capita

calorie intake is 2,400 and 2,100 calories for rural and urban areas, respectively"
(Bhasin, 2009).

The below poverty line (BPL) census and the family-based identification of poor
people also identify the poor. The BPL census was first conducted in 1992 and it is
conducted by state governments before each Five Year Plan to identify families
eligible for assistance under anti-poverty programmes (Fernandez, 2010). The
methodology used by the BPL census is different to that used by the NSSO, yielding
higher number of poor people in the 1992 and 1997 census. This was not surprising,
since this allowed states to access federal fiscal transfers based on the higher BPL
populations. The 2002 BPL census introduced a new methodology which ranks
families on "a set of 13 indicators of non-income related measures of poverty… for
identifying and sub-categorising families into 'Very Poor', 'Poor', 'Not-so-Poor' and
'Non-Poor'" (Fernandez, 2010, pp. 419-420).

The family-based method of identifying poor people differs from the BPL census by
basing the allocation of policy resources on the family rather than the individuals
within it. This method excludes independent entitlement and makes the male head of
the family the normative program subject (Fernandez, 2010). Unfortunately, this
method relies on the altruistic allocation of resources by the male head. This has been
criticized by Agarwal, Rao, Dreze & Uberoi (2000), who argue that it neglects the
use of resources in intra-family conflicts and reinforces women's dependence,
besides leading to deprivation and vulnerability of single women sheltered by male
relatives. Despite its negative connotation, both the poor and those who are not, seek
BPL status as this label provides them with a wide range of program benefits,
including access to state resources targeting poor people. Therefore, identification of
BPL people and the allocation of BPL cards by village panchayats is a highly
contested exercise (Fernandez, 2010).

In 2010, the Planning Commission accepted the Tendulkar Committee report, which
asserts that 37% of the population in India live below the poverty line. This was
defined as living below INR 31 (US$0.66 based on the average exchange rate for
year ending 31st December 2010) per day in urban areas and INR 26 (US$0.55) per

day in rural areas (Parsai, 2010, September 24). This figure is still short of the 41.6% estimate by the World Bank, based on people living below $1.25 a day (The World Bank, 2008). The number of poor fluctutates between 621.8 and 740.4 million if the Asian Development Bank' Asian poverty line of $1.35 per day per person is used (Asian Development Bank, 2008).

2.3.2.1 BPL benefits

Households possessing a BPL card are eligible to a wide array of government schemes, such as free hospitalization, and subsidized food through the public distribution system (PDS) (Besley, Pande, & Rao, 2005). Examples of such benefits include the National Maternity Benefit Scheme from the National Social Assistance Program, which gives pregnant women 8 to 12 weeks before delivery a lump sum of INR 500 to enhance nutritional intake and improve the health of mother and infant (Yesudian, 2007, p. 370). In Gujarat, the Chiranjeevi Scheme, provides financial protection to BPL families and covers out-of-pocket expenses incurred on travel to reach healthcare facilities to encourage deliveries at private hospitals. It also covers loss of wages of the accompanying person (Bhat, Mavalankar, Singh, & Singh, 2009).

Unfortunately, the BPL system fails to achieve its full potential. Ram, Mohanty & Ram (2009) affirm that there is a gross misuse of BPL cards. While close to 27% of households in India possess a BPL card, their distribution is highly flawed and fail to reach the poorest of the poor (p.68). They suggest that only 39% of the poorest households and 32% of the poor possess a BPL card, with about 44% of all cards being with non-poor households. Therefore, the majority of the poor, about three-fifths do not possess a BPL card. Making things worse, BPL cards reside in a higher proportion of non-poor households in economically weaker states (p.70). This distorted distribution of BPL status prevents those with real need from availing benefits such as those aimed to protect the health. The following section profiles health in India and outlines the disparity evident in health indicators.

2.4   Profile of health in India

2.4.1   Key health indicators

Despite showing positive trends during the last 20 years in all the health indicators in the World Health Statistics 2011 (WHO, 2011b), India still experiences a severe health disparity in comparison to other countries in the region, as well as the rest of the world. India ranked last in underweight children <5 years, with 43.5% of Indian children being underweight. It also experienced worse results compared to the regional averages in under-five mortality rate, measles immunisation coverage among 1-year-olds and population using improved sanitation. Table 3 demonstrates some of these disparities when comparing selected key health indicators to the South-East Asia regional and global averages.

Table 1

Key Health Indicators of India, Compared to the Regional and Global Averages

	Life expectancy at birth (years)			Adult mortality rate (per 1000 adults 15-59 years)	Under-5 mortality rate (per 1000 live births)	Maternal mortality ration (per 100 000 live births)	Births attended by skilled health personnel (%)	Measles immunisation coverage among 1-year-olds (%)	Population using improved sanitation (%)
	Male	Female	Both sexes						
India	63	66	65	212	66	230	47	71	31
Regional Average	64	67	66	209	59	240	64	76	40
Global average	66	71	68	176	60	260	66	82	60

Note. Adapted from figures released in the "State of the World's Population 2011" report and the "World Health Statistics 2011" report (UNFPA, 2011; WHO, 2011b)

2.4.2   Health disparities within India

Vast health disparities exist within India, between and within states as a product of "historical inequities, socioeconomic inequities and inequities in provision and access to health services" (Baru et al., 2010, p. 50). The interstate variations are best illustrated by comparing the states with the best and worst indicators of health outcomes and health service development; the state of Kerala and Uttar Pradesh (UP). Table 2 clearly shows this disparity by comparing a selection of health and socio-cultural indicators and it appears as though two countries are being compared, developed and developing, rather than two states of the same country.

Table 2

Selected Health and Socio-economic Indicators: Kerala, UP and India (2005-2006 unless stated)

	Life expectancy at birth (years)	Literacy rate (%) (2001)	Under-5 mortality rate (per 1000 live births)	% children 12-23 months fully immunised	Deliveries attended by health personnel (%)
India	63	65	74	43.5	41.2
Kerala State	74	91	16	75	99.4
UP State	62	56	96	23	27.2

Note. Adapted from Table 1 in "Inequities in Access to Health Services in India: Caste, Class and Region" (Baru et al., 2010, p. 51).

Baru et al (2010) notes that investment in and provision of basic services by the Kerala State Government over the past two decades has resulted in the relatively better functioning of public health centres (PHCs) and a much higher health status. Table 3 demonstrates the disparity between the two states for access to a PHC and functioning of the PHCs.

Table 3

Selected Health Service Indicators: Kerala, UP and India (2005-2006 unless stated)

	% of villages having access to a PHC within five km	PHC with at least 60% of inputs:		
		Infrastructure	Staff	Supply
India	44	32	48	40
Kerala	94	65	97	78
UP	48	17	53	20

Note. Adapted from Table 1 in "Inequities in Access to Health Services in India: Caste, Class and Region" (Baru et al., 2010, p. 51).

Geographical health disparities between states in India reflect the imbalanced resource allocation between state expenditure. Although the average per person public expenditure on health for India in 2004–05 was INR 268, wide variations exist in public expenditure across states (A. K. S. Kumar et al., 2011). In 2004-2005 for example, per person public health spending in Kerala was INR 287 compared to INR 128 in UP State. In another comparision, per person public health expenditure in Bihar State was estimated to be INR 93 compared with INR 630 in Himachal Pradesh in the same year (Balarajan, Selvaraj, & Subramanian, 2011, p. 505). Disparity between rural and urban areas is also of concern for India. Baru et al. (2010, p. 49) suggest that despite the accelerated economic growth of India since the 1990s, inequities in health and access to health services has not only persisted, but "widened across states, between rural and urban areas and within communities". Figure 3 showcases the inequalities between rural and urban populations, and the 20% poorest and wealthiest segments of the population for a selection of indicators.
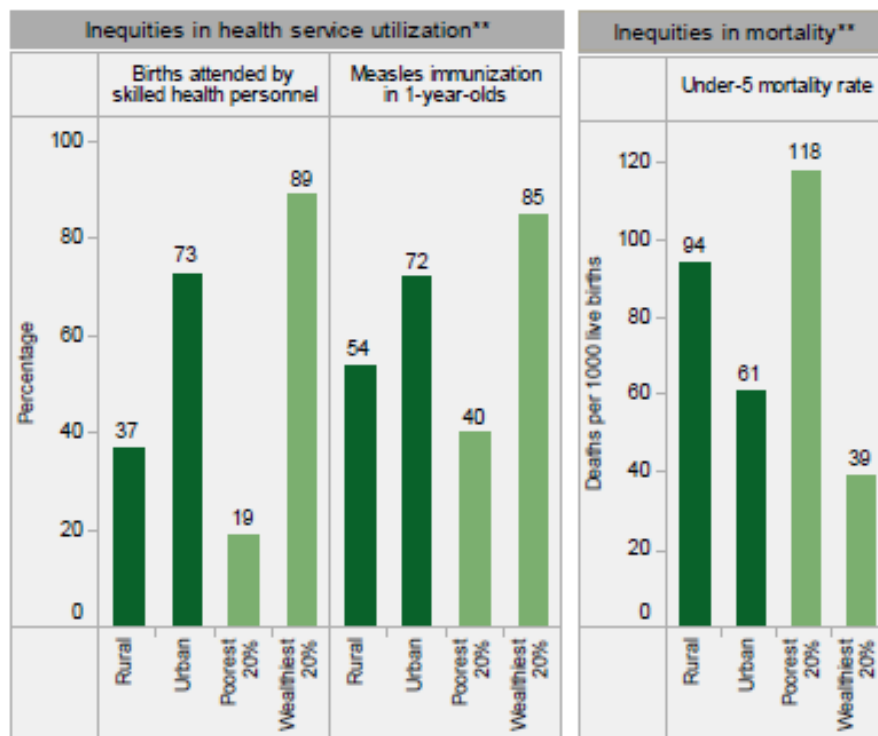
Figure 3. Health disparities within Indian states.
Adapted from "India Health Profile" (WHO, 2011a).

Also investigating the disparity in health and access to health care amongst socioeconomic groups, Iyengar & Dholakia (2011) identified significant disparities

between below poverty line (BPL) and above poverty line (APL) groups. Their research shows that the coverage of primary health care services such as antenatal care, the proportion of institutional deliveries, and child immunisation was very low among the BPL population. Together with "lower availability of household amenities and poorer access to safe drinking water sources" (p. 22), such low health service coverage leads to significantly higher morbidity prevalence and hospitalization rates. Additionally, their research showed that given the poor coverage by the government of basic healthcare services, "a majority of the BPL population tend to use the private health facilities thereby creating pressure on the poor to spend significant amounts of money they do not have on healthcare services" (p. 22).

2.4.2.1   Health disparity between ST, SC and the Indian population

According to studies, between 1998 and 2006, the social gap increased for the STs compared to the general population, while the social gap between the SCs and backward classes persisted. This can be reflected by comparing selected key health indicators for STs, SCs, the lowest wealth quintile and India as a whole (Table 4).

Table 4

Health Related Indicators and Outcomes in India

Indicators/ outcomes	SC Population	ST Population	Population in lowest wealth quintile	India
Infant mortality rate (per 1000 live births)	66.4	62.1	70.4	57
Under 5 mortality rate (per 1000 live births)	88.1	95.7	100.5	74.3
% children 12-23 months fully immunised	39.7	31.3	24.4	43.5
% of children with no vaccination	5.4	11.5	9.1	5.1
% of deliveries in health facilities	32.9	17.7	12.7	38.7
% of pregnancies with ANC	74.1	70.6	58.7	77.2
% of pregnancies with PNC	37.1	31.4	19.3	42.4

Note. Figures based on the National Family Health Survey (2007). Adapted from Table 1 in "Access of the Rural Poor to Primary Healthcare in India" (Iyengar & Dholakia, 2011, p. 5).

Whilst the ST group has better indicators than the population in lowest quintile on wealth index, they are markedly worse than India as a whole. The Indian population has more than double the ratio of deliveries in a health facility than the ST population (39.7% compared to 17.7%) and half of the ratio of children with no vaccination (5.1% compared to 11.5% amongst the ST population). Under 5 mortality rates are particularly high for the population in the lowest quintile on wealth (100.5 per 1000 live births) and STs (95.7), compared to India (74.3). Further investigating the Under 5 Mortality Rate (U5MR) it is possible to note that between 1998-99 and 2005-06, the average annual rate of reduction in U5MR among STs (3.9%) and SCs (4.2%) was lower than that among Other Backward Castes (OBCS) (4.8%) and the rest of the population (4.6%) (Baru et al., 2010, p. 50). Figure 4 reflects the inequalities in U5MR amongst different sectors, again comparing the difference between the best performing Kerala State and worst performing UP State in terms of health indicators. It also highlights that U5MR for females is higher than for males reflecting gender disparities.
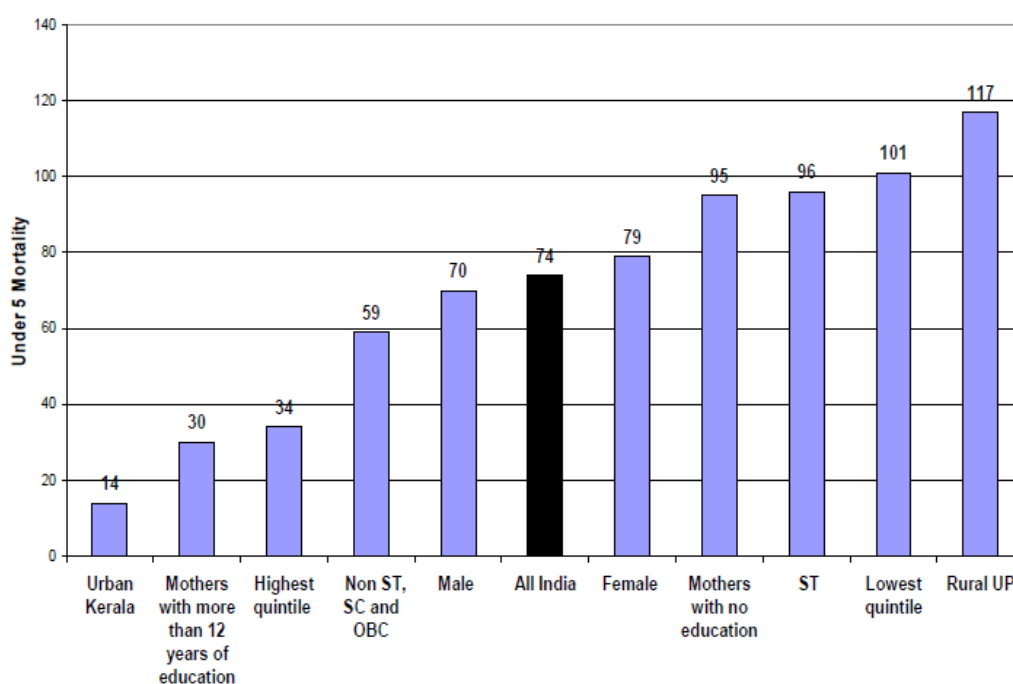
Figure 4. Inequalities in Under 5 Mortality Rates in India, 2006.
Adapted from "Inequities in access to health services in India: caste, class and region" (Baru et al., 2010, p. 50).

Among castes the differences were equally significant in the same period, with immunisation coverage amid SCs and STs being 31.3% and 39.7% respectively, while reaching 53.8% among other castes (Balarajan et al., 2011). Using the same indicator, immunisation coverage was 71% in the highest income quintile, almost three times that of the lowest quintile (24.4%) (Baru et al., 2010). For life expectancy at birth, studies have shown a strong graded relationship between standard of living and all-cause mortality, such that those in the lowest quintile of standard of living were 86% more likely to die as compared to those in the highest quintile of standard of living (Subramanian, Ackerson, Subramanyam, & Sivaramakrishnan, 2008). In summary, individuals with the greatest need for health care such as Scheduled Tribes are the ones who have the greatest difficulty in accessing health services, and are least likely to have their health needs met (Balarajan et al., 2011, p. 506). The following section investigates the system and policies in place that aim to meet health needs of the population.

2.4.3   Overview of national health system and policies

After its independence, India built a vast health infrastructure and undertook several national health programs, however its National Health Policy (NHP) was framed almost four decades later in 1983. The NHP aimed to provide 'Health for All' by 2000 through comprehensive primary health care services (WHO, 2008). Since then, major developments in policy have taken place, which include adopting: 73rd and 74th Constitutional Amendments in 1992, National Nutrition Policy in 1993, National Health Policy in 2002, National Policy on Indian System of Medicine and Homeopathy in 2002, Drug Policy in 2002, introduction of Universal Health Insurance schemes for the poor in 2003, and inclusion of health in Common Minimum Programme of the UPA Government in 2004 (WHO, 2008, p. 1). The goal of the revisited NHP is to achieve "an acceptable standard of good health among the general population of the country" by 2015 (p. 1).

The health sector includes both modern medicine as well as multiple traditional systems (WHO, 2006a). Under the Constitution, health is the responsibility of each State, being assisted by the Central government in different areas (GoI: Ministry of Health and Family Welfare, 2010).

These include:

- Control and eradication of major communicable and non-communicable diseases;
- Broad policy formulation;
- Medical and para-medical education along with regulatory measures;
- Drug control and prevention of food adulteration;
- Containment of population growth;
- Child survival and safe motherhood; and
- Immunisation programs.

The Central government has sponsored several national vertical health programs targeting specific health conditions. Examples of such programs are those against malaria, dengue, tuberculosis, leprosy, blindness, sexually transmitted diseases including AIDS, mental health and cancer (GoI: Ministry of Health and Family Welfare, 2000).

Besides utilising a modern approach to medicine and health care, the government of India has integrated the Indian Systems of Medicine (ISM) to its official health system. These are often termed 'AYUSH', for Ayurveda, Yoga, Unani, Siddha and Homeopathy, based on traditional indigenous medicine. Rather than focusing on allopathic medicine (the conventional approach to medicine based in treating or suppressing symptoms or diseases through the use of drugs and physical interventions), these holistic systems widely contribute to the promotion of health (Mazumdar & Gupta, 2007). According to Mazumdar and Gupta (2007), the Indian government has been mainstreaming the ISM since the 1980s because of its lower cost, comparatively lower technological requirements and its diversity. In 2006, there were about 437 AYUSH colleges, taking in nearly 87,130 students annually (Satpathy & Venkatesh, 2006).

2.4.3.1 National Rural Health Mission

The National Rural Health Mission (NRHM) was launched in 2005; its Framework for Implementation, containing large scale health reforms, approved in 2006 (GoI: Ministry of Health and Family Welfare, 2010, p. 13). The NRHM primarily aims to

improve access of the rural population, such as the study area, to equitable, affordable and quality health care by integrating a range of existing vertical programmes addressing the key determinants of health, such as sanitation, nutrition, and safe drinking water (Chatterjee, 2006). The aim of the NRHM is "to provide effective health care to the rural population throughout the country with special focus on 18 states, which have weak public health indicators and/or weak infrastructure" (GoI: Ministry of Health and Family Welfare, 2005b, p. 3). The Government of India seeks to accomplish this goal by rising public spending on Health from 0.9% of the GDP in 2005 to 2-3% in 2012. Despite efforts to increase public spending after 2005-06 including the adoption of NRHM, the expenditure increased only marginally to 1.2% of GDP in 2009-2010 (Rao & Choudhury, 2012).

Some of the measurable improvements sought in the seven year period of the NRHM, include reducing maternal mortality ratio from 407 to 100 per 1,00,000 live births, infant mortality ratio from 60 to 30 per 1000 live births and the total fertility rate from 3.0 to 2.1 (GoI: Ministry of Health and Family Welfare, 2005c, p. 5). The NRHM has a five pronged approach to achieving its goals, by (1) making public health functional and accountable to the community, (2) improving management, (3) providing flexible financing, (4) seeking innovation in human resource management, and (5) monitoring and evaluating progress against standards. Figure 5 illustrates this strategy.

India's NRHM 5 main approaches

Communitize
1. Hospital management committee/PRIs at all levels
2. United grants to community/PRI bodies
3. Funds, functions & functionaries to local community organizations
4. Decentralized planning, village health & sanitation committees

Flexible financing
1. United grants to institutions
2. NGO sector for public health goals
3. NGOs as implementers
4. Risk pooling – money follows patient
5. More resources for more reforms

Monitor, progress against standards
1. Setting IPHS Standards
2. Facility surveys
3. Independent monitoring committees at Block, District and State levels

Improved management through capacity
1. Block & district health office with management skills
2. NGOs in capacity building
3. NHSRC/SHSHC/CRG/BRG
4. Continuous skills development support

Innovation in human resource management
1. More nurses – local resident citizens
2. 24 x 7 emergencies by nurses at PHC, AYUSH
3. 24 x 7 medical emergency at CHC
4. Multi skilling

Figure 5. National Rural Health Mission (NRHM): Five main approaches.
PRI = Panchayat Raj Institutions.
NHSRS = National Health Statistics Report Survey.
SHSHC = State Health Sub-Health Centres.
CRG = Clinical Related Groups.
IPHS = Indian Public Health Standards.
Adapted from "National Rural Health Mission: Meeting People's Health Needs in Rural Areas" (GoI: Ministry of Health and Family Welfare, 2005c, p. 5).

Iyengar and Dholakia (2011) affirm that the NRHM has provided a significant step in improving infrastructure and increasing manpower in the rural public health system, even if it does face several challenges. Gil (2009, p. 26) asserts that the biggest issue is human resources, highlighting that there is "an acute shortage of medical doctors and specialists" in the rural public health system. There are many reasons for this, but the main are a drain of medical doctors, nurses and paramedics to developed countries, a salary differential of four to five times between public and private practice, along with modest rural accommodation with limited schooling options for children, and rife absenteeism at all levels and across all categories (2009, pp. 26, 28, 32). Additionally, AYUSH practitioners are often used as substitutes for allopathic medical staff in rural areas, which is which is "imperfect at best in the cases of

surgery and extreme life-threatening conditions, but perfectly acceptable in minor and certain kinds of chronic ailments, such as skin and digestion-related illness" (p. 32). Other issues identified by Gil (2009, pp. 35-36) include the difficulty of affording medicines, inadequate stock and lack of private allopathic chemists in rural areas.

2.4.3.2 India's health system

The health system in India is divided in six levels, extending from the national to the village level. At the national level it consists of the Union Ministry and Health and Family Welfare (FW), which is divided in the Health, Family Welfare, and Indian System of Medicine and Homeopathy departments. The state level is headed by each state's Department of Health and Family Welfare. Some states have a regional level, between the state and the district levels, to cover three to five districts and represent the State Directorate of Health Services (WHO, 2008). The District level acts as the link between the State and the Regional levels to the rural level structures. A further level exists before reaching the community level, which is the sub-divisional/taluka level, which make available some specialties at taluka hospitals (WHO, 2008). At the community or rural level, the health care delivery system has been developed as a three tiered system, composed of subcentres, primary health centres (PHCs) and community health centres (CHCs) (GoI: Ministry of Health and Family Welfare, 2009). Table 5 describes how these centres are allocated according to population norms.

Table 5

Allocation of Health Care Centres in India According to Population

Centre	Population norms	
	Plain area	Hilly/Tribal/ Difficult area
Subcentre	5000	3000
Primary health centre (PHC)	30,000	20,000
Community health centre (CHC)	120,000	80,000

Note. Adapted from Table 1 in "Rural Health Care System in India" (GoI: Ministry of Health and Family Welfare, 2009, p. 1).

The subcentres work as the community's first access point to the primary health care system. They are required to have at least one auxiliary nurse midwife (ANM) and a

male health worker, and are provided with basic drugs for minor ailments. The PHCs place an emphasis on preventative and promotive aspects of health care, providing integrated curative and preventive health care services to village communities. These centres act as a referral unit for 6 subcentres and should be manned by a medical officer supported by 14 paramedics, two nurses and have 4-6 beds for patients (GoI: Ministry of Health and Family Welfare, 2009).

At the top of the three tiered system are the CHCs, which act as a referral centre for four PHCs. These centres are required to be manned by four medical specialists and supported by 21 paramedics and other staff. They also provide facilities for obstetric care, specialist consultations, x-rays, labour rooms, laboratory, 30 in-door beds and one occupational therapist. As of March, 2009, there were 145,894 subcentres, 23,391 PHCs and 4,510 CHCs functioning in India (GoI: Ministry of Health and Family Welfare, 2009). In the urban areas, instead of having the rural level including subcentres, PHCs and CHCs, there is a two tier system, which provides an urban health centre/urban family welfare centre for every 100,000 people, plus an additional general hospital (WHO, 2008).

Iyengar and Dholakia (2011) found in their research that while the infrastructure available at the CHC level was satisfactory in six states analysed, many PHCs in the same states lacked adequate number of doctors and basic infrastructure, including "beds, wards, toilets, drinking water facility, clean labour rooms for delivery, regular electricity, etc" (p.17). They also identified an underutilisation of PHCs, as it was easier for users to reach CHCs when both types of centres would be located at similar distances in different directions. This resulted in a waste of resources by the public health system. Additionally, in most of their researched states, some PHCs and CHCs were located outside the village, causing great inconvenience for individuals to access health facilities in the rural areas. The additional cost and time of travelling greater distances resulted in people opting to access private healthcare practitioners from the village, many of which are unregistered, but provide their services at affordable fees (Iyengar & Dholakia, 2011).

Besides the public health facilities there are private health facilities, privately owned and managed. Baru et al. (2010, p. 52) highlights that the "for profit" sector of health care is considerably larger, with informally trained practitioners (such as traditional healers and traditional birth attendants) being the largest providers of primary level services. In the secondary level there are small and large nursing homes and corporate hospitals, diagnostic centres and pharmacies comprise the tertiary level, mostly owned by big business groups. As previously mentioned, out-of-pocket expenditure covered by households represent more than three-quarters of the cost of health care, with 14% of rural and 12% of urban households spending more than 10% of their total expenditure on health care in 2004-05 (Balarajan et al., 2011). Balarajan et al. also affirm that more than a third of hospital expenses and treatment are covered by borrowing money, with drugs representing 70-80% of the out-of-pocket expenditures. The next section will focus on Gujarat State, the state in which this research is conducted.

2.5   Gujarat State profile

Gujarat State, highlighted in Figure 6 is comprised of 26 districts, 348 towns and 18,225 villages. Share of the population in urban : rural areas is 42.58% : 57.42% (Government of India, 2011b). It is bounded on the west by the Arabian Sea, on the north-west by Pakistan, on the north by Rajasthan, on the east by Madhya Pradesh and on the south and south-east by Maharashtra whose capital is Mumbai.
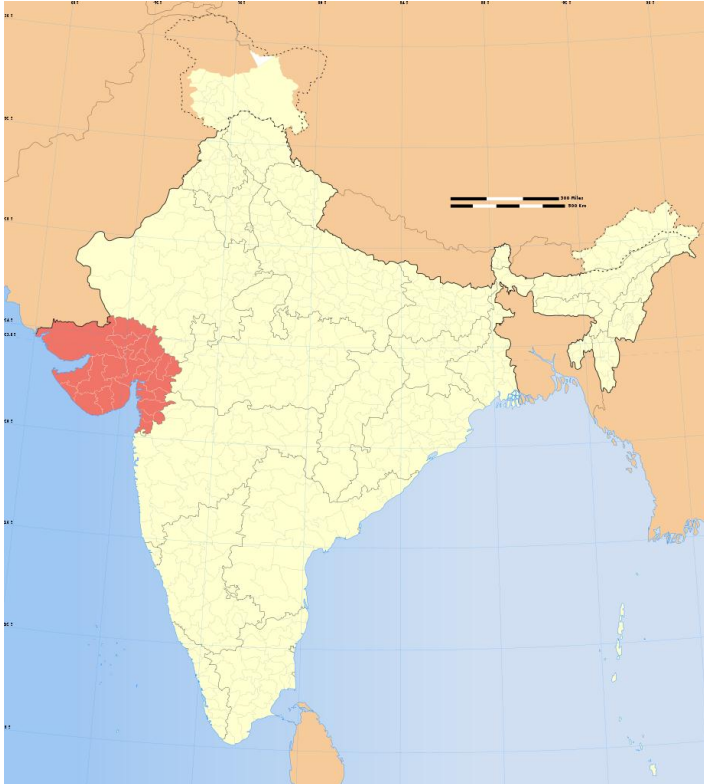
Figure 6. Map of India, Gujarat State highlighted.
Adapted from "Locator map of the state of Gujarat,
India with district boundaries. In India Gujarat locator
map.svg" (CC-by-sa PlaneMad/Wikipedia 2008).

The most recent official data on demographic breakdown of Gujarat's population is from 2001, with detailed census data from the 2011 census not yet available. Whilst the provisional population of Gujarat in 2011 is 60,383,628 million persons (Government of India, 2011b), the 2001 figure 50,671,017 is used in this discussion (Government of India, 2001b). Most recent data available is used where available.

Gujarat's socio-economic indicators place the state better than the Indian average, ranking amongst the most socio-economically developed in India (GoG: Department of Health and Family Welfare, 2009, p. 2). The latest available data from the census 2001 shows that 42% of the population is engaged in economic activities, with only 16.8% estimated living below poverty line (GoG: Department of Health and Family Welfare, 2009, pp. 2-3). This estimate contrasts with the Oxford Poverty and Human Development Initiative's estimated 41% of the population living in multidimensional poverty (Alkire, Roche, Santos, & Seth, 2011). Per capita income at current prices has shown positive trends, increasing almost 14% from INR 32,991 in 2005-06 to

55

INR 37,532 in 2006-07 (GoG: Department of Health and Family Welfare, 2009, p. 3). While 80% of the households had electricity and 84% had safe drinking water facilities in 2001, 48% of the rural households had no toilet facilities within the house (GoG: Department of Health and Family Welfare, 2009, p. 3).

2.5.1   ST and SC

The 2001 census reports Scheduled Tribes (STs) from 29 Tribes make up 14.8% (7,481,160 persons) of the total population of Gujarat State. The ST population in Gujarat is predominantly rural with 91.8% residing in rural areas, 97.8% are Hindus. From 1991-2001 Gujarat registered 21.4% decadal growth of the ST population. Four districts in Gujarat State have more than 50% of its population as ST: The Dangs (93.8% of its population), Narmada (78.1%), Dohad (72.3%) and Valsad – the district of this research – (54.8%). On par with the national average literacy for STs (47.1%), the ST population of Gujarat has recorded 47.7% literacy rate. However, this is significantly lower than the state's 79.7% literacy rate. Of the total workers among the STs, 41.9% were recorded as 'cultivators' and 36.1% 'agricultural laborers'. Thus, a total of 78% of the total ST main workers are involved in the agricultural sector (Government of India, 2001b).

Scheduled Castes (SCs) constitute 7.1% of the population in Gujarat, with the Mahyavansi, Bhambi, Bhangi, Meghval, Senva, Garoda and Nadia castes composing 94.6% of all castes. The district of Valsad has the fourth lowest percentage of SCs to total population out of 25 districts in Gujarat, with 2.6%, constituting 1% of the total SC population in the state. The 70.5% literacy rate amongst the SC population of Gujarat is significantly higher than the SCs national average of 54.7%. Among the total SCs' main workers, 32.1% are 'agricultural labourers' and 10.8% as 'cultivators' (Government of India, 2011a).

2.5.2   Gujarat State's Health system

At a National level, the NRHM, working towards achieving the National Health Policy and Millennium Development goals, provides a broad conceptual framework. At State level, Gujarat State Government constituted a State Health Mission to achieve the goals of National Rural Health Mission. The Goal of the State Health

Mission is to "improve the availability of and access to quality health care by people, especially for those residing in rural areas, the poor, women and children in the state" (GoG: Department of Health and Family Welfare, 2005a, p. 3). Figure 7 shows the inter-linkage between the State Health Mission Secretariat, State Health Society and the H&FW State Program Management Units (SPMU) and committees.
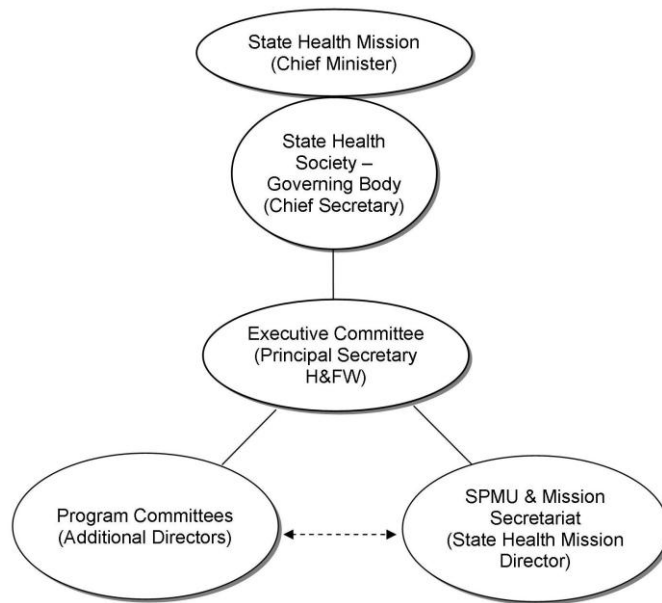
Figure 7. Organogram of the Gujarat State Health Mission.
Adapted from "State Health Mission: Gujarat" (GoG: Department
of Health and Family Welfare, 2005a, p. 4).

Integration of the State Health Society, State Health Mission and State Programs is defined in Figure 8. A number of programs are coordinated at State level including the central medical stores operation (CMSO), provision of medical services, and Gujarat State's strongest health and family welfare units.
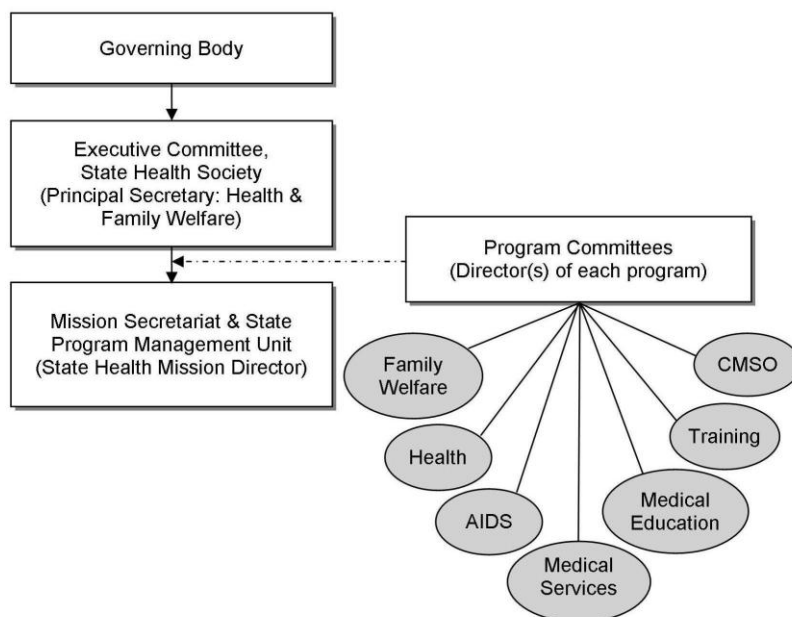
Figure 8. Integration of Gujarat State Health Society, State
Health Mission and State Program.
Adapted from "State Health Mission: Gujarat" (GoG:
Department of Health and Family Welfare, 2005a, p. 5).

2.5.2.1 Health service provision in Gujarat State

Table 6 outlines Gujarat's health services infrastructure in position in 2008. Whilst
the number of subcentres for the population is sufficient, PHCs and CHCs have a
shortfall of 99 and 20 respectively. Cross referencing figures, it is possible to note
that in 2009 the number of PHCs increased to 1084 and CHCs to 281. Also, from
2005 to 2009 the number of PHCs only increased by 14 units and the number of
CHCs increased by 9 units (GoI: Ministry of Health and Family Welfare, 2009, p.
15).

Table 6

Review of Gujarat State Health Infrastructure (As at March 2008)

Particulars	Required	In position	Shortfall
Subcentre	7263	7274	-
Primary Health Centre (PHC)	1172	1073	99
Community Health Centre (CHC)	293	273	20

*Note.*Adapted from Table II in "Gujarat State Report" (GoG: Department of Health and
Family Welfare, n.d.-a, p. 6)

Shortfalls in human resources continue to be a major problem for Gujarat State and in other parts of India. Table 7 displays the number of health care positions required, in position and corresponding shortfall for 2009.

Table 7

Shortfall in Human Resources in Gujarat State Health Services

Position	Number of positions required	In position	Shortfall (2009) (No. required minus no. in position)	Change from 2005*
Health worker (female)	8358	6431	**1927**	+91
Doctors at PHCs	1084	1019	**65**	-157
Total specialists at CHCs (Surgeons, OB&GY, Physicians & Paediatricians)	1124	76	**1048**	+52
Radiographers at CHCs	281	134	**147**	-12
Pharmacists at PHCs/CHCs	1365	958	**407**	-128
Laboratory technicians at PHCs/CHCs	1365	789	**576**	+104
Nurse Midwife at PHCs/CHCs	3051	2729	**322**	-1199

Note. *(+) = increase in shortfall; (-) = reduction in shortfall. Adapted from Statements 5-11 in "Rural Health Care System in India" (GoI: Ministry of Health and Family Welfare, 2009, pp. 19-25).

In the above set of data, nurses/midwives at CHCs/PHCs indicated a shortfall of 322 in 2009. Reviewing 2008 figures, shortfall was reported at being 1399 with only 1585 of the required 2984 in position (GoG: Department of Health and Family Welfare, n.d.-a, p. 6). This comparison shows a dramatic shortfall reduction of 1077 in one year compared to the shortfall reduction of 1199 in a four year period (2005 – 2009) as shown in Table 7.

The data in Table 7 does not provide a breakdown of the major shortfall in specialists at PHCs; however 2008 data reveals only 6 obstetricians/gynaecologists and 6 paediatricians (likely to be the same dual role specialist) were working in the public health service in the whole of Gujarat State in 2008 (GoG: Department of Health and Family Welfare, n.d.-a, p. 6). Singh et al. (2009) cite a similar figure of 7-8 government obstetricians to cover the total rural population of 32 million (p.960).

The same data set reveals no physicians were operating in CHCs in the state. According to the personnel requirements of a CHC, one of each is required at each centre (GoI: Ministry of Health and Family Welfare, 2009, p. 27).

Progress has been slowly made on NRHM indicators in Gujarat. As of June 2009 infrastructure improvements saw a total of 331 PHCs strengthened with three staff nurses each to make them functional on 24x7 basis. A total of 24,065 accredited social health activists (ASHAs) were selected of which 898 had been partially trained. The role of the ASHA will be to act as a health activist(s) in the community to create awareness on health and its social determinants and mobilise the community towards local health planning and increased utilization and accountability of the existing health services. 7071 subcenters were functional with an ANM and 773 Contractual Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homoeopathy (AYUSH).

AYUSH doctors had been appointed in the health institution to help fill resource shortages of medical officers in PHCs. As far as manpower augmentation is concerned, 865 specialists, 554 doctors, and 271 staff nurses were recruited on contractual basis (GoG: Department of Health and Family Welfare, n.d.-a, p. 8). Also, in recognition of de-motivating reasons for institutional delivery such as unavailability of medical/ paramedical staff beyond normal working hours and lack of attention to the patients in the PHCs/CHCs, efforts were made to set up 24 hours delivery services in CHCs/PHCs in 26 districts of Gujarat (GoG: Department of Health and Family Welfare, 2005b, p. 26).

2.5.2.2 Gujarat State health profile

Comparative figures of major health and demographic indicators between Gujarat State and India overall are outlined in Table 8.

Table 8

Demographic, Socio-economic and Health profile of Gujarat

State as Compared to India Figures

Item	Gujarat	India
Total population	50.67	1028.61
Decadal growth (Census 2001) (%)	22.66	21.54
Crude birth rate (SRS 2007)	23.0	23.1
Crude death rate (SRS 2007)	7.2	7.4
Total fertility rate (SRS 2007)	2.6	2.7
Infant mortality rate (SRS 2007)	52	55
Maternal mortality ratio (SRS 2004-06)	160	254
Sex ratio (Census 2001)	920	933
Population below poverty line (%)	14.07	26.1
SC population (in millions)	3.59	166.64
ST population (in millions)	7.48	84.33
Female literacy rate (Census 2001) (%)	57.8	53.7

Note. SRS: Sample registration system Adapted from Table I in "Gujarat State Report" (GoG: Department of Health and Family Welfare, n.d.-a, p. 6).

Gujarat's higher socio-economic development is reflected in better than national average results in most demographic and health indicators. As it can be observed in Table 8, Gujarat's maternal mortality ratio and BPL population are considerably lower than the national average, as well as lower figures in infant mortality rate. It has also a higher female literacy rate, marginally lower fertility rate, less population per sq km. and a higher life expectancy for women at birth (Mavalankar et al., 2009).

Infant mortality rate (IMR) shown in Table 9 reflects the inequities existent between rural and urban areas and the higher mortality experienced among female infants. The IMR for India for the same year was fairly similar, reporting IMR 55 for the whole country, 61 in rural areas and 37 in urban areas (GoG: Department of Health and Family Welfare, 2009, p. 12).

Table 9

Infant Mortality Rate (per 1000 live births) for Gujarat (2007)

	Male	Female	Person
Combined	50	54	52
Rural	59	62	60
Urban	34	38	36

Note. Adapted from "Health Review 2007-2008" (GoG: Department of Health and Family Welfare, 2009, p. 12).

Women in Gujarat have an average of 2.4 children in her lifetime according to the 2005-2006 National Family Health Survey (NFHS) (GoG: Department of Health and Family Welfare, 2009, p. 26). Women aged 15-19 years old in rural areas are twice as likely to be mothers, with 12.7% of the age group at national level already bearing child. According to the Government of Gujarat Department of Health and Family Welfare (2009, p. 27) 89.2% of the demand for family planning is being met. About 53% of deliveries take place in health facilities, with the rest taking place at home, compared with the 34.9% national average (p.13). Of these, 55.8% of births take place in government hospitals, while 65.6% of home deliveries are attended by trained professionals. In the five years preceding the NFHS, 84% of pregnant women received antenatal care from a health professional (GoG: Department of Health and Family Welfare, 2009, p. 27).

2.5.2.2.1 Progress on key health indicators

Gujarat's MMR at 160 (SRS 04-06) has improved from 172 in SRS 01-03. The IMR (SRS 2007) at 52 has reduced from 57 (SRS 2003). TFR at 2.6 (SRS 2007) is slightly lower than the national average of 2.7 (refer Table 10).

Table 10

Progress on Key Health Indicators of Gujarat State and India (1)

	Gujarat		India	
RCH goal indicator	Trend (year and source)		Current status	RCH II/ NRHM (2012) goal
Maternal Mortality Ratio (MMR)	172 (SRS 01-03)	160 (SRS 04-06)	254 (SRS 04-06)	<100
Infant Mortality Ratio (IMR)	57 (SRS 2003)	52 (SRS 2007)	55 (SRS 2007)	<30
Total Fertility Rate (TFR)	2.8 (SRS 2003)	2.6 (SRS 2007)	2.7 (SRS 2007)	2.1

Note. Adapted from Annex 1 in "Gujarat State Report" (GoG: Department of Health and Family Welfare, n.d.-a, p. 14).

Gujarat's progress during the four year period between District Level Health Survey (DLHS 2) (2002-04) to DLHS 3 (2007-08) is recorded in Table 11.

Table 11

Progress on Key Health Indicators of Gujarat State and India (2)

RCH goal indicator	Gujarat State		India	
	DLHS-2 (2002-04)	DLHS-3 (2007-08)	DLHS-2 (2002-04)	DLHS-3 (2007-08)
Mothers who received 3 or more antenatal checkups (%)	57.3	56.8	50.4	51.0
Mothers who had full antenatal checkup (%)	25.2	19.9	16.5	19.1
Institutional deliveries (%)	52.2	56.5	40.9	47.0
Children 12-13 months age fully immunised (%)	54.0	54.9	45.9	54.1
Children age 6-35 months exclusively breastfed for at least 6 months (%)	11.1	28.8	22.7	24.9
Children with diarrhoea in the last 2 weeks who received ORS (%)	24.4	36.7	30.3	33.7
Use of any contraception method (%)	52.4	54.3	45.2	47.3
Total unmet need for family planning – both spacing methods and terminal methods (%)	16.3	16.5	21.4	21.5

Note. Adapted from Annex 1 in "Gujarat State Report" (GoG: Department of Health and Family Welfare, n.d.-a, p. 14)

The data in Table 11 shows mixed progress:

- Mothers having full ANCs *decreased* from 25.2% to 19.9%.

- Institutional deliveries marginally increased from 52.2% to 54.9%.

- Full immunisation in children 12-23 months only marginally increased from 54.0% to 54.9%.

- Children with diarrhoea receiving ORS has increased from 24.4% to 36.7%.

- Unmet need for family planning remained static (from 16.3% to 16.5%). Further, use of modern contraceptives has marginally increased from 52.4% to 54.3%.

Despite Gujarat State having comparatively better social and health indicators than other states, overall progress on NRHM indicators in the State has been slow and massive infrastructure and human resource shortfalls have hindered progress. Also, as with national health indicators, ST, SC and the lowest wealth quintile groups in

Gujarat State have worse health indicators that the state population. The following section describes this in more detail.

2.5.2.3 Health situation for ST and SC in Gujarat State

India's largest household survey, the National Family Health Survey – the last of which conducted in 2005-2006 (NFHS-3) – provides trend data on key indicators of health and wellbeing (GoI: Ministry of Health and Family Welfare, 2006). Health disparities between STs, SCs and the population of Gujarat State are evident in the outcome of the NFHS-3. Early childhood mortality rates clearly reflect this fact, with SCs and particularly STs showing higher death rates in all age categories, as can be observed in Table 12.

Table 12

Neonatal, post-neonatal, infant, child, and under-five mortality,

Gujarat, 2005-06

Item	ST	SC	Total Population
Neonatal mortality	53	45.9	44.9
Post-neonatal mortality	33	19.6	17.8
Infant mortality	86	65.4	62.8
Child mortality	32.6	22.6	15.2
Under-five mortality	115.8	86.6	77.0

Note. Rates shown are for the 10-year period preceding the survey. Adapted from Table 31 in "National Family Health Survey (NFHS-3) India" (GoI: Ministry of Health and Family Welfare, 2006, p. 60).

The survey also reveals that ST women receives less antenatal care and were less likely to receive postnatal care, which directly affects early childhood mortality rates. The ratio of ST women who did not receive any antenatal care during pregnancy (more than a quarter of the ST population) is more than double the percentage of women in the general population who did not receive any antenatal care (12.5%) as shown in the following table.

Table 13

Percent distribution of women who had a live birth in the five years preceding the survey by antenatal care (ANC) provider during pregnancy, Gujarat, 2005-06

Item	ST	SC	Total
Doctor	47	61.5	63.4
ANM/nurse/midwife/LHV	16.3	21.5	20.5
Other health personnel	0.9	0.0	0.1
Dai/TBA	8.1	1.1	2.1
Anganwadi/ICDS worker	1.8	1.1	1.3
No one	26.1	14.7	12.6

Note. Rates shown for the most recent live birth. ANM=Auxiliary Nurse Midwife; LHV=Lady Health Visitor; TBA=Traditional Birth Attendant; ICDS=Integrated Child Development Services; Adapted from Table 33 in "National Family Health Survey (NFHS-3) India" (GoI: Ministry of Health and Family Welfare, 2006, p. 62).

The percentage of ST women who had three or more antenatal care visits during their last pregnancy was 53.2% compared with 67.5% of the general population. ST women were also less likely to give birth in a health facility (21.3%) compared to 52.7% of the general population; or have their delivery assisted by a health personnel (30.8%) compared to 63% of the general population having their delivery assisted by a health personnel (Table 14).

Table 14

Delivery and postnatal care by background characteristics, Gujarat, 2005-06

Item	ST	SC	Total
Percentage of births delivered in a health facility	21.3	54.0	52.7
Percentage of deliveries assisted by health personnel	30.8	64.7	63.0
Percentage of women with a postnatal check-up	46.0	59.8	61.4
Percentage of women with a postnatal check-up within two days of birth	37.9	55.3	56.5

Note. Rates shown for live births in the five years preceding the survey. Adapted from Table 38 in "National Family Health Survey (NFHS-3) India" (GoI: Ministry of Health and Family Welfare, 2006, p. 67).

Scheduled Tribe children were less likely to receive vaccines (Table 15). They also have much higher rates of anaemia than both the SC and general population of Gujarat State (82.9% of ST children aged 6-59 months compared to 68.5% of SC children and 69.7% of children in the general population).

Table 15

Percentage of children age 12-23 months who received specific vaccines at any time before the survey, Gujarat, 2005-06

Item	ST	SC	Total
All basic vaccinations	39.5	51.2	45.2
No vaccinations	13.1	2.1	4.5

Note. According to a vaccination card or the mother's report. Adapted from Table 41 in "National Family Health Survey (NFHS-3) India" (GoI: Ministry of Health and Family Welfare, 2006, p. 70).

This selection of health indicator comparisons for Gujarat State exemplifies the disparity between the ST, SC and general population of Gujarat State. In an area heavily populated by STs, such as Valsad district, lower health outcomes can be expected than other areas with a lower proportion of STs. The following section reviews the study setting in more detail.

2.6 The study setting

2.6.1 Locality information

Valsad district is the southernmost district of Gujarat State bounded by Navsari District in the north, the Arabian Sea in the west and Maharashtra State to the east and south. Two major sources of income for the residents of Valsad District come from employment in major industries in the industrial belt running through the district and from the small Union Territory of Daman and Diu that occupies 112 square kilometres of the Valsad District coastline. Gujarat is one of the leading industrial states in India, accounting for nearly 19% of the total industrial investments in the country (GoG: Department of Health and Family Welfare, n.d.-b, p. 3). The industrialisation process of Gujarat accelerated in 1962 with the Gujarat Industrial Development Act, which gave birth to the Gujarat Industrial Development Corporation (GIDC) (Gujarat Industrial Development Corporation, 2008). The GIDC

identifies suitable locations and develops industrial estates with all the infrastructure, commercial facilities, and amenities required by businesses and entrepreneurs to establish industries. The industrialisation of Gujarat, however, has come at a high price. High levels of pollution resulting from industrial activity have created fear of a disaster in the region amongst environmentalists (The Blacksmith Institute, 2006). The rapid economic growth, human resource development and expansion of the industrial base have also increased pressure on Gujarat's existing infrastructure. Daman Union Territory borders Pardi Taluka offering employment in many of the local industries. It is also the closest destination to Valsad District to legally purchase and consume alcohol. Although alcohol consumption and manufacturing are legal in Daman, it is forbidden to take alcohol out of Daman into the dry state of Gujarat unless holding a permit.

2.6.2   Key census data of Valsad District

The latest census data available for Valsad District is from 2001. The majority, 73% of the population live in rural areas of the district and a high proportion of rural areas are comprised of ST communities (68%) (Table 16).

Table 16

Demographic data of Valsad District (2001)

	Population (% of total)	SC Population (% of total)	ST Population (% of total)
Total	1,410,553	37,304 (2.6%)	772,405 (54.8%)
Rural	1,029,392 (73%)	25,049	702,495 (68%)
Urban	381,161 (27%)	12,255	69,910 (32%)

Note. Adapted from "Census of India 2001: District Level Data" (Government of India, 2001c)

2.6.3   Pardi Taluka

Pardi *Taluka* (administrative sub division comprised of several villages) in the southern Valsad District of Gujarat State has a total of 79 rural villages including three towns: Pardi, Vapi and Chala spread across 426 square kilometres (Figure 9).

Figure 9. Map of Pardi Taluka, Valsad District of Gujarat State, India.
Adapted from "A.S.P. Travel Gujarat series: Discover Gujarat guide to
Valsad District" (Anada-Sahitya-Prakashan, n.d.).

The taluka is mainly rural and is comprised of a high proportion of marginalised and
vulnerable people concentrated in rural areas. Thirty nine percent of the population
of 405,902 belong to Scheduled Tribes (2001 Census, Table 17).

Table 17

Pardi Taluka Key Census Data (2001)

	Population (% of total)	Number of Households	SC Population (% of pop)	ST Population (% of pop)	Literate population (% of pop)
Total	405,902	90,502	11,065 (3%)	158,786 (39%)	283,780 (70%)
Rural	232,644 (57%)	49,329 (54%)	7,402 (3%)	138,599 (60%)	155,646 (67%)
Urban	173,258 (43%)	41,173 (46%)	3,663 (2%)	20,187 (40%)	128,134 (74%)

Note. Adapted from "Census of India 2001: District Level Data" (Government of India, 2001c).

According to last recorded estimates (2002) Pardi had a total BPL population of
16,149 families (GoG: Tribal Development Department, n.d.). As this figure is
recorded as the number of BPL families, not individuals or households, it is difficult
to estimate the percentage of the total population of Pardi Taluka these families
represent. What is notable about the statistic is that these BPL families are comprised

mainly of ST families (83%), followed by SC families (6%) and 'others' (11%). Pardi Taluka's proximity to the industrial economic zone established by the Gujarat Industrial Development Corporation (GIDC) and to industrial regions of the Union Territories of Daman has attracted migrants from other parts of the country to the region. The economic development has not eradicated high levels of unemployment, underemployment, malnourishment and ill health in the population (Poonacha, 2008). A large number of migrant families are ST and BPL (6,786) or ST and non BPL (3,904).

2.6.3.1 CRD activity in the region

Having grown out of an action research project initiated by the Research Centre for Women's Studies, SNDT Women's University, Mumbai, India in 1976, the Centre for Rural Development (CRD) in the last three decades has undertaken programmes in Pardi Taluka that address women's health, education and economic needs. In the last three years, it has organised over 1000 women from 34 villages of Pardi into self-help groups (SHGs) with the support of the National Bank for Agricultural & Rural Development. By linking marginalised tribal women to banks, the programme has sought to enable these women to access credit to become self-employed. The interventions made go beyond women's needs for skill up-gradation; it seeks to address their multiple needs for support services. The CRD also provides family counselling and organises intermittent health missions in the locality. The location of the CRD is at Udwada railway station (RS) west of the major highway and railway line (See Figure 9). Presence in the locality has enhanced the CRD's local profile and it was observed to be the only organisation concerned with human development in the locality.

2.6.4 Overview of Selected Villages

Table 18 provides a statistical overview of the five villages of Pardi Taluka involved in this study.

1. **Kolak Village**, located at the mouth of the Kolak River and the Arabian Sea, across the river to Daman Union Territory is the western most village in Pardi Taluka. It has a population of 4503 living in 12 faliyas. The percentage of STs in the village is comparatively low compared to other villages (12%).

69

2. **Orward** (sometimes spelled Orvad) spreads across two sides of the main highway Number 8, linking Mumbai and Delhi. It has a high number of separated *faliyas* (hamlets) for the population of 4207 and a ST population of 1005 (24%).

3. **Paria Village** is located inland to the east of Udwada (RS). It has the largest population amongst the study villages, 7712 and the highest number and proportion of ST (6202, 80% of the population).

4. **Saran Village** is the smallest of the study villages and is located west of the National Hwy 8 and south of Udwada railway station and CRD office. The south west area of the village reaches to Kolak River with Daman Union Territory border a couple of kilometres to the west. A high proportion of this village's population (73%) are ST, many of these families living in homes scattered on the outskirts of the village.

5. **Amli Village**, the final village, is situated approximately 7km south east of Pardi town, the main access route to the village. Also a small population, 2056, the village is 80% ST.

All villages have a small proportion of Scheduled Caste (SC) populations (Table 18).

Table 18

Statistical Overview of Study Villages

Village	Pop.	Household (HHs)	Faliyas	Av persons per HH	SC (% of pop)	ST (% of pop)
Kolak	4503(a)	970	12	4.6	36 (0.8%)	560 (12%)
Amli	2056	423	n.a.	4.8	40 (2%)	1649 (80%)
Orvad	4207	923	20	4.5	158 (3.75%)	1005 (24%)
Saran	1580	331	7*	4.8	66 (4%)	1157 (73%)
Paria	7712	1671	21	4.6	173 (2.2%)	6202 (80%)

Note. (a) 4546 (2009 estimated population retrieved from Kolak Village Primary School). * plus approximately 50-60 scattered homes. Adapted from "Census of India 2001: District Level Data" (Government of India, 2001c).

The literacy rates for study villages, except Kolak Village, are lower than the state's 79.7% literacy rate. Female literacy rate is also lower than the state average of 57.8% (Table 19).

Table 19

Literacy Rates of Study Villages

Village	Literates	% of Population	Lit M (% share)	Lit F (% share)
Kolak	3522	78%	1848 (52%)	1674 (47%)
Amli	1392	68%	805 (58%)	587 (42%)
Orvad	2810	67%	1626 (58%)	1184 (42%)
Saran	1038	66%	585 (56%)	453 (44%)
Paria	4745	61.5%	2720 (57%)	2025 (43%)

Note. Adapted from "Census of India 2001: District Level Data" (Government of India, 2001c).

2.7   Chapter summary

This chapter has provided the contextual background of the study setting, describing historical, sociocultural and health descriptions for India, and more detailed information of the study setting in Gujarat State, Valsad District, Pardi Taluka. This chapter aims to demonstrate that this study is carried out in a complex context within a country with endemic poverty and historically ingrained oppression and discrimination. Rural communities, particularly those with a high proportion of ST and/or SC such as the study villages are in a position of great disadvantage. Development and research efforts that aim to improve their situation are warranted. Chapter 3 reviews literature related to the methodological approaches applied in this study.

Chapter 3

LITERATURE REVIEW
Participatory approaches to health research

"Knowledge is power, and the control of knowledge is the control of power. Power is the central component of development and without it there is little that the poor can do to change their circumstances" *(Edwards, 1989, p. 124)*

3.1 Introduction and chapter three overview

This chapter reviews literature significant to understanding participatory approaches to improving community health. It focuses on the methodological aspects of participatory approaches to research and explores the multiple traditions from which they stem. Approaches conceptualised and developed in response to positivistic research paradigms and the rigidity of traditional epidemiological and questionnaire surveys are explored. The contribution of field practitioners in the international development contexts, particularly in the promotion of participation in health is significant in the participatory research movement, and is also critiqued. An account of the principles for working with communities to reduce health disparities is provided.

As this study was a two-stage study involving both needs assessment and action to address priority needs of communities, specific participatory approaches used for the study are investigated. The literature review concludes with an account of the practicalities, challenges and ethical considerations of conducting participatory research. This methodological background guides the research study and informs the development a comprehensive framework for working with communities, from needs assessment to action-intervention to improve health situations.

3.1.1 Chapter structure

This literature review commences with a diagrammatic overview of the methodologies, approaches and methods employed in participatory community health research that provides clarity of the relationship between each of the common terms related to participatory research in health relevant to this study. A review of

these terms provides both an historical context and the common debate regarding terminology. This section concludes with definitions of the main terms surrounding participatory approaches to research in health. Expanding on these definitions, a more descriptive review of the concepts is provided and highlights the two traditions from which the participatory action research (PAR) methodology stems. Theoretical perspectives and guiding principles of PAR methodology are described and how they were applied in this study will be demonstrated. Key differences between conventional research and participatory research will be outlined. Community participation in health will be explored and will provide background on the principles of primary health care.

Reflecting the two stages of this research, two further sections will review the application of participatory approaches to research for both needs assessment and action-intervention. Focusing on approaches tailored for the community health context, the first section will explain the key approaches to needs assessments that emphasise involvement of local people. The section will focus on rapid participatory appraisal (RPA), an approach utilised for assessing community health needs in low-income settings. The section will explore the influences of RPA and provide an overview of the RPA guidelines applied in this study. The second section focuses on participatory research approaches that aim to translate research to action. This summary will outline the key features of Photovoice; a community based participatory research (CBPR) method intended for use in this study to bring about social change.

3.2 Diagrammatic overview of participatory research methodology, approaches and methods

A diagrammatic overview of the terms which are presented in this chapter is shown in Figure 10. Understanding these terms, their relationship to each other, how they should be categorised, and how they can be applied in community health research – and this study – is a vital component of the research process.
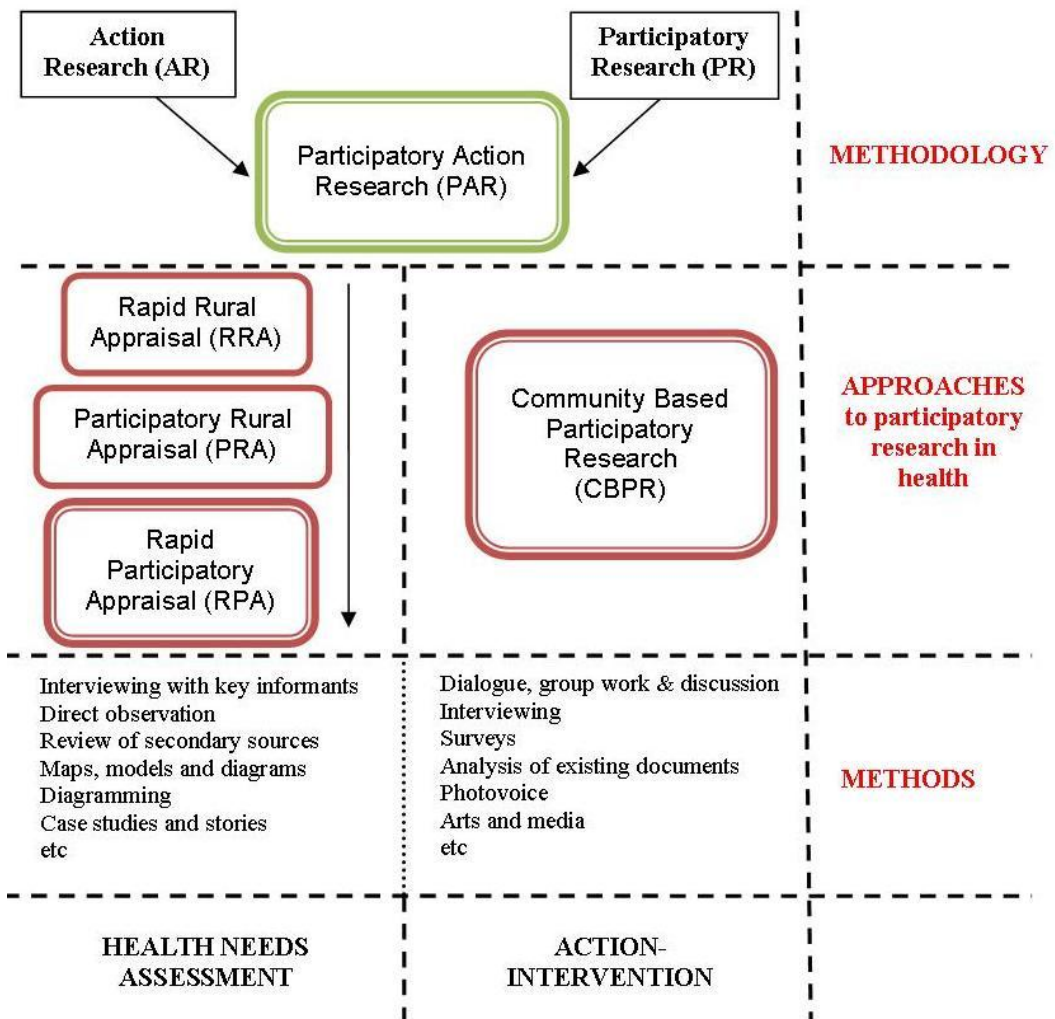
Figure 10. Diagrammatic overview of participatory methodology, approaches and methods.

The remainder of this chapter explores the terms and their interrelationship as presented in Figure 10.

3.3 Review of terminology

3.3.1 A historical account of terminology

The term **action research (AR)** was first coined by social psychologist Kurt Lewin in 1946 (Green & Thorogood, 2009, p. 47). Lewin described AR as a spiral or cycle of steps that include planning, acting, observing and reflecting to bridge the gap between theory and practice and to solve practical problems (Wallerstein & Duran, 2003, p. 29). These four stages comprise a "careful and systematic approach to developing changes and innovations in the social world" (Freshwater, 2005, p. 216). AR was seen as a "pioneering approach toward social research which combined

generation of theory with changing the social system through the researcher acting on or in the social system" (Susman & Evered, 1978, p. 586). Lewin (1946)'s concern to find methods that dealt with critical social problems such as minority issues, poverty, fascism, and anti-Semitism gave rise to the development of AR (Khanlou & Peter, 2005, p. 2334).

Literature on the addition of 'participation' in AR consistently mentions Brazilian philosopher Paulo Freire. The emancipatory educator (1972) is identified as the person who "developed community-based research processes to support people's participation in knowledge production and social transformation" (Kindon et al., 2007, p. 10). Through the publication, *Pedagogy of the Oppressed* (1970), Friere influenced the transformation of the research relationship from viewing communities as objects of study to viewing community members as subjects of their own experience and inquiry (Wallerstein & Duran, 2003, p. 30). The notion of *conscientization* is presented as the ability to become critically conscious, and implies a political, social and ethical dimension which enables assumptions inherent in ideologies to be challenged (Freshwater, 2005, p. 213). According to Clarke (2010, pp. 114-115), conscientization is "education of a type which enables the learners to understand critically their own situation of oppression and to take control of their lives". Clarke cites both Gandhi and Ambedkar, two of India's most famous freedom fighters and thinkers who fought against social discrimination, as contributors to this notion. These ideas promoted by university-based researchers were taken up by others (researchers and practitioners) dissatisfied with the ongoing legacies of colonisation, modernistic development interventions and positivistic research paradigms (Kindon et al., 2007, p. 10).

Participatory **action research (PAR)** saw its introduction to the research world in two waves (Kindon et al., 2007, p. 10). By the 1970s, there was a proliferation of participatory and participatory action research approaches, particularly in Africa, India and South America, drawing and reflecting on earlier movements in India with Mahatma Gandhi and representing a new epistemology of people grounded in people's struggles and local knowledge. It was during this time that the term **participatory research (PR)** was used to describe work by Marja-Liisa Swantz in

Tanzania that integrated the knowledge and expertise of community members into locally controlled development projects (B. Hall, 2005, p. 8). It is recognised that the term PR itself covers a multitude of approaches and application; similarly, to pinpoint the exact meaning of PAR is not a straightforward task (Cornwall & Jewkes, 1995, p. 1667; Rice & Ezzy, 1999, p. 173). The two terms, PAR and PR are often used interchangeably to represent a convergence of principles and values (Wallerstein & Duran, 2003, p. 28) and share many common features as both stem from the formative influence of Freire's (1972) approach.

The second wave of PAR occurred in the 1980s, particularly in community development and international development contexts (Kindon et al., 2007, p. 10) in the form of **rapid** and **participatory rural appraisal (RRA/PRA)**. These appraisals enable rural people to gather, share, and analyse their knowledge of life and conditions, to plan and act (Chambers, 1994, p. 953). Terms such as rapid assessment procedures, RRA, and PRA implemented primarily in developing nations, have represented a methodological emphasis to the PR paradigm (Wallerstein & Duran, 2003, p. 27) and it is stated that their development came in recognition of the time consuming and rigid nature of traditional epidemiological and questionnaire surveys (Wright & Walley, 1998, p. 1821). Although RRA was developed and widely used in the 1980s, Chambers (1994, p. 953) reports the further evolution of the method into PRA, which became popular in the 1990s.

In 1995, Annett & Rifkin released their guidelines for **rapid participatory appraisal (RPA)**, focusing on community health improvements for low-income urban and rural areas (Annett & Rifkin, 1995). Galvin (2005, p. 233) draw parallels between action research and the participatory RPA framework highlighting historical roots in the work of Freire, community development, and initiatives for equalising health (for example, the primary health care approach forged by the WHO and UNICEF in the 1970s). The influence of primary health care in the context of participation in *health* research and development is significant and is discussed later in the chapter.

3.3.2 Separation and unification of terms

Development studies theorist Robert Chambers in his discussion on the sources and parallels of PRA notes that it has become difficult to "separate out the innovations, influences and diffusion as if they follow straight lines" because "these sources and traditions have, like flows in a braided stream, intermingled more and more" (1992, p. 5). Wallerstein & Duran (2003, p. 27) also support Chamber's comment by remarking on the daunting challenges posed by the multiplicity of terms in the participatory research paradigm that links both social science and social activism, and the difficulty in sometimes distinguishing the nuances and differences between them. Despite the apparent unity between participatory approaches and concepts, debate over which term and corresponding approach best captures the principles and ideological commitments are highlighted (Minkler & Wallerstein, 2003a, p. 5).

Action research and PR are often highlighted as two distinct approaches at opposite ends of a continuum (Wallerstein & Duran, 2003, p. 28). First, the earlier 1940s/50s *northern* action research tradition of Kurt Lewin's organisation change action and/or reflection cycle (Wallerstein & Duran, 2006, p. 313); later the 1970s *southern* participatory research tradition and openly emancipatory research, which challenges the colonising practices of positivist research and political domination by elites (2003, p. 28). While action and participatory researchers from these two traditions share similar overall values, they differ in their ideological beliefs as to the achievement of these values. Table 20 provides a summary of the main themes of Brown and Tandon's (1983) paper which explores this theory.

Table 20

Summary of Differences Between Action Research & Participatory Research

Action research	Participatory Research
Developed in industrialised countries	Emerged from work with oppressed people in the Third world
Seeks theory to explain a problem	Focuses on implications of knowledge for influencing policy making rather than on their theoretical implications
"Seeks to make social systems more efficient and effective, to promote the fulfilment of human potential, to solve the problems of individuals or institutions" (p. 281)	Emphasises research implications that enable oppressed groups to improve their lives and to transform social structures into more equitable societies
Have ideological perspectives that emphasise individual, interpersonal, and group levels of analysis in solving problems	Analyse problems in terms of community and social structures
"Responds in part to problem definitions posed by organisational authorities" (p. 284)	Conceive problems in terms of resource inequities, dependence and oppression with problems originating in the community or workplace
Seeks active involvement in data collection and analysis	Participants are seen as researchers, and in control of the entire process

Note. Adapted from "Ideology and Political Economy in Inquiry: Action Research and Participatory Research" (L. Brown & Tandon, 1983).

More recently, differences between these two traditions have emerged with the changing research environment of the past few decades, as summarised below (Wallerstein & Duran, 2003):

- Role of the community in setting the research agenda: the research agenda in PR originates in the community rather than by organisations or academic institutions.

- Location of power in the research process: mutually shared in PR.

- Emphasis on different types of knowledge creation: PR promotes reflexive and pluralistic modes of inquiry; in AR, objective truths are sought reinforcing passivity of subjects (p. 35).

- Goals of the research, from a continuum of problem solving utilitarian (Northern tradition, AR) to societal transformation and emancipation (Southern tradition, PR) (p. 31).

Despite these differences, commonalities between AR and PR have been identified as the shared values of useful knowledge – that will have an immediate impact on social systems – and the importance of development change as a consequence of inquiry. Both AR and PR also share rejection of established research traditions (L. Brown & Tandon, 1983, p. 282). Khanlou & Peter (2005, p. 2335) perhaps best sum up the complementary roles of AR and PR in *Participatory* AR (PAR): "The action research component provides an ongoing, spiral framework where the participants themselves evaluate the validity and relevance of the research process. The participatory research component incorporates equity and resistance to societal oppression".

3.3.2.1 PAR in health

Core characteristics of participatory approaches to research have been applied to health settings (Cornwall & Jewkes, 1995; Hart & Bond, 1995; Israel, Schulz, Parker, & Becker, 1998; 2001). Significantly, in the past decades an alternative research paradigm **community based participatory research (CBPR)** has emerged which integrates education and social action to improve health and reduce health disparities (Minkler, 2010; Minkler & Wallerstein, 2003b; Wallerstein & Duran, 2006). CBPR is described as being similar to PAR and AR in that it takes the perspective that 'participatory' research involves three interconnected goals: research, action, and education (Wallerstein & Duran, 2003, p. 28). It has gained respectability and attention in the health field as a valid concept in its own right, emerging from the cross fertilisation of global participatory research (Wallerstein & Duran, 2003, p. 28).

In relation to where CBPR lies on the AR and PR continuum of northern and southern traditions, CBPR can and does occur at many places along the continuum. The emancipatory, southern end should however ideally serve as a "gold standard" for practice (Minkler & Wallerstein, 2003a). Although the best of CBPR contains skills and dimensions from both traditions, a research practice within the emancipatory perspective that fosters the democratic participation of community members to transform their lives is thought to achieve the optimum public health goal of eliminating disparities (Wallerstein & Duran, 2003, p. 29).

3.3.3 Definitions summarised

Following this brief discussion of the historical roots of participatory approaches to research, four important key terms have been identified, and definitions for each have been generated:

Action research (AR): Historically, AR has been carried out with organisations in response to problem definitions posed by organisational authorities (L. Brown & Tandon, 1983, p. 284). The distinctive element of AR is the research aims to *change* practice as well as study it (Green & Thorogood, 2009, p. 46) through an active cycle involving planning, action and investigating the results of actions (Lewin, 1948 cited in Wallerstein & Duran, 2003, p. 29).

Participatory research (PR): a term used to describe a variety of community-based approaches to creation of knowledge, combining social investigation, education and action in an interrelated process (B. Hall, 2005, p. 5). PR breaks the linear model of conventional research and focuses on a process of sequential reflection and action, carried out with and by local people rather than on them. Local knowledge and perspectives are acknowledged and form the basis of research and planning (Cornwall & Jewkes, 1995).

Participatory action research (PAR): PAR and its "sister concept" PR involves social investigation, education and action in an a collaborative and interrelated process (B. Hall, 2005, p. 5). Researchers and participants collectively undertake self reflective inquiry so they can:

- "create new forms of knowledge through a creative synthesis of the different understandings and experiences of those who take part" (Rice & Ezzy, 1999, p. 173); and
- understand and take action to improve upon the practices in which they participate and the situations in which they find themselves.

"The [applied] reflective process is directly linked to action, influenced by understanding of history, culture, and local context and embedded in social relationships" (Baum, MacDougall, & Smith, 2006, p. 854).

Community based participatory research (CBPR): provides a structure and mechanism for collaborative and rigorous research, using well-established or emerging methods, with a community focus (Horowitz, Robinson, & Seifer, 2009). In public health, research focuses on social, structural, and physical environmental inequalities. Through active involvement of, for example, community members, organisational representatives, and researchers in all aspects of the research process, all partners contribute expertise and share decision making and responsibilities (Israel et al., 2005, p. 1464; Israel et al., 1998, p. 173; Israel et al., 2001, p. 182; Israel et al., 2003, p. 54). "Partners contribute their expertise to enhance understanding of a given phenomenon and integrate the knowledge gained with action" to enhance the health and wellbeing of community members (Israel et al., 1998, p. 173; Israel et al., 2001, p. 182).

3.4   Descriptive review of participatory oriented research

3.4.1   Methodology, approach or method?

Classifying participatory approaches to research and understanding whether they are methodologies, approaches, methods, styles, tools or theories is another challenging task. In research, a *methodology* is the justification given for why particular methods of data collection and analysis have been selected. They are often based on theoretical perspectives or approach (Hansen, 2006, p. 181). *Methods* on the other hand are the applied research techniques for data collection and analysis (Hansen, 2006, p. 181). To describe the methodology rather than the methods of a study implies "an account of the principles by which particular approaches were taken, rather than just a recipe of the techniques used" (Green & Thorogood, 2009, p. 286). Meyer (2006, p. 121) classifies AR, which he states is difficult to define, as a *style* of research, rather than a specific method. Like AR, PR is seen not as an alternative research method, but an *approach* that can be applied to any methodology – survey, experimental, qualitative (Lilja & Bellon, 2008, p. 481). It is also seen as an "alternative philosophy of social research" (Kemmis & McTaggart, 2008, p. 273) rather than a methodology.

Directly addressing how participatory approaches to research should be classified, Hansen (2006, p. 65) view PAR not as a theory, but an approach, or tool developed

to assist researchers and research participants to work together during the research process with the aim of bringing about change. Nonetheless, they regard PAR as a qualitative approach that is often used as a *methodology* in academic research and evaluation. The data collection *methods*, they describe (p. 66), are those supporting the aims of PAR, such as unstructured interviews, focus group discussions and participant observation. Rice & Ezzy support this notion, "PAR is not a method per se but, rather, a methodology" (1999, p. 178).

In their 2003 text, Minkler and Wallerstein clarifies the classification of CBPR; "Although often and erroneously referred to as a research method, CBPR and other participatory approaches are not methods at all but *orientations to research*" (Minkler & Wallerstein, 2003b). In this regard, "CBPR can be used with any research design, from epidemiological studies to clinical trials" (Buchanan, Miller, & Wallerstein, 2007, p. 153). In this study, PAR is classified as a research *methodology* providing an account of the principles and theoretical perspectives by which particular participatory approaches will be applied. *Participatory approaches* to research such as CBPR, RRA, PRA and RPA, with their own sets of principles and preferred methods, can be utilised throughout a PAR study.

3.4.2 Guiding principles of PAR

Whilst PAR is a common feature in literature on qualitative research, health research and PR, few authors summarise the principles of PAR; many focus on the historical and theoretical underpinnings of PAR and others on the process of the self-reflective cycles of PAR. Other writers on action research prefer to move from a general description of this process to questions of methodology and technique (Kemmis & McTaggart, 2008, p. 284). Balcazar (2004) is one author to summarise the general principles of PAR. These are summarised in Table 21.

Table 21

General Principles for Implementing PAR in Community Research

Consider participants as social actors, with a voice, ability to decide, reflect, and capacity to participate fully in the research process
The ultimate goal of PAR is the transformation of the social reality of the participants by increasing the degree of control they have over relevant aspects of their community or organisation
The problem originates in the community/organisation itself and is defined, analysed, and solved by the participants
Active participation leads to a better understanding of the history and culture of the community/organisation and a more authentic analysis of the social reality
Engaging in a dialogical approach also leads to critical awareness
Recognising people's strengths also increases their awareness about their existing resources and mobilises them to help themselves
The research process also promotes personal change both for participants and researchers

Adapted from "Participatory action research: General principles and a study with a chronic health condition" (Balcazar et al., 2004, pp. 22-24)

These principles highlight the central role of participants in the research, and how the attainment of empowerment, capacity building and reciprocity must be an explicit part of the action process. It is the researcher's role to facilitate dialogue among community members to develop consensus and better understanding of the community and a more critical understanding of the social reality to participants. Capacity building of participants helps people realise they can solve their own problems. The image of the self reflection spirals (planning, acting, observing, reflecting etc) has become the dominant feature of PAR as an approach (Kemmis & McTaggart, 2008, p. 280). Seven other key features that are as important as the self-reflective spiral are outlined in Table 22.

Table 22

Seven Key Features of Participatory Action Research

PAR is a social process
PAR is participatory
PAR is practical and collaborative
PAR is emancipatory
PAR is critical
PAR is reflexive
PAR aims to transform both theory and practice

Note. Adapted from "Participatory Action Research: Communicative Action and the Public Sphere" (Kemmis & McTaggart, 2008, pp. 280-283).

Like the principles posed by Balcazar (2004), these key features highlight the importance of community participation; engaging people to examine their knowledge and investigate the reality of their lives and develop their own strategies in order to change and improve their life.

3.4.2.1 Principles of CBPR

Given the progression and proliferation of the terminology and use of PAR, when describing the overarching principles of participatory approaches to research, it is helpful to identify the terms that best fit the research objective. In the health field, CBPR is increasingly becoming the term of choice to describe PAR-oriented projects (Wallerstein & Duran, 2003, p. 28). CBPR takes the perspective that "participatory" research involves three interconnected goals: research, action and education. Using this approach CBPR addresses the burden of health disparities and historical shortfall in past research to bring benefit to communities and improve health and well being (Israel et al., 2003). Building on the core principles first introduced by Israel et al (1998), Israel et al (2003, pp. 55-58) Table 23 summarises the main principles of CBPR.

Table 23

Key Principles of Community Based Participatory Research (CBPR)

CBPR recognises community as a unit of identity
CBPR builds on the strengths and resources within the community
CBPR facilitates collaborative, equitable partnership in all phases of the research
CBPR promotes co-learning and capacity building among research partners
CBPR integrates and achieves a balance between research and action for mutual benefit of all partners
CBPR emphasises local relevance of public health problems and ecological perspectives that recognise and attend to the multiple determinants of health and disease
CBPR involves system development through a cyclical and iterative process
CBPR disseminates findings and knowledge gained to all and involves all partners in the dissemination process
CBPR involves a long-term process and commitment

Note. Adapted from "Critical issues in developing and following community based participatory research principles" (Israel et al., 2003, pp. 55-58).

Like the PAR process, the importance of flexibility, constant reflection, and critical analysis in applying and adapting these principles in different contexts are highlighted (Israel et al., 2003, p. 54). Among the similarities between the principles of CBPR and PAR, are the emphasis of joint learning between researchers and community, involvement of the community in all stages of the project including problem definition, and the iterative process towards the achieving goals; in the case of CBPR, this goal is reducing health disparities. Concluding their discussion, Israel and colleagues (2003) identify CBPR as an equitable approach to research involving action as well as knowledge generation that is beneficial to and reflective of all communities involved.

3.4.3   Alternative inquiry paradigms

The importance for researchers and practitioners to be aware of the different paradigms and how these guide their work is often highlighted (Israel et al., 1998). In the CBPR related discussion, paradigm is defined as the "basic sets of beliefs about the nature of reality and what can be known about it, the relationship between the knower and what is known or knowable, and how the knower can find out what can be known" (p. 175). Community based research draws upon constructivist and critical theoretical perspectives that address some of the criticisms of positivist science. The constructivist approach assumes reality is socially constructed influenced by historical, social and political processes (Green & Thorogood, 2009, p. 15).

The critical theory perspective, including the feminist approach, accepts that there is a reality that is influenced by social, political, economic, cultural, ethnic and gender forces that crystallise over time – with the researcher and participant being intrinsically linked. Findings are mediated by values and the transactional nature of research necessitates a dialogue between the investigator and participants in the inquiry (Israel et al., 1998, p. 176). The epistemology that accommodates reflexive capacities of human beings within the research process represents a challenge to scientific positivism; it suggests that it is not enough to understand the world, but that one has to change it for the better (Kindon et al., 2007, p. 13). PAR therefore highlights that there is a socially constructed reality within which multiple

understandings of a single phenomenon are possible by both the researcher and the participant.

In summary, practitioners of both PAR and CBPR subscribe to feminist, poststructuralist and postcolonialist ideologies and share certain methods and goals: analysing personal lives in relation to structures (both overt and hidden); celebrating strengths, not just emphasising victimisation; restructuring the power relations within the research process; and working for goals of social justice (Wallerstein & Duran, 2003, p. 40). Given their similarities, a convergence of principles is applied in this study.

3.4.4 Conventional research vs participatory research

Kemmis & McTaggart (2008, p. 273) identify three particular attributes that are often used to distinguish PR from conventional research. They are:
- shared ownership of research projects,
- community-based analysis of social problems, and
- orientation toward community action.

While conventional *qualitative* research aims to gain knowledge from the point of view of local people, PAR steps beyond collecting information about the needs and lives of local people to focusing on 'the process' of knowledge production. This emphasis is beneficial for PAR stakeholders in many ways (Rice & Ezzy, 1999, p. 174). For interventions that result from PAR, Lilja & Bellon (2008, p. 479) identify the tendency of conventional research to package intervention methods and programmes "into one-size-fits-all, off-the-shelf approaches, based on the notion of universal best practices". Participatory methods address the drawbacks of this approach by actively involving end-users in the research process; their view and representation incorporated into the prioritisation, review, conduct, and dissemination of scientific research.

Participatory research is further differentiated from conventional research in the alignment of power within the research process (Cornwall & Jewkes, 1995, p. 1668). Emphasising a 'bottom-up' approach that focuses on locally defined priorities and

perspectives, PR can address failings of conventional research, enhance effectiveness and save time and money in the long term (p. 1667). The most fitting explanation of the differences is that conventional health research tends to generate "knowledge for understanding", which may be independent from its use in planning and implementation, however most participatory research (both PAR, RPA and CBPR) focuses on "knowledge for action" (Cornwall & Jewkes, 1995, p. 1667). Summarising this perspective, two ideal-type representations of participatory and conventional research are outlined in Table 24.

Table 24

Participatory and Conventional Research: A Comparison of Processes

	Participatory Research	Conventional Research
What is the research for?	Action	Understanding with perhaps action later
Who is the research for?	Local people	Institutional, personal and professional interests
Whose knowledge counts?	Local people's	Scientists'
Topic choice influenced by?	Local priorities	Funding priorities, institutional agendas, professional interests
Methodology chosen for?	Empowerment, mutual learning	Disciplinary conventions, 'objectivity' and 'truth'
Who takes part in the stages of research process?		
Problem identification	Local people	Researcher
Data collection	Local people	Researcher, enumerator
Interpretation	Local concepts and frameworks	Disciplinary concepts and frameworks
Analysis	Local people	Researcher
Presentation of findings	Locally accessible and useful	By researcher to other academics or funding body
Action on findings	Integral to the process	Separate and may not happen
Who takes action?	Local people with/without external support	External agencies
Who owns the results?	Shared	The researcher
What is emphasized?	Process	Outcomes

Note. Adapted from Table 1 in "What is Participatory Research?" (Cornwall & Jewkes, 1995, p. 1669).

Rather than vertically following either approach, the relationship between the two approaches frequently follows a zigzag pathway with greater or lesser participation at various stages. The most important distinctions made between PR and conventional research centre on how and by whom the research question is formulated and by and for whom are research findings used (Cornwall & Jewkes, 1995, p. 1668). Chesler (1991, p. 762) refines these distinctions further by outlining differences in the goals between PAR and conventional research shown in the following table.

Table 25

Alternative Paradigms for Research and Action

	Conventional research	PAR
Goals	Advance academic knowledge Evaluate services	Advanced practical knowledge Solve problems Legitimate group claims Strengthen service capacity and empower members Generate new knowledge
Methods	Linear from theory to data to results to use Standardized measurement Replicability Positivist and deductive	Reflexive and cyclical from data to use and action to theory Measures generated in and responsive to local situation Interpretive and inductive
Relationships with participants	Researcher control Researcher apart from the field Objectivity through detachment	Participant and research co-control or participant control Researcher a part of the field Objectivity through reflexivity Reduce professional monopoly
Base of operations/finds	University/academy Federal funds Agency	Self-help group of community Foundation funds
Research issues	Known ahead of time Demonstrate group "effectiveness Compare with professional services Phases of group development Characteristics of members Test prior scientific theory	`Evolving from experience in the field How to solve problems of: Recruiting/maintaining members Programming for diverse needs Running meetings and using members' resources Influencing service systems and overcoming their resistance Making coalitions Generate theory or group operations
Products and actions	Few or no actions File research reports Contribute to scientific literature Test of advance theory	Participate in group improvement or service system changes Generate lay and scientific theory Write reports for public/academic audiences

Note. Adapted from Table I in "Participatory Action Research with Self-Help Groups: An Alternative Paradigm for Inquiry and Action" (Chesler, 1991, p. 762).

Chesler (p. 763) also notes that research conducted in the conventional paradigm may or may not lead to action for change; rather just conclude with results or

recommendations for articles in scientific journals or reports. Participatory action researchers however undertake action or change efforts prior to or simultaneous with the research endeavour. They act with or on behalf of groups they work with and typically personally engage themselves in helping to utilise the findings from research studies and coorganise and coparticipate in change efforts.

3.5 Primary health care and the 'community participation' movement

During the same decade that PAR was experiencing its first wave into the research world (Kindon et al., 2007, p. 10), 'community participation' in health became an increasingly important feature of primary health care, the health policy put forward in the landmark WHO/UNICEF Declaration on Primary Health Care in Alma Ata in 1978. This event helped propel the relevance of participation in health research.

3.5.1 Principles of primary health care (Alma Ata)

The development decades of the 1960s and 1970s led to the articulation of the analysis which related better health not only to health services but also to the existing socio-economic conditions (Rifkin, Muller, & Bichmann, 1988, p. 931). Widespread dissatisfaction of populations in developed as well as developing countries about their health services were documented by WHO (WHO, 1973). They argued that health service delivery needed to be considered as part of the whole social and economic development of a nation; and that health improved not merely by the provision of health services but also by the distribution of available resources based on the principle of equity and the involvement of beneficiaries in decisions about care based on the principle of participation (Rifkin et al., 1988, p. 931). It were these arguments that provided the foundation for the WHO/UNICEF Declaration on Primary Health Care in Alma Ata in 1978 (WHO, 1978).

Four major points set primary health care apart from traditional approaches to health care that looked merely to introduce a new health technology to bring about substantial changes in the health behaviour of local people (Rifkin & Walt, 1986, pp. 561-563).

They are the:

- difference in the definition of 'health' – being described by WHO (1978) as the "physical, mental and social well being of the individual", rather than merely the absence of disease;

- importance of equity – the equitable provision of health care to all people;

- need for a multi-sectoral approach to health problems - recognizing that health is influenced not only by health services but by a multitude of environmental, social and economic factors; and

- importance of community participation – The essence of PHC.

National governments throughout the world adopted the primary health care model as their official blueprint for total population coverage with essential primary health care services and goals, and with targets set for Achieving Health For All by the year 2000 (J. Hall & Taylor, 2003, p. 18). This approach, emphasising the centrality of communities in promoting their own health and in active participation in decision making processes around priority setting and resource allocation, stimulated a renewed upsurge of community participation projects in the health field (Ong & Humphris, 1994, p. 61). It was also during this time that Annett and Rifkin's (1995) "Guidelines for Rapid Participatory Appraisals to Assess Community Health Needs: A focus on Health Improvements for Low-income Urban and Rural Areas" was re-introduced. Despite the criticism and difficulties of applying primary health care that have been voiced over the years (J. Hall & Taylor, 2003; Rifkin, 1996b; Rifkin et al., 1988), "the concept of community participation continues to capture the attention of international health policy makers and analysts nearly a quarter of a century after it was formally introduced at the Alma Ata conference" (Morgan, 2001). Further, there are now renewed calls to give "voice" to the poor so they have a greater say in how healthcare services are delivered (J. Hall & Taylor, 2003).

3.5.2 Defining community participation

Defining the term 'community participation' has been a much contentious task in the literature. In a review of participation literature of the 1990s, Morgan (2001) identifies a definitional divide for the term community participation based on one of two distinct perspectives. Firstly, participation can be a *"utilitarian"* effort on the

part of donors and government to use community resources (land, labour and money) to offset the cost of providing services (2001, p. 221). This perspective describes participation as *means,* to accomplish the aims of a project more efficiently, effectively, or cheaply. The second perspective describes participation as an *"empowerment"* tool through which local communities take responsibility for diagnosing and working to solve their own health and development problems; a perspective describing participation as an *end*, where the community sets up a process to control its own development. Morgan however (p. 222) expresses concern that each of these definitions itself encapsulates a range of meaning that have in turn led to a proliferation of the phrase 'community participation in health'.

Woelk (1992, p. 420) also discusses the definition of the term participation as problematic, identifying three interpretations suggested at a WHO Study Group:

- Contributive participation: where the community participates in predetermined programmes and projects through contributions of labour, cash or materials.
- Organisational participation: which involves the creation of appropriate structures to facilitate participation.
- Empowering participation: which involves groups and communities, particularly those who are poor and marginalised, in developing the power to make real choices concerning health care services, through having control over programmes that affect them.

Rifkin, arguably one of the world's foremost experts on participation in health care (Morgan, 2001), identifies two frames of reference for community participation: target-oriented frame (top down approach) and empowerment frame (bottom up approach) (Rifkin, 1996a, pp. 81-82). Subsequently recognising the limitations of each frame, Rifkin argues that analysing community participation in a singular frame of reference restricts understanding about and expectations from community participation. Instead, she argues for an alternative paradigm, "both/and" as opposed to the former "either/or" paradigm explored by Uphoff (cited in Rifkin, 1996a, pp. 88-89). This alternative views community participation as an adaptive change

process, seeing community participation not as an intervention, rather examining it as an influence on an entire system.

It is in this "both/and" paradigm that rapid participatory appraisal (RPA) emerges; not from a set of pre-defined expectations about outcomes. Flexibility enables planners to respond to situations as they arise and to "escape the constraints of the linear "either/or" paradigm which in the past led planners to reject community identified options; or equally restricting, led planners to interpret community views in terms of professional perceptions of the problem" (Rifkin, 1996a, pp. 89-90)

Perhaps one of the clearer definitions for community participation can be found in an earlier article by Rifkin et al, defining community participation as, "a social process whereby specific groups with shared needs living in a defined geographical area actively pursue identification of their needs, take decisions and establish mechanisms to meet these needs" (Rifkin et al., 1988, p. 933). Relating the definition to primary health care, this process focuses on the ability of groups to improve their health and health care by exercising effective decisions to force the shift in resources with a view to achieving equity (p. 933). Similarly, WHO (2002) suggest one all encompassing definition of participation:

> a process by which people are enabled to become actively and genuinely involved in defining the issues of concern to them, in making decisions about factors that affect their lives, in formulating and implementing policies, in planning, developing and delivering services and in taking action to achieve change (p. 10).

Macfarlane, Racelis & Muli-Muslime (2000, p. 845) declare that, "For public health to succeed, it must be re-crafted in a framework that locates organised and active communities at the centre as initiators and managers of their own health." In this paradigm, non-governmental, governmental, private sector, and international stakeholders form the periphery. They listen to and learn from the people, then, discuss and make joint decisions.

3.5.3 Participation in participatory action research

The following table describes a continuum of participant involvement in PAR, the defining factor being the degree of control (power) that study participants have over the research process. At the lower end of the spectrum, low levels of PAR occur when advisory boards allow for some involvement but allow little power or control to community or grassroots groups. On the higher spectrum, participants have full control over the research process, including authority over the professional researchers. Medium levels of PAR may see participants have a high degree of control over the research process, however decision making authorities remains the domain of researchers, who may be responsible to outside funding agencies (Balcazar et al., 2004, p. 18).

Table 26

The Continuum of Participant Involvement in Participatory Action Research

Implementation

Level of PAR	Degree of control	Amount of collaboration	Degree of commitment
No PAR	Research participants with no control	Minimal	None
Low	One consumer advisor Group of consumer advisors	Advisory board members	Minimal
Medium	Responsibility for oversight and representation in research meetings	On-going advisors Reviewers Consultants Possible contractual agreement	Multiple commitments Increased ownership of the research process
High	Equal partners Leading partners with capacity to hire researchers	Active researchers Research leaders	Full commitment Full ownership of the research process

Note. Adapted from Table 1.1 in "Participatory action research: General principles and a study with a chronic health condition" (Balcazar et al., 2004, p. 19).

The level of participation in PAR should be flexible and responsive to situations as they arise; similar to the previously described "both/and" paradigm (Rifkin, 1996a, pp. 88-89). As Balcazar et al (2004, p. 18) suggest, the particular form that the PAR process usually takes depends on the context of the research and flexibility should

allow for change according to the research situation. Whilst level of commitment of participants can be flexible and vary according to the context of the study, Rice and Ezzy (1999, p. 185) summarise key points for good quality participation in PAR. They are:

- shared interest between the researcher and the community; and
- involvement of the same group of the community in all stages of the research process from the start.

The second point Rice and Ezzy describe, may not be feasible as researchers and community members often have different priorities and needs; for example, time constraints, desired control from researchers and funding constraints. However, a process of learning, capacity building, reciprocity and empowerment will occur within the involved community group.

3.6   Participation in health research: needs assessment

The next section reviews participatory approaches to assessing community health needs and provides an understanding of the purpose of conducting needs assessments. Focusing on approaches tailored for community health, common terms are defined, their history reviewed and their evolution into rapid participatory appraisal described.

3.6.1   Participatory approaches for health needs assessment

The WHO Health Promotion Glossary defines needs assessment as: "A systematic procedure for determining the nature and extent of health needs in a population, the causes and contributing factors to those needs and the human, organisational and community resources which are available to respond to these" (Smith, Tang, & Nutbeam, 2006, p. 4). The broad scope of needs assessment reflects an understanding of the dynamic nature of health shaped by individual factors and the physical, social economic and political context in which people live; reflecting the primary health care definition of health.

The overarching term 'community appraisal' has been used to describe approaches to needs assessment that emphasise involvement of local people (Wright & Walley,

95

1998, p. 1820). With the emphasis placed on encouraging people to participate in their own appraisal, the assessors support and facilitate community understanding and action rather than just record information (2003, p. 1821). Smith et al (2006, p. 4) highlight the value of consulting communities to better understand factors which affect their health and quality of life, and recognises the needs of disadvantaged groups which may not be represented in routine statistical collections. Rapid participatory appraisal is one method that can be used to engage communities in the process of information collection, analysis and priority setting for health improvement in their community.

3.6.2   Terminology of community appraisals

A number of terms describe similar methods: rapid evaluation methods, rapid appraisal methods, rapid community surveys, rapid rural appraisal, relaxed rural appraisal, and participatory rural appraisal to name a few (Wright & Walley, 1998, p. 1820).

Community appraisals also referred to as rapid appraisals and rapid assessments have their roots in rural development but extend to the health field. In the field of health and nutrition, Rifkin (1996b, p. 510) identifies some of these rapid appraisals as: rapid epidemiological assessment, rapid assessment procedures and rapid ethnographic assessment. In the field of health planning and management, rapid assessments were promoted in the early 1980s however the concept originated in the field of rural development, particularly farming systems.

The original term used to describe this method is **rapid rural appraisal (RRA)** (Rifkin, 1996b, p. 510). In the 1980s and 1990s, RRA evolved from their innovators based in universities to innovators based in NGOs, and 'participation' entered the RRA vocabulary (Chambers, 1994, pp. 957-958). Approaches and methods of **participatory rural appraisal (PRA)**, as it became known, evolved and spread quickly. A detailed account of the origins and practice of PRA and an inventory of the most known applications reveals four major sectors of origin: natural resource management, agriculture, poverty and social programs, and health and food security (Chambers, 1994, p. 961).

3.6.3   Rapid rural appraisals to participatory rural appraisals

In 1979, work in the field of rural development, particularly farming systems, enabled a group of academics and practitioners to meet and systemise their experiences (Rifkin, 1996b, p. 510). Chambers and colleagues put forward **rapid rural appraisal (RRA)** with a view to improving the planning process in the field of agriculture and rural development. RRA sought to overcome both barriers presented by long surveys which came too late for use in decision making, and biases of the development planners who were taking decisions about projects based on their limited access to beneficiaries (Rifkin, 1996b, p. 511).

During the late 1980s, parallel experiences in Kenya and India were seminal for understanding and for the development of **participatory rural appraisal** (PRA) (Chambers, 1994). By the early 1990s there was rapid cross fertilisation and spread of PRA internationally. In 1993 alone for example, the countries in which there was South-South sharing of experience included Botswana, China, Ethiopia, Ghana, India, Indonesia, Namibia, Nepal, the Philippines, South Africa, Tanzania, Uganda, Vietnam, Zambia, Zimbabwe and several countries in francophone West Africa (Chambers, 1994, p. 957). During this time PRA became the common term to describe "a family of approaches and methods to enable rural people to share, enhance and analyse their knowledge of life and conditions, to plan and to act" (Chambers, 1994, p. 953), A summary comparison of the two terms is shown in the following table.

One main point of difference Chambers notes (1994, p. 958) is that RRA is intended for learning by outsiders (researchers). PRA however is more participatory and empowering, intended to enable local people to conduct their own assessment and analysis, and often plan and take action. In PRA outsiders are conveners, catalysts and facilitators who enable people undertake and share their own investigations and analysis.

Table 27

Rapid Rural Appraisal and Participatory Rural Appraisal Compared

	Rapid Rural Appraisal (RRA)	Participatory Rural Appraisal (PRA)
Period of major development	Late 1970s, 1980s	Late 1980s, 1990s
Major innovations based in	Universities	NGOs
Main users at first	Aid agencies Universities	NGOs Government field organisations
Key resources earlier under valued	Local people's knowledge	Local people's analytical capabilities
Main innovations	Methods Team management	Behaviour Experimental training
Predominant mode	Elicitive, Extractive	Facilitating, Participatory
Ideal objectives	Learning by outsiders	Empowerment of local people
Longer term outcomes	Plans, projects publications	Sustainable local action and institutions

Note. Adapted from Table 1 in "The origins and practice of participatory rural appraisal" (Chambers, 1994, p. 958).

Providing a comprehensive description and analysis of the various perspectives on PRA, Preece (2006) summarises the goal of PRA to:

> maximise the skills, knowledge, expertise and analytical skills of village communities through a process of data collection, discussion of issues and possible solutions and the creation of an agreed community action plan that will not only include action by community members themselves, but also engage officials over an agreed timescale (p. 202).

During the same major development period of PRA, the rapid appraisal framework was further developed for application in the health field by Rifkin and Annett (Ong, Humphris, Annett, & Rifkin, 1991).

3.6.4   Introduction of rapid participatory appraisal

In a comprehensive review of Chamber's rapid rural appraisal (RRA) and its use and value for health planners and managers, Rifkin (1996b, p. 511) creates the link between RRA and the field of health planning and management:

The attraction of this approach to those in health programmes did not rest merely on the possibility of rapid data collection. RRA emphasized priority setting for the poor and community participation, two of the major principles of primary health care, the policy adopted by the member states of the World Health Organisation in 1978... [and] a third principle of primary health care, intersectoral, or in this case interdisciplinary, approaches using a number of people from different sectors and from different organisational levels as researchers (Rifkin, 1996b, p. 511).

Rifkin (1996b, p. 518) also identifies RRA techniques as the basis for a manual for rapid assessment of health problems for low income areas in urban settlements. This WHO supported manual, first released in 1988 titled "Guidelines for Rapid Appraisal to assess Community Needs" was written to guide municipal officers to make needs assessment concerning health problems (Rifkin, 1996b). Originally tested with WHO in Mbeya, Tanzania (Rifkin, 1996b, p. 518; Rifkin, G Lewando-Hundtand, & Draper, 2000, p. 66), the rapid appraisal sought to identify community identified health interventions to be undertaken by the municipal council. Three suggested interventions were identified: road improvements, providing each house with a latrine and improved refuse collection (Rifkin et al., 2000, p. 66). Rapid appraisal later became the basis for needs assessment exercises in Bolivia (in 1991) and Bangladesh (year of study not specified). The results of the appraisal in Bolivia became the basis of the plan of operation for the Bolivian Government's primary health care project in La Paz (Annett & Rifkin, 1995, p. 33)

Publications of studies utilising the rapid appraisal approach outlined in the 1988 manual are however examples from urban settings in the developed world, such as one from an urban, deprived community in England (Ong et al., 1991); adapting rapid appraisal to assess health and social needs in general practice in Scotland (Murray, 1995, 1999; Murray, Tapson, Turnbull, McCallum, & Little, 1994) and using consecutive rapid participatory appraisal studies to assess and evaluate health and social change in community settings (C. Brown, Lloyd, & Murray, 2006).

The 1988 guidelines were later revised, retitled and released in 1995. To distinguish this form of rapid appraisal from others such as RRA and PRA, the exercise was titled **rapid participatory appraisal (RPA)**. The guidelines, titled: "Guidelines for Rapid Participatory Appraisals to Assess Community Health Needs: A focus on Health Improvements for Low-income Urban and Rural Areas' (Annett & Rifkin, 1995) were designed as a "tool to help district managers, originally in urban areas, to obtain quick, accurate and timely information and involve community leaders (key informants) in data collection and analysis" (Oakley, Bichmann, & Rifkin, 1999, p. 141).

3.6.5 WHO guidelines for rapid participatory appraisal

Annett and Rifkin (1995, p. iii) make note of the increasing problem of inequity in health status in marginalised communities in developed and developing countries. Their approach to assessment rests on three principles:

- Do not collect too much or irrelevant information.
- Adjust investigations to reflect local conditions and specific situations.
- Involve community people in both defining community needs and seeking possible solutions.

Employing qualitative data collection methods, the guidelines have assisted planners and program managers in both developed and developing countries to identify and prioritise what information is needed to plan district and local health programmes, how to obtain the information and how to analyse the information once it has been collected (Oakley et al., 1999). RPA employs observation, interviews, analysis of reports and other documentation as the main methods of data collection. Because it is based on involving people and representing people's voices in the information gathering, they have the potential for promoting community involvement in health (Oakley et al., 1999, p. 137).

3.6.5.1 Contribution to primary health care

Rapid participatory appraisal's approach uses a framework that provides a holistic assessment of community health needs. Information about community composition, organisation and capacities to act are collected, as well as socio-ecological factors

that influence health, the environment and social services of the community and policies about health improvement for low income areas. The process and result of collecting this information strengthens the primary health care principles of equity, participation and multi-sectoral cooperation. Annett and Rifkin explain:

> In terms of equity, it focuses on members of society who are still denied the benefits to which they are legally entitled and which are received by more affluent members of society. As regards to participation, it uses key informants (members of the community who, because of their official or unofficial positions, represent a wide range of the community views) both to identify community problems and to contribute to solutions. In terms of a multi-sectoral approach, it uses those responsible for the application of resources, such as health staff, sanitary and water engineers, social workers and financial planners, to do the investigations and to draw up a plan of action to address priority problems (1995, pp. 1-2).

3.6.5.2   *The first step in developing a plan for action*

RPA is only one step in the process of formulating a plan of action and is "confined to participatory assessment of health needs as perceived and defined by the community" (Annett & Rifkin, 1995, p. iii). This step is most crucial, since it involves gathering information and developing mechanisms to obtain and act upon this information. Using RPA, major threats to health are defined and priorities for interventions to reduce these threats are set; together they lay the foundation by which a plan of action can be developed. This plan of action takes place as the 'next stage' of improving health within the community. In this study, this stage is referred to as the action-intervention stage of the research and looks to other methods of participatory action research, which will be explored in the following pages.

3.7   Participation in health research: action-intervention

3.7.1   Participatory approaches for action-interventions in health

There are several reasons for the growing popularity of PAR in health (de Koning & Martin, 1996, p. 1). De Koning and Martin note that the western biomedical framework of illness and disease is in marked contrast to the understanding

embedded in local cultural settings, with an evident gap between the perceptions and attitudes towards health between health professionals and lay people. Cultural, historical, socio-economic and political factors, not easily expressed in biomedical terms, cannot be ignored when measuring health outcomes. Further, Rice and Ezzy note, a "disease focused" narrow definition of health has placed doctors and health practitioners as the dominant group with "legitimate right" to a position of power in the lives and health of people (1999, p. 181).

3.7.1.1 *Application of PAR and CBPR projects in health*

A review of literature relating to PAR focusses on the ideology of the approach rather than a description of what actually happens (Rice & Ezzy, 1999, p. 178). While there have been many PAR projects in health conducted over the past decade, there are relatively few published instances of their efficacy, and only those with positive outcomes:

- Primary care settings in South Africa commencing in 2000, using group discussion with terminally ill patients, their families and their doctor to achieve the best possible health outcome for the patient (Marincowitz, 2003).

- Agricultural settings in Nicaragua and El Salvador commencing in 2000, using focus groups, in depth interviews, household surveys and conventional methods of ecological data collection for community development and conservation in shade coffee landscapes (Bacon, Mendez, & Brown, 2005).

- In Toronto Canada with South Asian migrant women (commencement date not defined) using focus group discussions to examine health promotion issues, promote health education and mobilisation for culturally relevant action (Choudhry et al., 2002).

Examples specifically noting the use of CBPR include the following:

- Multi-ethnic, low socio-economic communities in Pakistan (no commencement date defined) for better maternal and child health outcomes using focus groups, literature review and an iterative, collaborative process to develop interventions (Karmaliani, 2009).

- Canadian youth living with HIV to improve their conditions, using multiple case study methods from 2002-2004 (Flicker, 2008).

As mentioned earlier, CBPR has been identified as an appropriate research approach, and PAR as an appropriate research methodology to reduce health disparities in a variety of settings (Minkler, 2010; Olshansky et al., 2005; Wallerstein & Duran, 2006, 2010). While PAR utilises the iterative cyclic model of planning, acting, reflecting and observing, CBPR promotes an iterative approach. One new method of CBPR that has become increasingly popular is Photovoice. Photovoice's theoretical underpinnings, emphasis on participation, and evidence of success with vulnerable, oppressed communities have made it an appropriate, innovative and exciting method of PAR. This method will be reviewed in more detail.

3.7.2   Photovoice, as a method of CBPR

Photovoice is simply described as "a community based participatory research (CBPR) method that uses participant-employed photography and dialogue to create social change" (Castleden, Garvin, & Nation, 2008, Abstract). More descriptively, Photovoice is:

> A participatory action research methodology based on the understanding that people are experts on their own lives… Using the Photovoice methodology, participants allow their photographs to raise the questions, "Why does this situation exist? Do we want to change it, and, if so, how?" By documenting their own worlds, and critically discussing with policymakers the images they produce, community people can initiate grassroots social change (Wang, Morrel-Samuels, Hutchison, Bell, & Pestronk, 2004, p. 911).

By providing people in the community with cameras, Photovoice makes it possible for them to:

1. record and reflect their community's assets and concerns,
2. discuss issues of importance to the community in large and small groups promoting production of critical dialogue and shared knowledge, and
3. reach policy makers (Wang & Burris, 1997, p. 370; Wang & Redwood-Jones, 2001, p. 560).

3.7.2.1   Theoretical and historical underpinnings

Photovoice is based on three major theoretical understandings (Castleden et al., 2008; Hergenrather, Rhodes, & Bardoshi, 2009; Wang & Burris, 1997; Wang et al., 2004; Wang & Redwood-Jones, 2001). These are:

- Paulo Freire's (1970) theory of critical consciousness / approach to critical education.

- Feminist theory.

- Theory of Community based approach to photography.

Freire noted specifically that the visual image was one of the most powerful tools for enabling people to think critically about their community (2001). The theory starts with issues that people see as central to their lives and then enables them to identify common themes through dialogue. Freire used line drawings or photographs that represented significant realities. "Photovoice takes this one step further so that the images of the community are made by the people themselves" (Wang & Burris, 1997, p. 370). Feminist theory suggests that power accrues to those who have voice, set language, make history, and participate in decisions (Simth, 1987 cited in Wang & Redwood-Jones, 2001). Documentary photography is based on the premise that providing a camera to people who might not normally have access to one (the marginalised, vulnerable and impoverished) will empower them to record with the intent of documenting to a wider audiences the concerns in their communities so as to instigate and initiate change in their communities (Castleden et al., 2008, p. 1395). Collier was the first to describe the use of photos in research interviews in 1967, called photo elicitation interview (Loeffler, 2004, p. 539). Castleden & Garvin (2008) describe the process of photographs being taken by participants and used to elicit the participant-photographer's own narrative as "participant employed photography (PEP)". PEP allows the participant to determine both the subject and the meaning of the photograph, rather than the researcher. This is important to the power sharing aspect of participatory research.

Hurworth (2004) identifies Caroline Wang as the person who introduced the term 'Photovoice' to identify what had previously been termed *auto-driving, reflexive photography* and *photo novella*. Photovoice was first used by Wang and colleagues

with village women in rural China (Wang, Burris, & Ping, 1996). They used photographs and documented reflections provided by village women as a vehicle for educating women on their own health needs as well as informing Chinese policy makers and the broader society about the health and community issues faced by rural women. The methodology has been used in a variety of settings and gained momentum since then.

3.7.2.2 Applications of Photovoice

Photovoice can be used with different groups and communities in a variety of ways, such as for specific participatory objectives in health promotion and diverse public health issues (Wang & Burris, 1997, p. 374). The method has been used in a variety of settings to create change for participants and their communities. These include, with:

- women's groups (in 1996) to document the health effects of civil war in Guatemala and South Africa (Lykes, Terre Blanche, & Hamber, 2003);
- rural communities in China (in 1995) to depict social health issues (Wang et al., 1996);
- Indigenous First Nation communities in Canada (in 2005) (Castleden et al., 2008); and
- economically and ethnically diverse populations in the United States (date not defined) (Wang & Redwood-Jones, 2001).

Also, with a variety of vulnerable populations including:

- homeless people in London (in 2003) (Radley, Hodgetts, & Cullen, 2005);
- elderly women post-hospitalisation (date not defined) (LeClerc, Wells, Craig, & Wilson, 2002);
- immigrant women in North America (n.d.) (Bender, Harbour, Thorp, & Morris, 2001);
- mothers with learning disabilities in the United Kingdom (from 1999-2001) (Booth & Booth, 2003);
- people living with HIV/AIDS in the United States (in 2004) (Hergenrather, Rhodes, & Clark, 2006).

Photovoice has been shown to effectively balance power, create a sense of ownership, foster trust, build capacity, and respond to cultural preferences (Castleden et al., 2008). The steps involved in Photovoice allow researchers to balance research power, referring to the shared control of the research process and outcomes between the researcher and participants, which in turn builds trust. Specifically, "trust is established when researchers work in an open, honest and transparent manner" (Minkler, 2004 cited in Castleden et al., 2008, p. 1395).

3.7.2.3 Stages of Photovoice

A literature review of 31 Photovoice projects revealed that 10 steps were common amongst all projects (Table 28).

Table 28

Photovoice Process, Adapted from Literature Review of

31 Photovoice Projects

Stage	Description of activity
1	Identification of Community Issue
2	Participant recruitment
3	Photovoice training
4	Camera Distribution and instruction
5	Identification of Photo Assignments
6	Photo Assignment Discussion
7	Data Analysis
8	Identification of Influential Advocates
9	Presentation of Photovoice Findings
10	Creation of Plans of Action for Change

Note. Adapted from Table 3 in "Photovoice as community-based participatory research: a qualitative review" (Hergenrather et al., 2009, p. 695).

Figure 11 represents two diagrams comparing two approaches to implementing Photovoice. The Huu-ay-aht First Nation stages of Photovoice, conducted with an indigenous community in Canada used a modified version of Wang's (2005) original stages of Photovoice. An iterative process was built in to the stages, bringing it in line with its philosophical underpinnings. A feedback loop was implemented seeking input from the entire community at regular intervals throughout the project. Authors considered this iterative process important in the process of balancing power, creating a sense of ownership and particularly, building trust.

Wang's stages of Photovoice

Recruitment & training workshop

Photography assignment

Group selection of "best" photographs

Group contextualization of photographs through stories

Group codification of issues, themes, theories

Reach others to create change

Adapted from Wang, 2005

Huu-ay-aht First Nation of Photovoice

Continuous recruitment & training

Photography assignment

Individual contexualization of photos through stories

Individual selection of "best" photos

Individual codification of issues, themes, theories

Community potluck & poster release

Repeat loop each month for 6 months

CHANGE

Ongoing participatory analysis of the data & Photovoice process

Participatory evaluation

Figure 11. Stages of Photovoice: comparing approaches.
Adapted from "Modifying Photovoice for Community-based Participatory Indigenous Research" (Castleden et al., 2008, p. 1402).

Blending the stages of Castleden & Garvis's modified model (2008) (Figure 11) that incorporated a PAR inspired iterative process, with these 10 steps of the Photovoice process (Table 28), a modified model for Photovoice was developed for this study and is described in Chapter 4.

3.7.2.4 Limitations of Photovoice

As with all research, Photovoice is not without its limitations. Several ethical limitations are raised with the application of Photovoice. One is the potential for invasion of privacy through the use of photography (Wang & Redwood-Jones, 2001). Photovoice facilitators are reminded to hold the safety of the participants above the spontaneity or power of the image. Also, that the camera is not a shield, and participants must be aware of their surroundings and potential dangers at all times, in

addition to obtaining the subjects' permission prior to taking the picture (Wang & Redwood-Jones, 2001, p. 567). Another limitation is that the sample size of Photovoice studies may prohibit making generalisations (Hergenrather et al., 2009, p. 695). To create a persuasive argument, policy makers often need much data. Demonstrating the impact of Photovoice within a defined time period may therefore be challenging (Hergenrather et al., 2009, p. 696). A practical limitation is that purchasing cameras and potentially replacing lost cameras in addition to photo development can impact a research budget (Castleden et al., 2008). Finally, an important question is raised by Foster-Fishman et al. (2005, p. 289): "what extent could Photovoice be a vehicle for disempowerment if a new awareness of the need for change were not coupled with opportunities for improvement?" All action based research should consider this question prior to commencement.

3.8   Implementing participatory research

3.8.1   What's involved?

Applying PAR and the CBPR approach requires not only an understanding of its orientation of research, but the correct personal attitude and attributes. As a research methodology separate from conventional approaches to research, PAR requires a very different set of skills, including self reflection and reflexiveness (Rice & Ezzy, 1999, p. 188). The effectiveness of the PAR process depends on a researcher's abilities to negotiate with a community (Westby, 2003, p. 304). Westby (pp. 302 - 304) propose a number of considerations and recommendations to guide researchers and practitioners in initiating and maintaining PAR when working cross-culturally. They include: cultural sensitivity/ awareness; ability to build collaborative relationships and trust; respect for and adherance to cultural protocols; interpersonal skills including empathy and openness; and willingness to try out alternative constructs to explain the personal worldviews.

For CBPR, Faridi et al call for the delineation of a core set of skills and expertise required to be a CBPR researcher and describe the essential resources and organisational infrastructure needed to successfully support CBPR. One recent example effectively describing what is expected of those embarking on CBPR is Schaffer's guide to virtue ethics. Schaffer (2009) describes personal virtues that lead

to best practice in CBPR as "complex, learned dispositions that enable individuals to perceive, feel, and act appropriately in response to the challenges and circumstances of their communal lives" (p. 85). Virtue ethics emphasizes characters and patterns of traits and behaviours in relationship with others in a community, particularly relevant to guiding responses to ethical problems encountered in CBPR. Six virtues are explained that are foundational to establishing ethical relationships in CBPR endeavours (Schaffer, 2009, p. 86):

- **Compassion**: the empathetic understanding of conditions that contribute to suffering and health problems, a corresponding affective response (feeling), and a desire or action to comfort and relieve suffering.

- **Courage**: the individual's capacity to overcome fear and stand up for his or her core values.

- **Honesty**: upholding the truth, avoiding deceit, and being sincere with others.

- **Humility**: to recognizes one's own strengths and weaknesses through self-reflection.

- **Justice**: concerned with equity, fairness, and individual rights.

- **Practical reasoning**: the capacity or ability to have moral insight about a situation, exhibited in CBPR when the researcher consistently seeks input from community collaborators in all steps of the research process and decisions about the research focus and strategies are made together.

These suggested personal attitudes and attributes of the participatory researcher indicate an optimistic view of the perfect researcher. In reality, even researchers with the best of intentions will confront insider-outsider tensions.

3.8.2 Challenges of Participatory Research

A review of literature of rapid appraisal methods of needs assessment, PAR and CBPR reveal many challenges to implementing participatory research and it is helpful for researchers to be aware of these challenges prior to commencing research.

3.8.2.1 Challenges in implementing rapid participatory appraisal, RRA and PRA

Rifkin (1996b, p. 517) highlights the following issues for programme planners and managers in using RRA, particularly for needs assessment:

- the need to find credibility for qualitative information in a field in which quantitative information dominates;
- the need to establish a basis for belief by professionals in information provided by laymen;
- the value of working in multi-sectoral (multidisciplinary) teams;
- the necessity of finding mechanisms to translate the information into action to gain credibility with those who provided information; and
- the necessity of developing realistic expectations, particularly in developing a common framework and training a team, concerning the time an exercise of this type will take.

Another challenge in needs assessments is the complexity in defining needs. This concept can be explained by reviewing one repeatedly discussed approach to classifying needs; that is, Bradshaw's (1972) taxonomy of need. In a health needs assessment of any approach, it is important to tap into each type of need to increase the chance of constructing a comprehensive picture of community problems:

1. **Normative need**: refers to what expert opinion, based on research, defines as need.
2. **Expressed need**: refers to what can be inferred about the health needs of a community by observation of the community's use of services.
3. **Comparative need**: derived from examining the services provided in one area to one population and using this information as the basis to determine the sort of services required in another area with a similar population.
4. **Felt need**: is what people in the community say they want, desire or feel they need.

Individually, each of these classifications has its own implications. Expressed need for example, can be misinterpreted. A need may exist but because there is no service in place to meet it, the expressed need may not be identified. When assessing

comparative need, the level of service provision in the reference area must be appropriate in the first place. Data collected may in fact be due to over-servicing or under-servicing by service providers rather than an indication of true need for the service by health consumers. Normative needs lead to a subjective view as defined by the researcher. Addressing these issues, 'real need' is therefore proposed. Real need is identified where these four perspectives coincide (Percy-Smith, 1996, p. 7). It was suggested that policy makers allocating scarce resources should focus on real need – where the four elements of need overlap, rather than (just) normative need or felt need or expressed or comparative need (Bradshaw & Finch, 2001, p. 2).

Another limitation inherent in needs assessments is that they only reflect a situation at a given point in time, while communities often experience rapidly evolving change. According to Annett & Rifkin, (1995) RPA information pyramids are "constructed in the recognition that communities often experience comparatively rapid change and, therefore, that the pyramids reflect the situation only at a given point in time" (p. 9). As Twelvetrees (2008, p. 19) highlights, ideally, assessing needs should be a continual process in order to accurately reflect and address the needs of the community through the duration of a project.

3.8.2.2   *Challenges in implementing PAR and CBPR*

Challenges in conducting CBPR and PAR are well documented (Buchanan et al., 2007; Flicker, Travers, Guta, McDonald, & Meagher, 2007; Holkup, Tripp-Reimer, Salois, & Weinert, 2004; Israel et al., 1998; Khanlou & Peter, 2005; Minkler, 2004, 2005; Wallerstein & Duran, 2006). The proceeding summary provides a brief overview of the challenges.

3.8.2.2.1 *Ethical challenges*

Taking an ethical perspective, Buchanan et al (2007) discuss the tensions between scientific rigour and community participation. Whilst in clinical research, gaining individuals' informed consent is straight forward; this procedure becomes difficult and contentious when extending to a community where its autonomy is respected. The question of who represents the community is a challenge (Wallerstein & Duran,

2006, p. 315). It is also complicated to specify appropriate standards for assessing community interventions.

In a recent study involving participatory research with Scheduled Tribes in Southern India (Mohindra, Narayana, & Haddad, 2011), ethical challenges were experienced when a Code of Research Ethics with guiding principles and practices was developed and implemented into the NGO's practices. Similarly, challenges were experienced in gaining informed consent by participants. Challenges experienced during these two ethical procedures included resistance on the part of the local research team to integrate the procedures into their field work since this was not part of their usual work; high levels of mistrust of members outside of the tribal community, and no previous involvement in a research study. Great sensitivity in how the community was initially approached was required. In seeking community consent, it was not inherently clear for researchers who represented the community. Also, illiteracy amongst tribal leaders precluded the ability for these groups to scrutinise the code, consent forms, and other study documents.

Uniting the participants from the community for discussion on the study, the ethical code, and community consent procedures was also difficult due to geographical disperse of colonies, fears about leaving the colony, and work obligations as wage labourers. Finally, presenting the study and fostering the participation of the tribal group in a context where there are diverse expectations raised difficulties in distinguishing between participation in meetings and activities for obtaining local government benefits (for example, the tribal groups have previously benefited from government built houses) and participation in a study. The potential benefits of participation in the study which would involve a non-tangible outcome of influencing public policies that are more appropriate for them – are not tangible, in the same way as receiving special funds, materials, or services are.

For academic research, Flicker et al. (2007) found that ethical review forms and guidelines overwhelmingly operate within a biomedical framework that rarely takes into account the context and experience within which PAR and CBPR operate. They take into account risk to individuals, and not to communities and "continue to

perpetuate the notion that the domain of 'knowledge production' is the sole right of academic researchers" (Flicker et al., 2007, p. 478). Similar concerns and views are echoed by PAR researchers (Khanlou & Peter, 2005; Manzo & Brightbill, 2007). They call for PAR researchers to work toward institutional changes that facilitate PAR and one area of change is related to existing research ethics boards.

3.8.2.2.2 Practical and methodological challenges

Issues of power imbalance and privilege/control related insider-outsider tensions are widely discussed in the literature (Fadem et al., 2003, p. 254; Israel et al., 1998, p. 183; Minkler, 2004, p. 688; 2005, p. ii8; Wallerstein & Duran, 2006, p. 313). "Even outsiders who pride themselves on being community allies and trusted friends frequently fail to realize the extent of the power imbued by their own, often multiple, sources of privilege and how it can adversely affect interactions and outcomes" (Fadem et al., 2003, p. 254). Distribution of information, time, formal education and income reflect broader social inequities structured around race/ethnicity, class and gender – and these affect who participates, whose opinions are considered valid, and who has influence over decisions made in a community based research partnership (Israel et al., 1998, p. 183).

The time consuming nature of CBPR is continually reiterated in literature and is viewed as "one simple manifestation of insider-outsider tensions that may involve conducting a participatory community project within the timeframe of the academic and funding calendar" (Fadem et al., 2003, p. 254). Real collaboration takes a lot of time – for meetings, for accountability processes, for working through the inevitable conflicts (Stoeker, 2003, p. 101) and to establish and maintain trusting relationships (Israel et al., 1998, p. 182). In Karmaliani's CBPR study to improve maternal and child health in Karachi, Pakistan (2009), one year was spent building a coalition with the community before even applying for research funding. It is true that researchers are often in an impossible situation when it comes to the promotion of participatory methods, because time is often squeezed and does not permit the required time for dialogue (Mikkelsen, 1995, p. 201). CBPR is a long term commitment (Holkup et al., 2004, p. 169; Rice & Ezzy, 1999, p. 187).

Another major source of insider-outsider tensions involves the differential reward structures for partners in CBPR. Whilst the main aim of the research is to benefit the local community, the "outsider researchers typically stand to gain to most from such collaborations, possibly bringing in grants, and writing publications" (Minkler, 2005, p. ii9). There are also challenges related to the development and maintenance of partnerships between community members and researchers. For example, a lack of trust and perceived lack of respect between these two groups due to a long history of research from which there was no direct benefit (and sometimes actual harm) and no feedback of results to the community" (Israel et al., 1998). Minkler (2005) cite examples of studies that have experienced difficulty moving from the goal of community partner involvement in the research process to the reality. In a reproductive health project with marginalised and vulnerable classes in Brazil, researchers found that this group of women were least likely to be in a position to contribute their time and energy and men and women have differential costs of participation.

From the outset, issues can result when selecting a focus issue if the community is divided (Fadem et al., 2003, p. 251). Another set of challenges may arise when community desires with respect to research design and methods clash with what outsider researchers consider to be "good science" . For example, in one study with an indigenous community in Canada, community members initially strongly objected to the idea of using a questionnaire approach which they saw as "putting their thoughts in boxes" (Minkler, 2005). Later, dilemmas may occur in sharing and using the findings and knowledge when the process and outcome are shared with local people (Fadem et al., 2003, p. 256; Rice & Ezzy, 1999, p. 187). Lastly, the scientific quality of the research such as validity, reliability, and objectivity are often questioned (Israel et al., 1998, p. 187).

3.9   Chapter summary

This chapter has provided a comprehensive overview of participatory methodology and approaches relevant to community health research. Emphasis has been made on participatory action research (PAR) methodology, its theoretical underpinnings, and its relevance to the health field. Proliferation of participatory research terminology,

and intertwined traditions have seen the emergence of numerous approaches to participatory research in health. Stemming from rapid rural appraisal and later participatory rural appraisal is rapid participatory appraisal (RPA); an approach valuing primary health care principles for rapid health needs assessment. RPA is an approach that reflects an understanding that health is shaped by individual factors and the physical, social economic and political context in which people live. Community based participatory research (CBPR) shares similarities with the principles of PAR, such as the emphasis of joint learning between researchers and community, involvement of the community in all stages of the project including problem definition, and the iterative process towards the achieving goals. It is a recognised action-intervention approach particularly well suited to studying and addressing controversial issues (Fadem et al., 2003, p. 242) such as health disparities. The next chapter describes in detail the research design and methods.

Chapter 4

RESEARCH DESIGN AND PROCEDURES

4.1 Introduction and chapter four overview

This chapter provides a comprehensive description of the participatory methodology, approaches and methods applied in this study. Divided into two parts, reflecting the two stages of the study, Part A focuses on Stage 1, Health Needs Assessment, and Part B focuses on Stage 2, Action-Intervention. For each stage of the study, aims and objectives are provided plus an overview of the research design and framework used. Participant recruitment, data collection and analysis techniques are described as well as a review of ethical and rigour considerations undertaken during the study.

4.2 Participatory action research (PAR) framework

This study employed a participatory action research (PAR) methodology. An overview and account of how the PAR self-reflective cyclic framework was modified and applied in this study is provided in this two-part chapter. A model of the cyclical nature of the typical action research process can be viewed in Figure 12. Each cycle of this standard PAR model has four steps: plan, act, observe and reflect. In a PAR project, these self reflective cycles are described by Denzin & Lincoln (2000) to include:

- planning a change;
- acting and observing the process and consequence of the change;
- reflecting on these processes and consequences;
- re-planning; and
- acting and observing again and reflecting again.

When applying these steps, the process may not be as neat as the spiral of self-contained cycles of planning, acting and observing, and reflecting suggests. The stages may overlap and sometimes become obsolete in the light of learning from experience and in reality, the process is likely to be more fluid, open and responsive (Denzin & Lincoln, 2000). Cycles continue until sufficient understanding of the problem and data saturation is achieved.
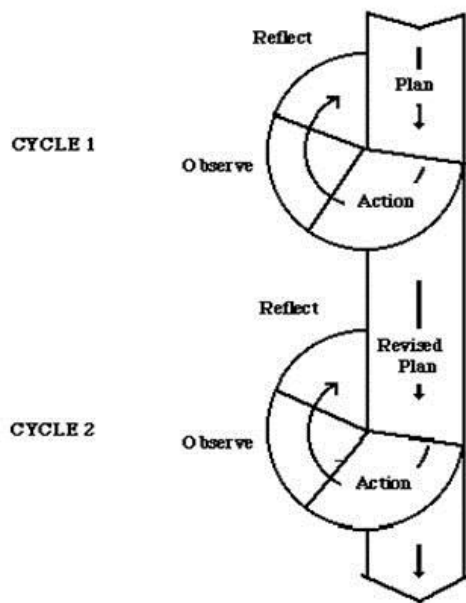
Figure 12. Participatory action research cycles.
Adapted from "Handbook of Qualitative Research"
(Denzin & Lincoln, 2000, p. 576).

PAR is change focused, and works towards improving a problem that has originated in the community itself; the problem is then further defined, analysed and solved by participants (Balcazar et al., 2004, p. 23). The focus of Stage 1 of this study, outlined in Part A of this chapter was therefore to facilitate dialogue among community members to identify the issues of importance to the community. This process allowed for a more critical understanding of the community and the participants' social reality.

Part B of this chapter discusses Stage 2, Action-Intervention. In this stage of the study, the PAR cycles continued to work towards positive change for the problems identified in Stage 1. As in Stage 1, participants played a central role in the research; people were engaged in examining their knowledge and investigating their reality in order to change it.

Part A: Stage 1, Health Needs Assessment

4.3   Part A, Introduction

Part A of this chapter focuses on the participatory approach and methods used to execute Stage 1 of this participatory action research study: a health needs assessment of selected rural villages in Pardi Taluka, Gujarat State, India. This Stage of the research took place throughout the first half of 2009 with field data collection occurring in February and early March 2009.

4.4   Aims and outcomes of Stage 1, Health Needs Assessment

The purpose of Stage 1 was to identify health related problems in selected villages of Pardi Taluka, Gujarat State, in Western India. These problems later formed the foundation for action (Stage 2, Action-Intervention). A rapid participatory appraisal (RPA) was conducted to fulfil the requirements of Stage 1, Health Needs Assessment. This participatory approach to research was deemed appropriate as it is employed as a means of assessing needs prior to the preparation of plans for future action (Annett & Rifkin, 1995, p. 6). It is the first step in the planning process, thus suitable for the commencement of a PAR study. Key outcome based objectives developed for Stage 1 on the basis of the employed participatory framework included:

1. An evaluation of community composition, organisation and capacity.
2. A description of the environmental factors that influence health, including the physical environment, socioeconomic conditions, and identification of the major disease and disability problems in the community.
3. An assessment of the existence, coverage, accessibility and acceptability of health services and facilities in the selected villages of Pardi Taluka, including health services, environmental services such as water and waste disposal, and social services such as education.
4. A critical examination of health policies of the state.

4.5 Research design and framework

4.5.1 Stage 1, as part of the participatory action research process

Based on Denzin and Lincoln's model of PAR (2000) shown in Figure 12, a modified version was developed to guide Stage 1 of this study. Figure 13 presents this modified framework. Unlike the traditional model, this process commenced with 'mobilising'. Mobilisation of resources, the study team and community was a vital first stage of the study and until this stage was complete, researchers were unable to proceed to the following stages of planning, taking action, reflecting and observing. Annett and Rifkin (1995, p. 13) stress, "it is important to remember that the [rapid participatory] appraisal is the first step in the planning process, and that data collection is not an end in itself". In this light, a concluding stage of 'diagnosis' was added to the PAR process. Diagnosis provided the link between Stage 1: Health Needs Assessment and Stage 2: Action-Intervention. Observing and reflecting occurred at each stage of mobilising, planning and taking action.
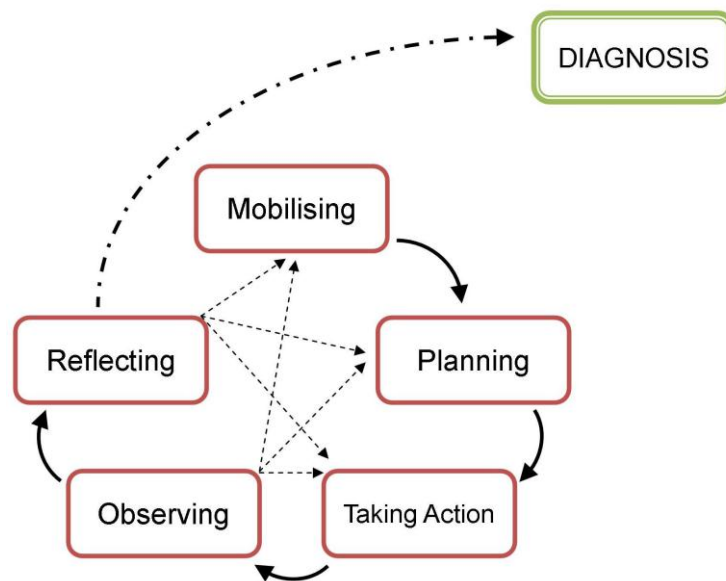
Figure 13. A modified version of Denzin & Lincoln's (2000) cyclic model of participatory action research for Stage 1: Health Needs Assessment.

4.5.2 Rapid participatory appraisal

Employing RPA as the first step in the process of formulating a plan of action involved gathering information and developing mechanisms to obtain and act upon this information. Throughout the process, the World Health Organisation's (WHO)

"Guidelines for Rapid Participatory Appraisals to Assess Community Health Needs" (Annett & Rifkin, 1995) were consulted.

4.5.2.1 Stages of the rapid participatory appraisal

The eight steps of RPA, proposed in the guidelines are presented in Table 29. First, the research team defined and shared the objectives of the RPA amongst the team. With this understanding, the team proceeded to steps 2 and 3 – deciding what information to collect and how to obtain the information. To assist in these processes, an information pyramid was utilised, which is further explored in 0. Steps 4 and 5 involved collecting and analysing the information through observation, interviews and reports and other documentation. Again, the information pyramid aided this process. In step 6 of the RPA, the research team returned to key informants in the community to gain input regarding the prioritisation of problems defined during data analysis. At Step 7, the study deviated from these guidelines. Priorities were identified however solutions were not sought at this stage, as instructed by the guidelines. This task was found to be better placed at the commencement of Stage 2 with the communities themselves rather than solely with the research team. Finally, the final report was prepared (Step 8).

Table 29

Summary of Steps for Rapid Participatory Appraisal

1 Define rapid participatory appraisal
2 Decide what information is needed
3 Decide how to obtain the information
4 Collect the information
5 Analyse the information
6 Review information with key informants
7 Define Priorities
8 Prepare the final report

Note. Adapted from "Guidelines for Rapid Participatory Appraisals to Assess Community Health Needs" (Annett & Rifkin, 1995, p. 13).

These eight stages of the RPA were applied to the modified version of Denzin and Lincoln's cyclic model of participatory action research (Figure 13). The resulting framework can be viewed in Figure 14.
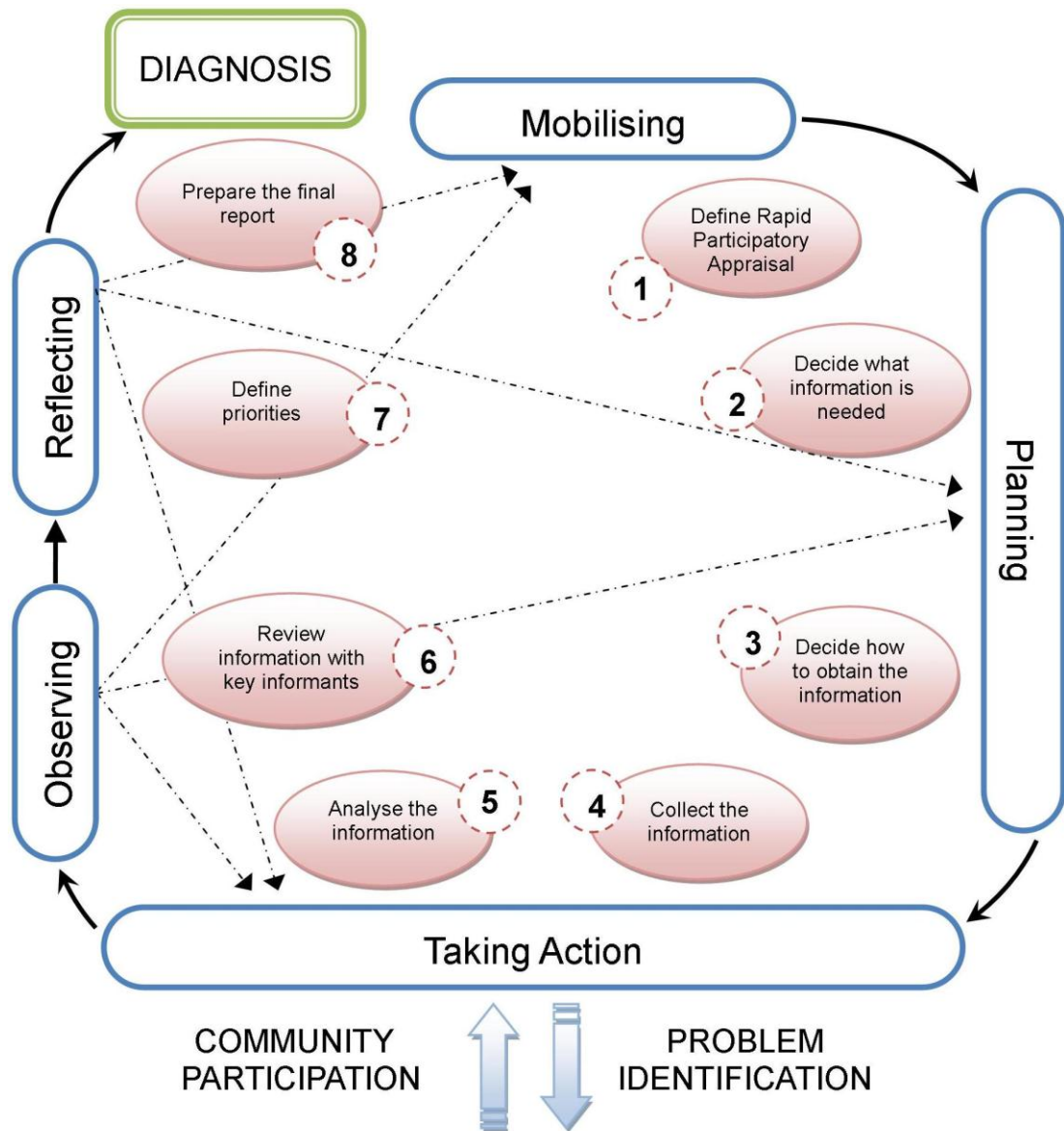
Figure 14. Steps of rapid participatory appraisal in a participatory action research study.

As RPA is a flexible and adaptable process, the stages were loosely followed and similarly described in this chapter.

4.5.2.2 *The information pyramid*

The information pyramid introduced in Annett and Rifkin's (1995) guidelines was developed to guide the process of RPA (WHO, 2002) and applied with this purpose in this study. The pyramid (Figure 15), set out in nine blocks organised in four tiers, has been identified as a useful means by which a rapid appraisal exercise can be

structured and broken down into more manageable components (Oakley et al., 1999, pp. 141-142).
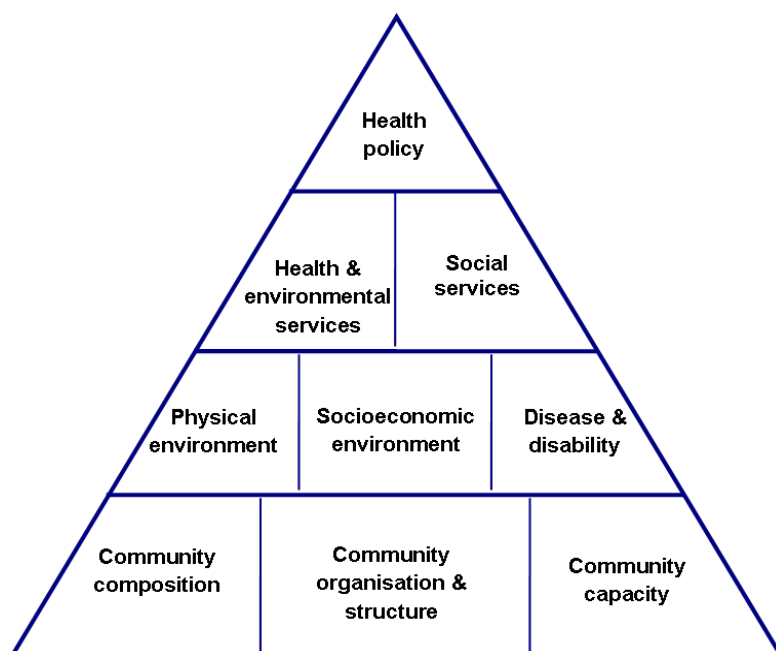
Figure 15. Blocks for an information pyramid for use in assessing community health needs.
Adapted from "Guidelines for Rapid Participatory Appraisals to Assess Community Health Needs" (Annett & Rifkin, 1995, p. 10).

For the first level of the pyramid, Annett & Rifkin (1995) assert, success depends on building a planning process that rests on a strong community information base. Thus, information was built from the bottom up - information about community composition, organisation and capacities to act formed the foundation of the appraisal. This information was important to the study because knowing the intricacies of community with which the research team were working assisted in discovering the strengths and weaknesses of community leadership, organisations and structures (WHO, 2000, p. 151).

The second level of information is concerned with developing a profile of those aspects of the community's environment that have major implications on health. Data collected from this level of the pyramid included information about the communities' physical environment, to determine the environmental causes of disease and disability, and socioeconomic conditions, including job opportunities and earnings plus cultural/historical traditions that promote or hinder good health.

Disease and disability were also investigated at this level of the information pyramid to identify the major health problems in the community and their causes.

The third level of the information pyramid was concerned with data on the existence, coverage, accessibility and acceptability of services. Services included government hospitals and primary health care facilities, environmental services such as water and waste disposal, and social services such as education.

The final level of information, the top of the pyramid, concerned national, regional and local policies about health improvements for low-income and tribal areas. WHO (2000, p. 151) informs, that with strong government support at both the top and local levels, health improvements can have the potential to proceed more rapidly, and without major political barriers.

The nine blocks of the information pyramid were consulted and reflected on throughout each step of the modified PAR framework of Stage 1, from setting aims and objectives, establishing what information to obtain, developing the interviewer's schedule, and deciding how to analyse the information once it was collected.

4.6   Pre-data collection: 'Planning'

4.6.1   Design of the interviewer's schedule

Utilising the information pyramid provides a checklist for asking questions and a framework for analysis (WHO, 2000, p. 151). The blocks of the pyramid were therefore used to inform the interviewer's schedule for semi-structured interviews – the basis of information collected from key informants in this study. Each block on the information pyramid was assigned a letter (A-I), starting on the foundation level 1 of the pyramid. Figure 16 demonstrates this amended information pyramid. Following the RPA guidelines, a number of objectives were assigned to each block that described what information was required to be obtained from that block. These aims and objectives can be viewed in Table 30. Once a clear outline of the information required from each block was decided, questions fulfilling the objectives were formulated into a draft interviewer's schedule.
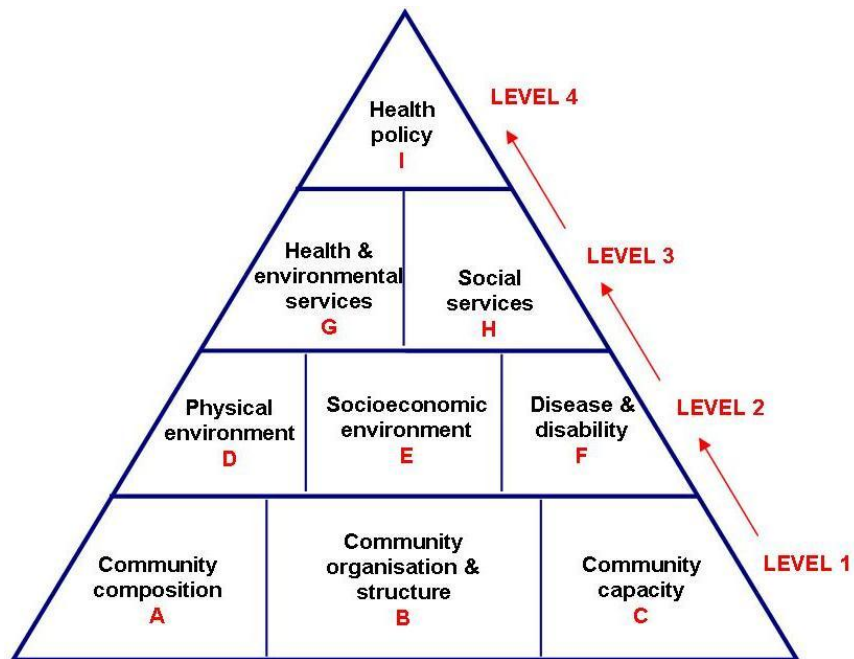
Figure 16. The information pyramid for rapid participatory appraisal. Adapted from "Guidelines for Rapid Participatory Appraisals to Assess Community Health Needs" (Annett & Rifkin, 1995, p. 10).

Table 30

Aims and Objectives of the Information Pyramid Drawn from Annett & Rifkin (1995) and Modified for Use in the Villages in South Gujarat

Information Block	Aims
Level 1: Information about communities Key Outcome: An evaluation of community composition, organisation and capacity.	
A	Identify the major groups in the area and define their common needs.
B	Describe the structure of the community and the types of organisation found, and determine whose interests the organisation represents.
C	Assess the capacity of the community to mobilise, organise and support a common set of goals.
Level 2: Describing the environment and the disease blocks Key Outcome: A description of the environmental factors that influence health, including the physical environment, socioeconomic conditions, and identification of the major disease and disability problems in the community.	
D	Describe the quality and availability of housing.
	Investigate access to a sufficient water supply of reasonable quality.
	Examine methods of excreta disposal indicating the prevalence of each. Note any plans by the local authority, landlords, or community effort, to introduce improved methods. Are the plans likely to be implemented and how soon?
	Assess the adequacy of the means for solid waste disposal.
	Examine the level of standing water in the community.
	Does the geographical location of settlement create health hazards?
E	Education: Assess the general level of education and describe opportunities for further education.
	Economy: Explore the means of cash income.
	Child welfare: Try to gain a sense of child welfare e.g. do children work? Does their environment pose danger to their wellbeing?
F	Identify the major disease problems in the community and describe the causes of these problems. These may include: Malnutrition, communicable disease, trauma, women's health, chronic and degenerative disease.
Level 3: Assessing Service Coverage Key Outcome: An assessment of the existence, coverage, accessibility and acceptability of services and facilities in the selected villages of Pardi Taluka, Valsad District in Gujarat including health services, environmental services such as water and waste disposal, and social services such as education.	
G	Examine service provision at the community, primary health and hospital level, and investigate service accessibility, affordability and acceptability. Investigate service provision, service quality, and service organisation. Identify traditional healers, their beliefs, and service uptake.
H	Review the other social services available in the community including formal and informal education institutions, recreational facilities, crèches, etc
Level 4: Assessing health policy Key Outcome: A critical examination of health policies of the state.	
I	Investigate policy and legislation, exploring whether there is the political will to pursue the principles of equity and justice.

4.6.2 'Mobilising' and briefing the study team

Once in the field, the researcher was based at the Centre for Rural Development (CRD) near Udwada Rail Station (RS), Pardi Taluka, Valsad District, in Gujarat State, Western India. A team was formed of the primary researcher (the PhD candidate); health project coordinator from CRD; and a rotation of local CRD staff members including the CRD coordinator, counsellor and anganwadi (playgroup) teachers. Although not truly a multi-sectoral team as Annett and Rifkin (1995) suggest, the diverse research team had strengths in their experience and knowledge of the Valsad District and Pardi Taluka spanning 25 years. This was a great advantage to the research process as the local CRD employees had an existing good reputation and established trust and rapport amongst the study villages.

Existing self help groups, a program initiated by CRD whereby groups of rural women are linked to banks to encourage savings and low interest loans, and established CRD anganwadis in villages of Pardi Taluka allowed access to women and key informants in the study villages. A series of meetings were held at the CRD office. These meetings were for the primary researcher to become acquainted with office colleagues and to gain an overview of the research site; communicate the aims, objectives and stages of the RPA; review research forms and the interviewer's schedule; and perform translations of research documents into the local Gujarati language.

4.6.3 Review of research forms and interviewer's schedule

Questions formulated by the researcher according to the information pyramid (Figure 16) and table of aims and objectives (Table 30) prior to mobilising in-field were reviewed with members of the research team. The process of pre-testing and piloting the questions involved a two-day intensive discussion regarding the interviewer's schedule. As Birbili (2000) note, this is an important technique for eliminating translation-related problems. With the health project coordinator who also acted as the cultural and language interpreter, the questions were pilot-tested on two CRD employees, who were also local residents, to check translation accuracy and comprehension of questions and importantly, cultural relevance. This was an important process as significant cultural and social questions relating to alcohol

consumption and religious beliefs were identified and subsequently added to the interviewer's schedule. These questions later became key questions that explored information relating to health in the context of the villages. Please see the Appendices for the final version of the interviewer's schedule (Appendix A), the information sheet (Appendix B), and consent form (Appendix C).

4.6.4   Village selection

In total, 5 villages were included in the study. These villages were selected by the research team according to:

- a diverse range of proximity and distance from the central location of the CRD office near Udwada RS;
- presence of self help groups, coordinated by the CRD for access to the village women for focus groups; and
- the full range of health services available amongst the villages, for example, some with only basic health services (sub-centre) available, and others with higher level health services (primary health centres).

The order in which the villages were visited was determined by convenience and availability of a local staff member known to that village who could accompany the primary researcher and health project coordinator for the interviews. The number of villages included in the study was re-visited after the first village interviews were completed. Time constraints and capacity of the CRD and the primary researcher to design and implement participatory interventions in Stage 2 of the project for each village included in Stage 1 was taken into consideration when deciding on the total number of villages to be included in this stage. Figure 9, page 68 displays a map of the research site indicating the location of the five selected villages.

4.6.5   Recruitment procedures

According to Annett & Rifkin's guidelines, key informants are "people in the community who, because of their official or informal leadership, have access to information about community, rather than individual, views about community problems" (1995, p. 14). Drawing on these guidelines, a range of suggested types of key informants were discussed with the selected research team for each village and

included teachers, community leaders, social and health personnel and government officials.

In the first instance, purposive sampling took place, whereby interviewees who were likely to generate appropriate and useful data were purposively selected (Green & Thorogood, 2009, p. 118). Snowball sampling, a method frequently used in field-based studies where key informants are asked to suggest a new person to be interviewed (Hansen, 2006, p. 53) was then used. These non-probability sampling techniques were an appropriate combination as a sample was first selected on the basis of knowledge of a population, then these key informants assisted in providing information to locate other members of the target population (Babbie, 2001, p. 193). All focus group participants, except the participants from one group, were purposively selected. These were women who had an existing relationship with the CRD through established self help groups. The additional focus group was opportunistically conducted at the time the research team was in the village. Convenience sampling, based on who was readily available when the research team was in the village, dictated the order in which key informants and focus group participants were interviewed.

After the first few days of data collection, it became apparent that travel time to villages, interview length (1.5-2 hours) plus time for rural village hospitality and limited working hours in rural villages from 10am to 4pm would cause delay in the research process. Flexibility allowed for the timeframe for the RPA to be extended from four weeks to five weeks. In total, 23 interviews were conducted throughout the RPA process. A summary of interviews, displaying the number of semi-structured interviews and focus group interviews conducted in each village can be viewed in the following table.

Table 31

Summary of Interviews, by Village, for Stage 1, Health Needs Assessment

Village Name	No. of semi-structured Interviews	No. of Focus Group Interviews	Total Interviews
Kolak Village	3	1	4
Orward Village	3	2	5
Paria Village	3	1	4
Saran Village	4	1	5
Amli Village	3	1	4
Outside Villages	1	-	1
TOTAL	17	6	23 Interviews

One interview was conducted with a doctor from the community health centre (CHC) in Pardi. This interview was of an informal nature, without the use of the semi-structured interview schedule. This interview has however been included in the data as it gives insight into major disease problems in the community.

Table 32

Breakdown of Interview Participant Numbers, by Village, for Stage 1, Health Needs Assessment

Village Name	Number of Key informants	Number of Focus Group Participants	Total Number of People Interviewed
Kolak Village	4	11	15
Orward Village	8	15	23
Paria Village	8	5	13
Saran Village	10	8	18
Amli Village	5	7	12
Outside Villages	1	-	1
TOTAL	36	46	82

In total, as can be seen in Table 32, 82 key informants and focus group participants were interviewed throughout the RPA.

4.7   Data collection: 'Taking Action'

Collecting information, step four of the RPA process occurred as the 'planning' steps were concluding, shifting the PAR process into the 'taking action' phase of the cycle. Information was collected from each village on the nine health-related aspects of the information pyramid using multiple methods for rapid analysis and community

participation: semi structured interviews with key informants and focus groups drawn from the local community, direct observation through community visits and data from secondary sources (Annett & Rifkin, 1995).

4.7.1   Travel to villages

A three person team consisting of the primary researcher; health project coordinator from CRD; and a rotation of local CRD staff members known to each village through existing CRD established self help groups and anganwadis travelled to each village. This assisted in acceptance and the team found everyone to be willing to participate in the interviews. A variety of means of public transportation were used including auto-rickshaw, bus, boat, and train. Travel times varied between 30 minutes to three hours from the CRD office near Udwada RS.

4.7.2   Key informant interviews

The basis of data collection for this study was through in-depth semi-structured interviews with key informants. A total of 36 key informants over 17 separate interviews were interviewed, representing a diverse cross-section of the community; including government, health, community and education sectors. The range of occupations is listed in table 33.

Ten of the 16 interviews were one-on-one. As is the experience in rural communities in developing countries, researchers found it common for numerous people to want to be involved in the interview process. For example, if an interview was being conducted with the Sarpanch of a village it was common that the c*lerk* or *taleti* (assistants) were also present. In these cases the additional persons were invited to participate; their responses added to the original participant's interview.

Table 33

Occupation of Key Informants Interviewed in Stage 1,

Health Needs Assessment

Occupation	Number
Teacher	5
Gram Panchayat Sarpanch	4
Principal/ Co-Principal	3
Gram Panchayat Taleti (Administrator)	3
Gram Panchayat Clerk	3
Anganwadi worker	3
Government Nurse, Subcentre	2
Government Nurse, PHC	2
Assistant Principal	1
Retired Principal	1
Deputy Sarpanch	1
Gram Panchayat Member	1
Ex-Sarpanch	1
Block Information Education and Communication Officer	1
PHC Sanitary Inspector	1
Block Health Office Visitor	1
PHC In-charge Supervisor	1
CHC Superintendant	1
Doctor	1
TOTAL	36

4.7.3 Focus group interviews

One focus group took place in each village; two in Orward Village. Women from established self help groups were purposely selected to be involved in these focus groups. A representative from CRD accompanied the primary researcher and health project coordinator to the villages to gather the women and assist in moderating the group. This representative was known to the women through the work involved in assembling and managing the self help groups. Focus groups were conducted in one of the homes of the women in the group. This was a comfortable setting for the women and was found to be appropriate for conducting the focus group discussion.

All women interviewed were housewives except for two women in Kolak Village who were anganwadi workers and one woman from Paria Village who supplemented household income through sewing work. The groups were generally homogenous which made it possible to draw on and benefit from on the women's shared

experiences (Kitzinger, 2006, p. 24). With encouragement to talk to one another, ask questions, exchange anecdotes and comment on each others' experiences and points of view (Kitzinger, 2006, p. 21), researchers were able to observe the women's role through their interaction and assist them to clarify and explore their views (Kitzinger, 2000 cited in Hansen, 2006).

4.7.4   Observations

The primary researcher carried out observation of each village and undertook transect walks during the 5 week RPA. Physical features of the villages (e.g. cleanliness of villages, availability of water within faliyas etc) were observed, as well as culture and way of life. The observations were added to the data collected under each block of the information pyramid (Figure 16). This was a useful technique which assisted in confirming or challenging what had been learned from the interviews.

4.7.5   Secondary data

Existing written records, health statistics, reports and other documentation were sought from government offices and health centres. Researchers visited the Block Health Office (BHO) in Orward, numerous health departments at the Jilla Panchayat in Valsad, and the Community Health Centre (CHC) in Pardi. The opportunity also arose to attend a government run health camp at Pardi CHC. This was attended by approximately 350 community members throughout the day from all over Pardi Taluka. Specialists and health officials from numerous health departments also attended providing checkups and information to the community. Information was gained from this health camp regarding specific health problems in Pardi Taluka. Although vigorous attempts were made, it proved difficult to obtain official statistical data in writing from these sources with most preferring to verbally discuss the health problems in the region. All information was added to the data collected under each block of the information pyramid and collectively analysed.

4.7.6   Informal discussion and village touring

A map for each village was obtained from the Gram Panchayat from each village. Although varying in quality and written in Gujarati, the maps were used to locate

educational, health, religious, and social services in the village. It was also possible to see where the rivers crossed the villages, how collections of houses were grouped, and major roads, exits and entry points to the villages. In some villages community members were happy to take researchers on a tour of the village assisting to locate major points of interest in the village. During the RPA, informal conversations took place with a range of community members, religious leaders, health officials and government representatives. These discussions provided additional points of view about health, social and environmental needs of Pardi Taluka. For example, in Amli Village researchers visited a practicing traditional healer. Whilst researchers encountered reluctance to discuss this method of health care during interviews, the researchers were able to informally discuss health problems, methods of relief and approximate number of patients visiting the traditional healer. They were also able to document personal observations, like how many people were attending the traditional healer's services and their reactions to researchers asking about the services. Informal discussions, village touring and transect walks were important aspects of the RPA and information obtained was added to the data collected and grouped under the relevant heading of the information pyramid for analysis.

4.7.7   Recording of data

Interview length usually ranged between one and a half hours to two hours. Initially, questions were asked in English, and then translated into Gujarati. Researchers found this a time consuming approach, negatively affecting interview flow. It was therefore decided that the health project coordinator/translator would ask the questions automatically in Gujarati and translate the answers in English for recording. The information was both hand-written and digitally recorded as audio files at the time of the interview. The digital record of interview audio proved to be a good method of back-up as well as a method of reviewing answers and cross checking recorded responses and translation. After each interview, key findings and observations of the interviews were discussed. This was to ensure the primary researcher understood and recorded all information correctly. Furthermore, this assisted in minimising risk of poor data recall. After each day in the field, interview responses were typed into the computer so they were then ready to be handled electronically. Supporting Miles & Huberman's interactive model of qualitative data analysis (1994, p. 12), this step was

cyclical and overlapping with analysis, with new data assisting the ongoing refinement of data reduction, display and overall interpretation.

4.8   Data analysis process – 'Diagnosis'

4.8.1   Stages of data analysis

Miles & Huberman (1994) view qualitative data analysis as a "continuous, iterative enterprise" (p. 12). Five stages, amended from Annett & Rifkin's (1995) and WHO's (2002) guidelines were systematically followed throughout this analysis process. These stages included:

- **Comparing:** Data for each village was handled separately. First, information from different respondents from the village were compared and checked for discrepancies. Then information from interviews, focus groups, observation, secondary data, informal discussions and village touring were compared. This process of triangulation and comparison allowed the researcher to quickly note discrepancies. As this process was being conducted whilst data was collected, any discrepancies between respondents and sources could be clarified during future data collection activities. On occasion, this process also involved follow up with the respondents if certain aspects of the interview needed clarification.

- **Collating:** Next, all data was collated under the 9 headings in the information pyramid outlined in Figure 16, p. 124. Easing this process was that the interview schedule was also developed under the nine headings of the information pyramid with questions stemming from the aims of each block.

- **Reviewing:** Once satisfied that sufficient data was collected from a village, a complete set of data under each heading of the information pyramid for each village was again reviewed with the health project coordinator, who also provided the translations and administered the questions in all villages. Any further discrepancies in information were amended and explanations and discussions pursued. This was an important stage in the data analysis as it provided clarity, understanding and insight for the primary researcher on local issues and life in the villages.

- **Summarising:** After the information was agreed to be a correct reflection of the information collected, data was then summarised into concise statements

of the main findings for each question, satisfying each aim of each block of the information pyramid (See Table 30, Aims and Objectives of the Information Pyramid Drawn from Annett & Rifkin (1995) on p.125.

- **Interpreting:** It was then possible to interpret the findings by synthesising the summarised data, drawing common themes and listing the main problems for each village. Importantly, researchers were cautious to document the problems as perceived by the community.

4.8.2   Prioritising results with key informants

Upon completion of the analysis phase, Annett & Rifkin (1995) advise researchers to return to the key informants to convey results and ask their opinion about the priority they place upon different problems defined by researchers during the analysis phase. With guidance from the primary researcher, this process was undertaken by the CRD health project coordinator over a 3 week period in July 2009. Each key informant was presented with the list of problems for their village. They were asked to prioritise each of the problems with a number; number one being most important, number two of second importance, until all problems were numbered. They were also asked to note if any actions were being undertaken to improve the corresponding problem, and to add any further comments they had. These two additional questions revealed if action was already underway to improve the problems, and gave opportunity for key informants to comment on their village's problems.

This prioritising exercise was extremely important. If researchers incorrectly identified a problem in the village then the ranking exercise would result in a low priority being allocated to that problem by respondents. The result of this confirming step was a succinct list of problems for each village, prioritised by community members themselves. With this information researchers could then commence planning for Stage 2, Action-Intervention. This stage, as will be described in Part B of this methodology chapter, takes action with community members to help improve the priority health problems of their village.

4.9   Quality criteria

The following section describes the systematic effort made throughout this research to maximise the validity and reliability of the methodology and findings. Throughout the research process systematic attention and cross-cultural sensitivity to data collection ensured multiple safeguards were implemented to protect and enhance the validity and reliability of research findings.

4.9.1   Validity and reliability

Being a collaborative study involving researchers from two countries, both local and foreign researchers conducted the research and were actively involved in the systematic analysis of findings. As identified by Pitchforth & van Teijlingen (2005), using a local interpreter is of advantage as their role extends beyond translating to act as a 'cultural interpreter'. In this study the health project coordinator acted as a cultural broker and advocate, which helped minimise the risk that the community would only be appraised through a "western cultural filter" (Pepall, Earnest, & James, 2007, p. 47). A review of the semi-structured interview schedule prior to data collection, as well as the process of distributing the findings back to the participants to validate that they were a reasonable account of their experiences, also helped improve validity.

4.9.2   Triangulation

Scientific rigour and validity in qualitative research rests on the concept of triangulation (Oakley et al., 1999, p. 138). This involves the comparison of the results from two or more data sources (e.g. interviews with members of the different interest groups) or two or more different methods of data collection (e.g. interviews and observation) (Mays & Pope, 2006, p. 87). This study employed triangulation of methods, data, and investigator to strengthen validation of results.

4.9.3   Transparency and reflexivity

Qualitative researchers rely on the idea of transparency to establish credibility of evidence, since it is not possible to rely on reproducibility of their techniques. Avis (2005) identifies, qualitative researchers attempt to demonstrate transparency through reflexivity, and by leaving an audit trail, "a record of the researchers' design

decisions, as the study progresses, about gaining access, selection of field role, choice of participants, ethical considerations, and analytical method" (Avis, 2005, p. 6), that traces the research process through design, data collection, and adaptation of data into findings.

Reflexivity is regarded as an intrinsic feature of qualitative research (Avis, 2005, p. 6). It requires the researcher to reflect constantly and critically on the decisions they make during the course of a study and reflect on their own role in the social process of producing data (Mason, 2002 cited in Avis, 2005). Hanson (2006) reveals reflexivity involves honest consideration of the researcher's role in the study, which helps to improve study design and conduct and assists researchers to question their own assumptions and interpretations. These allow the researcher to achieve "explicit, self aware analysis of their own role" (Finlay, 2002, p. 531). The primary researcher kept a reflective journal whilst in the field constantly reflecting on the research process.

4.10 Ethical considerations

Ethics approval for this study was obtained from the Curtin University Human Research Ethics Committee. Approval for the project and final design approval were also gained from the Director, Centre for Rural Development, Research Centre for Women's Studies, SNDT University, Mumbai, India prior to commencement of the study.

Consent was obtained from all participants in this study. The consent form, (Appendix C) translated into Guajarati was signed by literate participants. The form was read aloud for illiterate participants and they were able to provide verbal consent or a thumb ink-print indicating consent.

An information sheet, (Appendix B) was also provided to all participants and explained verbally for illiterate participants. Participants were informed about their right to withdraw from interviews and ensured that no harm would come to them as a result of the information they shared. Participant names and details were kept confidential and were not disclosed throughout the course of the study. Community

members participated in all stages of the RPA and results were shared with the participants.

4.11 Summary

Part A of this chapter has outlined the methodological considerations throughout Stage 1 of this research study. Stage 1 comprised of a rapid participatory appraisal that aimed to identify health related problems in five selected villages of Pardi Takula, Gujarat State, India. The RPA being a means of "assessing needs prior to the preparation of plans for future action" (Annett & Rifkin, 1995, p. 6) informs Stage 2, Action-Intervention. The methodological considerations of this stage are described in Part B of this chapter.

Part B: Stage 2, Action-Intervention

4.12   Part B, Introduction

Part B of the methodology chapter focuses on the participatory approaches and methods employed in Stage 2, Action-Intervention. The findings of Stage 1, Health Needs Assessment, identified key health problems in the villages of Kolak, Orward, Paria, Saran and Amli. These problems were confirmed and prioritised with the key informants resulting in a succinct list of priority health problems for each village. A second cycle of the participatory action research (PAR) framework was then commenced to develop and pilot participatory action-interventions to address the priority needs in each village. This chapter details the participatory approach and respective methods that guided the researcher during three months of field work from September to December, 2009 when developing and piloting interventions with communities.

4.13   Aims and objectives of Stage 2, Action-Intervention

The aim of Stage 2, Action-Intervention, was to develop and pilot community health interventions aimed at improving priority health problems using a participatory action research (PAR) model. The PAR in *all* five villages of Kolak, Orward, Paria, Saran and Amli had the following objectives:

- Facilitate dialogue between key community sectors and the community to foster partnership in improving health and wellbeing of the community.
- Involve communities to understand their health needs and take action to improve their health situation.

Respecting the above stated objectives, one key participatory intervention was pre-designed for application in Kolak Village to advocate for meaningful change to their highest priority problem: environmental pollution. A number of outcomes were expected from this project. These included:

1. Participation of community members to explore their health problem, in order to understand the problem and reflect on how it affects their lives.

2. Development of a tangible outcome representing the voices of community members that can be presented to policy and decision makers in collaboration with community members to advocate for change in this village.

In an effort to not prescribe aims and objectives of the PAR in stage 2, the above stated broader aims and expected outcomes were established. Further refinement and modification of these aims and objectives took place once in the field with the research team and the communities.

4.14 Research design and framework

Based on Denzin and Lincoln's model of PAR (2000) shown in Figure 12, p.117 a modified version was developed to guide Stage 2 of this study which incorporated a link between Stage 1 and Stage 2 (Figure 17). This diagram commenced with 'diagnosis'. That is, in this study, the diagnosis of key community health problems – that links Stage 1, Health Needs Assessment with Stage 2, Action-Intervention. Following diagnosis it is then necessary to mobilise the community. Only once mobilisation has taken place can planning and taking action follow.
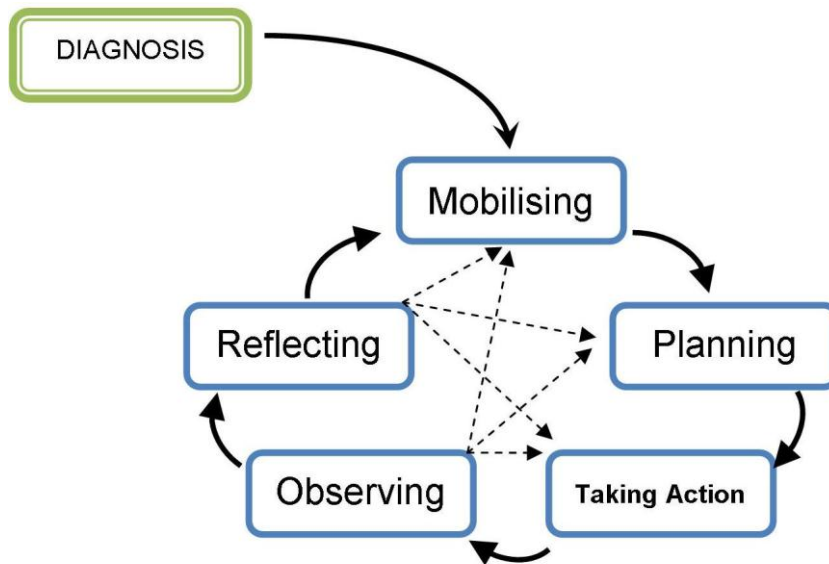
Figure 17. A modified version of Denzin & Lincoln's (2000) cyclic model of participatory action research for Stage 2: Action-Intervention.

Observing and reflecting occurs at each stage of mobilising, planning and taking action and is an important process of this modified PAR model.

4.14.1 Community Based Participatory Research (CBPR) principles

Viewing the CBPR participatory approach to research as suitable to this study, the principles of CBPR were strived for in Stage 2: Action-Intervention. These principles, when strived for, are an equitable partnership approach to public health research (see literature review chapter for a more detailed account of CBPR).

4.14.2 Methods for community health interventions

Kindon, Pain & Kesby (2007, p. 16) discuss, the most common methods of PAR focus on dialogue, storytelling and collective action. Other popular methods include arts and media-based methods as well as visualisation techniques such as participatory diagramming and mapping where participants create charts and maps to explore issues (p. 16-17). The initial method employed in Stage 2, Action-Intervention was the establishment of community participation advisory groups. In addition, in Kolak Village, Photovoice, a CBPR method, was proposed by the researcher to community members as a means to address the issue of environmental pollution in their village. Both methods will be reviewed in more detail.

4.14.2.1   Community participation advisory groups

Exploring community participation, WHO (2002) reviews a number of techniques and methods for enabling action in communities. The establishment of community participation advisory groups is identified as a useful way of enabling meaningful and effective community action. Rice & Ezzy (1999, p. 179) identify community meetings as an effective means of gathering data among illiterate people. Given the demographic profile of the communities in all the study villages, this approach was therefore deemed appropriate to initiate the community-led action of Stage 2. With the support of the village leader (*Sarpanch*), community meetings were called to discuss priority needs identified in Stage 1, agree on the need for action, and establish a group for action. These steps are described in more detail in 0: The PAR Process of Stage 2, p.145. In this study the community participation advisory group was named the 'action group' as this term was more familiar with the local research

team. It was intended that representatives from the CRD also be encouraged to participate in the action groups to ensure they continue and remain active towards change for the villages' priority health needs. Within these action groups community members would 'plan' and 'act' on their priority health needs. The researcher would 'observe' and 'reflect' as the process continues.

4.14.2.2   *Photovoice in Kolak Village*

Photovoice, as described in the literature review chapter, was the chosen CBPR method by the primary researcher as a possible intervention for Kolak Village to take action on their highest priority problem of environmental pollution. Drawing on and blending the stages of Castleden, Garvis and Nation's (2008, p. 1402) iterative Photovoice model with Hergenrather et al's 10 step Photovoice process (2009, p. 695), a modified model for Photovoice was developed for this study. Twelve steps were developed in this model, and then applied to the modified version of Denzin & Lincoln's (2000) cyclic model of PAR (Figure 17). The resulting framework (Figure 18) was intended to reflect the flexible nature of PAR where stages may overlap and be re-visited in the field. A complete guide to the 12 steps of Photovoice is outlined in Appendix D.
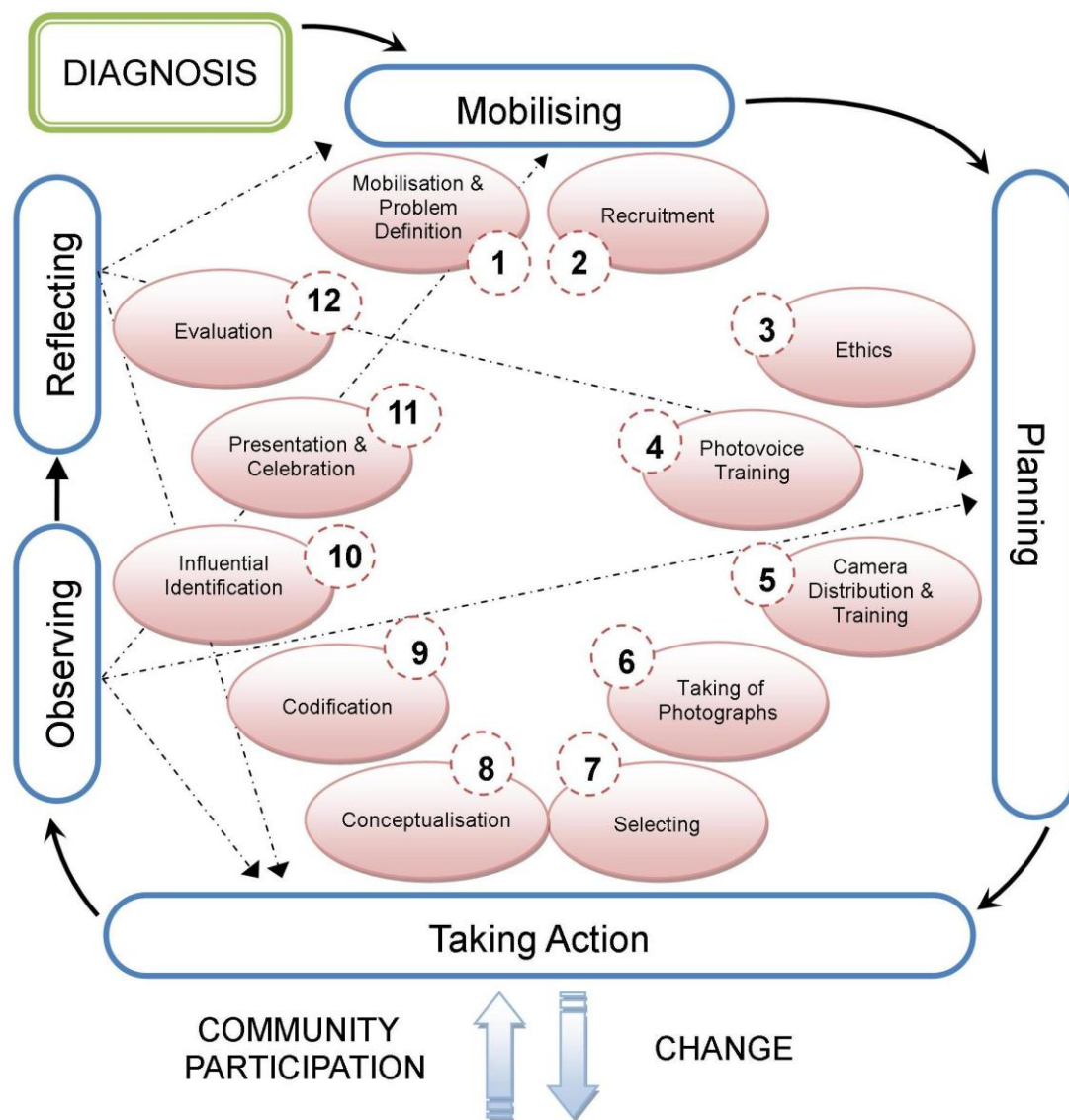
Figure 18. Steps of Photovoice in a participatory action research study.

4.15   Pre-intervention

Prior to commencing Stage 2, Action-Intervention with communities, a number of tasks were undertaken.

4.15.1 Proposal approval and discussion

A comprehensive proposal for Stage 2 was developed and proposed by the lead researcher and approved by the Supervisors at the Centre for International Health & Director, Centre for Rural Development, Research Centre for Women's Studies, SNDT University, Mumbai. Further, the proposal was discussed with the CRD health project coordinator, due to her involvement in Stage 1. Telephone discussions took

place between the health project coordinator and the primary researcher prior to commencing Stage 2. The timing of Stage 2 and feasibility of conducting interventions in villages were discussed. At this point, the health project coordinator voiced some concerns regarding the politicised nature of some of the environmental and alcohol problems revealed in the RPA. Although aware of this information at this early stage, it was not clear until later in the research just how politically charged these issues are, and the impact they could have on 'mobilising' and 'planning' efforts.

4.15.2 Pre-planning

Once in the field, pre-planning with the research team commenced for Stage 2. Discussions took place regarding the results of the prioritisation process and proposed interventions. Reflecting on Stage 1 results and the health project coordinator's experience prioritising needs, concerns regarding mobilising key informants collectively was discussed. Respecting the work hours of key informants, it was agreed to initially meet key informants individually to present the Stage 1 report and discuss ideas for Stage 2. During this pre-planning period, timelines for Stage 2 were developed as well as translation of the Stage 1 report into the locally spoken Gujarati State language to present to villages.

4.15.3 Setting aims and objectives for Photovoice

In-depth discussions with the research team took place regarding use of Photovoice, the only intervention that was pre-designed, intended to be presented to the community of Kolak Village as a possible intervention to address environmental pollution. The health project coordinator was briefed in the stages of Photovoice, and objectives and strategies were set complementing the expected outcomes. It was decided that the main goal of this intervention would be to "contribute towards a healthier living environment for the people of Kolak Village". Objectives and strategies for Photovoice can be viewed in Table 34.

An information sheet (Appendix E), was developed outlining the proposed study, involvement expected from participants and the aims and objectives of the study. It

was decided that a Gujarati name be given to the study. Thus, Photovoice became: "Photo thi Awag".

Table 34

Objectives and Strategies of Photovoice in Kolak Village

Objectives	Strategies
To empower individuals to take control of their lives and become actively engaged in helping themselves.	Through participation in the project and in decision making, build confidence and self belief of community members.
To enable community members to explore the problem of environmental pollution, in order to understand the problem and reflect on how it affects their lives.	Participation of 12 community members in photography and dialogue. Individual and group dialogue about the photographs taken and how they represent the components of the problem.
To raise awareness amongst the public that people of Kolak want to be heard and want meaningful change for a healthier living environment.	Hold an event to exhibit the photographs taken by the participants. Invite the media to attend any event held exhibiting the photographs.
To enable people of Kolak Village to lobby key decision makers, or those with influence through their photographs for meaningful change.	Provide community members with the means to communicate, through photography and dialogue. Develop a tangible outcome representing the voices of community members that can be presented to decision makers, or those with influence in collaboration with community members.

4.16 The PAR Process of Stage 2

The activity of each stage of the modified PAR model applied in this study (Figure 17) will be described in more detail in the following sections.

4.16.1 Diagnosis

Diagnosis, the link between Stage 1, Health Needs Assessment, and Stage 2, Action-Intervention is where researchers commenced Stage 2 with communities. Completing this step, findings of Stage 1 were presented to the key informants from all villages involved in the rapid participatory appraisal (RPA). A report, translated into Gujarati highlighting, in order of priority problems in each village was presented personally to key informants. Initially, one village at a time was visited, commencing with Amli Village. At the meetings, discussion took place with key informants regarding how to proceed with the information and knowledge at hand. All participants were asked if they wished to take action on the top priority problems they had been instrumental in identifying. Their responses, as revealed in Chapter 6, Stage 2 findings, varied and determined whether researchers proceeded with Stage 2 plans. It was at this stage of

the PAR process that Stage 7 of the RPA, which is to identify interventions that key informants may be prepared to undertake, was applied (see 4.5.2.1: Stages of the rapid participatory appraisal, p.120).

4.16.2 Mobilising

Once all key informants had been presented with the Stage 1 report and consulted regarding how to proceed, efforts were made to mobilise communities.

4.16.2.1   Liaison with Village Leaders

Gaining consent, either formally or informally from a community leader or elder before implementing a study is an important consideration in developing countries, particularly rural areas (Marshall, 2006, 2007). A survey of more than 500 researchers from developing countries, Kass & Hyder (2001 cited in Marshall, 2007) found that more than half sought approval from a community leader or village elder for documenting consent or informing participants about their study and access to a site. Cultural protocol made it mandatory to have informal involvement of the Sarpanch, which was central to the ability of the research team to proceed with Stage 2 of the research. All village Sarpanches were contacted, however not all were enthusiastic of the researchers furthering their work in their village. For those villages whose Sarpanches were supportive of the study proceeding, community consultation followed.

4.16.2.2   Community consultations

Community meetings were called in villages when the village Sarpanch was supportive of the researchers proceeding with Stage 2 and key informants found it feasible to act upon the problems in their village. Community meetings were conducted in two of the five villages – Amli and Kolak Villages. The meetings were advertised through banners erected at key locations in the village such as entry and exit points, the centre of the village, schools and the Gram Panchayat offices. The banners outlined where and when the meetings would be held, which was determined by the key informants, and what would be discussed by whom at the meeting. During the meetings, open to all village residents, outcomes of the RPA was discussed as well as further defining the problems at hand from the perspective of the

community. In an effort to achieve the objective: 'Facilitate dialogue between key community sectors and the community to foster partnership in improving health and wellbeing of the community', community members from different sectors - health, education and government were invited to attend the meetings. Meetings usually consisted of a combination of community members, teachers and local government workers. In an effort to build ownership of this process, the Sarpanch was encouraged to address the community members at the meetings. Researchers assisted by explaining the research process and by facilitating discussion of possible solutions to problems.

4.16.3 Planning and taking action

Details of activities during these stages of the PAR cycle will be described in Chapter 6, Stage 2 findings.

4.16.4 Observing and reflecting

Cahill (2007, p. 181) states, "analysis is an iterative and ongoing feature of PAR's cycle of action and critical reflection". 'Observing' and 'reflecting', as shown in Figure 17. A modified version of Denzin & Lincoln's (2000) cyclic model of participatory action research is a fluid process occurring at all stages of the PAR model. Through observation and reflection, researchers were able to analyse the process of the PAR and guide research accordingly. This will be described in more detail in the following sections.

4.16.4.1 Documentation of activity

All interaction with villages was recorded. Meeting minutes were taken, typed up after each day in the field and discussed with the health project coordinator. This helped reveal any barriers to the research and decide how to tackle these obstacles.

4.16.4.1.1 Recognising and documenting challenges

In this study, numerous challenges to proceeding with the PAR emerged. These challenges were documented and feasibility of conducting PAR in the villages was assessed. Due to the nature of the challenges, the political nature of the health issues (environmental concerns, alcoholism, sanitation), as will be outlined in Chapter 6,

project supervisors were notified and the decision to cease community action in the villages was taken to protect villagers and the research team. The PAR cycle of Stage 2 did therefore not experience a full cycle.

4.16.4.1.2 *Reviewing ethics and research design*

A number of factors were considered when making the decision to discontinue Stage 2 research and these are described in detail in Chapter 6. Briefly, the major consideration was whether continuing the research would jeopardise both the ethics and principles of PAR. In the primary researcher's view, by continuing with intervention for specific problems identified in Stage 1, Health Needs Assessment, the safety of both the researchers and the communities could have been put at risk. As noted by the health project coordinator, (0 4.15.1Proposal approval and discussion, p.143) the nature of the problems became too political to proceed.

Furthermore, as time lapsed, due to the unforseen delays in mobilising communities, researchers identified that realistically, time to conduct interventions that supported the principles of PAR was absent. The issue of time is well summarised by Fadem et al (2003). They quote Stoeker (2003) who states, "Real collaboration takes a lot of time – for meetings, for accountability processes, for working through the inevitable conflicts – that may be in especially short supply for community group members" (p. 254). They further note that one simple manifestation of insider-outsider tensions involve the difficulty of conducting a participatory community project within the time frame of the academic and funding duration. These conflicting time pressures and constraints between community members, community based organisations and academic researchers lead to frustration on all sides (Nyden & Wievel, 1992; Sullivan et al, 2001 cited in Fadem et al., 2003). Despite not being able to complete the PAR of Stage 2, Action-Intervention, the information collected and experiences of the researcher in-field was undisputable for the researcher and team and valuable knowledge for participatory action researchers. It was therefore decided to expand on the data collected by documenting challenges faced by the researchers. This process is described in more detail.

4.17 Key Informant Interviews

It was recognised that the challenges faced by researchers whilst conducting Stage 2 was extremely valuable, if not more valuable to the PAR learning experience. The nature of the challenges and experiences of the researchers could potentially be important information for participatory action researchers. They reflect the realities and practicalities of conducting participatory research in marginalised, oppressed communities. To strengthen and add depth to the data, key informant interviews were conducted with experienced grass-roots practitioners and activists who, through their years of practice in the region, shared information about working with communities towards empowerment and social change. These interviews, as described by Taylor (2005, p. 39) explored the "insider perspective" and captured, in the participants' own voices and narratives, feelings and experiences.

Concurrently with identification and recruitment of key informants, consent forms (Appendix F) and the interviewer's schedule (Appendix G) were prepared. A set of 14 questions were developed to elicit information regarding the key informant's initial motivation for working in community development, a description of their work, their reflection on the positive experiences, the challenges they faced, and how they overcame the barriers. The key informants were also asked to provide any advice for those desiring to work in a community (especially outsiders) for social development. The interview schedule was developed and pilot tested with the health project coordinator, who also participated as a key informant in this stage.

4.17.1 Identification and recruitment of key informants

Key informants were purposively selected based on the following criteria:

- Well-established in the field of social development.
- Working in the Pardi Taluka/ Valsad District region.

In total, eight in-depth interviews were conducted. Interviews were concluded when the list of possible key informants was exhausted. All interviews were conducted in private, comfortable settings either in the key informant's home or place of work.

4.17.2 Data analysis

Interview length ranged from 35 minutes to 1 hour, 15 minutes. All interview audio were digitally recorded as sound files and later transcribed. Thematic content analysis was used to analyse the data. Pope, Ziebland, & Mays (2006), define thematic analysis as the process of grouping data into themes, then examining all cases in the study to ensure all manifestation of each theme have been accounted for and compared. This is then followed by examining how themes are interconnected. The analysis followed a process as described by Hansen (2006, p. 150) that included:

1. Collecting data and undertaking ongoing analysis.
2. Reading and reflecting on the data and analysis.
3. Developing and adding codes.
4. Sorting the data.
5. Refining codes through reading and reflecting, comparing, & sorting.
6. Developing a thematic classification scheme.
7. Critically evaluating and re-examining the schemes.
8. Deciding on the key findings and writing up.

Findings of the analysis provided further information on challenges faced by practitioners working for social development/change in the field, illustrated by many examples from the data.

4.18 Quality Criteria

4.18.1 Rigour and reliability

Throughout Stage 2, Action-Intervention, the researcher ensured that the health project coordinator/translator was involved in all stages of the PAR cycle to strengthen investigator triangulation. That is, the inclusion of a variety of researchers in the research process (Rice & Ezzy, 1999, p. 38). Also, triangulation of methods was implemented. Two approaches to PAR interventions were proposed to villages: community consultations and Photovoice, in Kolak Village making it possible to compare the experiences of both approaches.

4.18.2 Reflexivity and an audit trail

As in Stage 1, Health Needs Assessment, reflexivity and audit trail were used to indicate transparency (Avis, 2005). In Stage 2, reflection and action were iteratively linked and observations and reflections were collectively scrutinised jointly by the health project coordinator and primary researcher. Reflexivity was a central component to this stage of the research and evidence of this can be seen in the decision to withdraw the research. Further evidence can be viewed in the exploration of challenges faced by researchers outlined in the findings.

4.19   Ethical considerations

Approval for Stage 2 and final design approval was gained from the Director, Centre for Rural Development, Research Centre for Women's Studies, SNDT University, Mumbai, India prior to commencement of the study.

Special attention was made to ensure village leaders informally approved of the continuation of the research from Stage 1 to Stage 2. In some villages, key informants who did not wish to be further involved in taking action on the problems uncovered in Stage 1, Health Needs Assessment were respectfully withdrawn from the study. As mentioned in 0: 4.16.4.1.2   Reviewing ethics and research design, p.148, avoidance of harm was a major consideration for ceasing Stage 2 of the research. For key informant interviews that followed, written consent from all key informants was received prior to interviews taking place.

4.20   Chapter summary

Part B of this chapter has outlined the methodological considerations throughout Stage 2 of this research study. Stage 2 comprised of community based participatory action-interventions that aimed to address the health related problems identified and prioritised in five selected villages of Pardi Takula, Gujarat State, India in Stage 1 of this study. Proposed methods of CBPR were discussed in part B of this chapter. These include the establishment of community participatory advisory groups in all villages, and Photovoice in Kolak Village. Activity at each stage of the PAR cycle was presented throughout the chapter, followed by a brief discussion regarding

reasons why Stage 2, Action-Intervention needed to conclude prematurely. These points will be elaborated further in Chapter 6, Stage 2 findings.

Chapter 5

Report and Findings: Stage 1, Health Needs Assessment

5.1 Introduction and chapter five overview

This chapter presents the main findings of Stage 1: Health Needs Assessment. Presentation of Stage 1 findings is best commenced at step 4 of the analysis process, **summarising**: concise statements for each question of the RPA, addressing the aims of each block of the information pyramid (A-I). At the conclusion of presented summarised data for each level of the information pyramid, reflections and discussion addressing the common themes emerging from the data will be presented. The chapter will then present **interpreted** data in table format as a list of the main health problems for each village identified by the villagers themselves. A process of prioritisation with communities informed the priority placed on each of the village problems.

5.2 Summarised data

5.2.1 LEVEL 1: Community composition, organisation and capacity

This section will present summarised statements contributing to the fulfilment of the outcome for Level 1 of the information pyramid: *An evaluation of community composition, organisation and capacity.*

5.2.1.1 Block A: Community composition

AIM: Identify the major groups in the area and define their common needs.

There was a mixture of Other Backward Caste (OBC), Scheduled Tribe (ST) and Scheduled Caste (SC) communities present in the 5 villages where the RPA was undertaken – the majority of the communities were from tribal and lower castes. The main communities included: Tandel, Halpati, Dhodia Patel, Aheer, Mahyavanshi, and Koli Patel. Disparity between smaller communities within villages - often made up of the same caste and segregated into separate *faliyas* (a separate aggregate of houses within the village boundary) was evident. Some faliyas were in a better socio-economic situation than others and this often related to what caste they were. Some

of these communities were also described as being "more aware" and "advanced" than others. Common need was observed to be related to geographic locality and shared surroundings. Different wealth stratum of the community was observed to have different needs. Lower castes and tribal groups were more likely to avail government services such as schooling and health care, however upper castes were seen as choosing private services. Defining common need in these villages with communities made up of multiple societal and wealth layers presented challenges due to the diversity of communities.

Religion has a strong presence in all villages. All villagers expressed harmony between communities and religions including Hinduism, Christianity, Islam, and Jainism. As expected, the predominant religion was Hinduism, with multiple temples present in all villages. The influence of religious leaders (dharma gurus) was also present in all villages. The main religious Hindu movements (also referred to as Sects) included: Swadhyay Pariwar, Asaram Bapu, Swaminarayan Dharma, Nirankari Mandal and Radhaswami. Other groups were Radheshyam, Sampraday, Sadafal, Sanatan, Kalwada wada and Paglam Bapu. Key informants stated that religious groups provide people with spiritual sustenance. Religious activities were described in a number of villages as "learning about God", "feeling good" or "instilling good morals" and were observed to have a central role in the lives of villagers.

5.2.1.2 Block B: Community organisation and structure

AIM: Describe the structure of the community and the types of organisation found, and determine whose interests the organisation represents.

The relationships between caste, class, income and social position are complex. However, regarding the structure of the community, there is an association between caste and position in the social structure of communities. Households in villages were observed to be spread over clear and distinct localities within their social group. Distinction between upper and lower castes is particularly noticeable. Scattered households on the outskirts of the village were usually tribal households whilst wealthier upper castes were concentrated in central localities. Government services

including health centres, primary schools and the village level gram panchayat (local government) were named as providing assistance to residents of the villages.

The presence of women's self help groups (SHGs) developed through the Centre for Rural Development (CRD), SNDT University and religious movement groups mentioned in the previous point were common amongst the villages. There was less awareness of SNDT assistance amongst those villagers not involved in the SHGs. Kolak village was the only village that has an organised men's group, the Seamen's Mandal (made up of retired merchant seamen) who performed charitable activities to help their community. Swadhyay Pariwar – a religious movement group was commonly named as a group collecting people to preach about God and instil good moral values. However, the group does not provide charitable assistance or services to the people.

In some villages, individuals, referred to as moti (big) people who had provided some charitable assistance in the past were named. These people usually were wealthier than most village residents with political connections. Their contributions were not a permanent occurrence in the community. Key informants from all villages could not identify any external organisations assisting their villages. Commonly, interviewees (particularly women from focus groups) identified the desire for having small household businesses and cottage industries (like sewing, embroidery, preparing processed food like pickles and papads) and associated enskilling in this area.

5.2.1.3 Block C: Community capacities

AIM: Assess the capacity of the community to mobilise, organise and support a common set of goals.

All respondents referred to the elected members of the *gram panchayat* or village council, particularly the Sarpanch (village head), as people who are looked to for solving most community problems. In all villages, respondents described their caste-community coming together to help each other. Although villages reported harmony between caste-communities in the villages, on many occasions, it was described that individual faliyas would come forward for their own in times of death, illness and

155

marriage. Although faliyas tended to help their own caste-community, for common issues relating to the village, people from different castes reported that they would be able come together for a common purpose. In Orward and Saran, the population was more scattered and these villages were less inclined to consider their community as the entire village, rather, those in their direct vicinity. Only a small number of people expressed their willingness and capacity to come forward to improve identified problems in their communities. On the topic of community capacity, some key informants referred to others in the community as - quote - "lazy" and "disinterested in improving" their lives.

5.2.2   Reflections, observations and discussion

There was segregation between caste-communities in all study villages. There was reported harmony between castes and religious groups however vast disparity between faliyas of differing caste-communities was observed. Whilst faliyas mainly consisted of the same caste (hence the term caste-community assigned by the research team), not all faliyas had a homogenous caste composition. In these faliyas further disparity was observed between the different caste groups. Generally, poorer families almost always belonged to lower castes, reinforcing the observed evidence of the oppressive caste system in India. It was recognised at this stage of the study that given that villagers were less inclined to identify their community as their village, identifying village common needs and later action-interventions targeted at the common needs of the whole village would be challenging. Scattered faliyas in particular would be hard to reach when engaging the village community. This issue is explored further in the critique of RPA in: 8.2.1.2.2 Limitations and challenges of RPA in Chapter 8, p. 272.

Religion had a major role in the lives of village residents. Large religious events were often organised and dharma gurus affiliated with religious movements such as Swadhyay Pariwar were worshipped. Village residents showed devotion to these groups however it was observed that the offering in return did not extend beyond instilling of "good morals" and "feeling good" – as described by one key informant. The lavish temples of these religious movements in comparison to the standard of

living of local people was observed, and at times, personally confronting for the primary researcher.

No external organisations, other than the CRD on a small scale, at the time of the research were providing any services (social, health or educational) to villages. The government and occasionally wealthy residents were the only providers of assistance to low income earners. All key informants identified the Sarpanch as someone who showed initiative and took the lead in improving the situation for the village and its people. It was observed that people in these villages had received very little, if not no support in the past to assist in improving their lives. The Sarpanch in these villages seem to have a heavy burden as they are looked upon to solve community problems. The villages had also never been exposed to the type of participatory action based research being conducted and it is likely had never been involved in participating in groups to improve tangible community issues – as opposed to the personal self development and fulfilment supported by religious movements. These observations coupled with key informants' comments suggesting community members have a low capacity for participation in future action indicated that influencing people to act on their needs would take time and could be challenging. It also highlighted the importance of the role of religious activities in these communities that promote positivity and moral for people entrenched in marginalisation and oppression. On a positive note, researchers were welcomed and accepted in all villages without prejudice and suspicion, in part thanks to the established relationship between CRD and communities.

5.2.3   LEVEL 2: Socio ecological factors influencing health

This section will present summarised statements contributing to the fulfilment of the outcome for Level 2 of the information pyramid: *A description of the environmental factors that influence health, including the physical environment, socioeconomic conditions, and identification of the major disease and disability problems in the community.*

5.2.3.1 Block D: The physical environment

5.2.3.1.1 Housing quality

AIM: Describe the quality and availability of housing.

The quality of housing ranged from being very good to very poor in all the villages. Poorer families live in *kuccha* houses – non-permanent, makeshift structures that lack strength. Wealthier communities live in *pucca* houses – permanent structures. Government assistance is available to improve housing conditions for below poverty line (BPL) people. Further information on BPL is outlined in Chapter 2, background. Amli Village was the only village that had villagers living with joint and extended families of up to 10-12 members in a household. In all other villages, the majority of homes consisted of the nuclear family of 4-5 people. House size depended on the number of people living in the houses. On the border of Orward and neighbouring Rentlav Village, a transient community was observed to be residing in tents near the railway station. Some of these children attend Orward Primary School. This community was observed to be extremely impoverished. The majority of people in all villages were described as owning their own houses. Ownership of land is usually acquired through inheritance or marriage.

5.2.3.1.2 Water supply and quality

AIM: Investigate access to a sufficient water supply of reasonable quality and examine the level of standing water in the community.

All villages besides Kolak Village reported having access to good, clean water through bore wells, rain water tanks and hand pumps. The PHC has a role in maintaining clean water sources for the villages through regular testing and treatment with chlorine. Kolak Village reported the water in the village makes the villagers sick and they have to get their drinking water from outside the village. Some respondents claimed their water was polluted by the pollutants and effluents from nearby industries, and anecdotally the villagers reported an increase in cancer in the village. In conflicting reports of the water quality in Kolak, other respondents including the village nurse reported the bore in the centre of the village to be generally good. If they have a problem they call the PHC to treat the water with

chlorine. Further research would be required to confirm the status of water quality in Kolak Village.

5.2.3.1.3 *Water logging and stagnant water in the community*

There were minimal complaints about water logging and drainage. Saran residents complained of water rising through their mud floors during the rainy season. The village is also at risk of Kolak River overflowing. Orward Village residents complained of water logging on some roads in the village. Amli Village residents reported the bridge into the village connecting the village to Pardi Town floods in the raining season.

5.2.3.1.4 *Sanitation and solid waste disposal*

AIM: Examine methods of excreta disposal indicating the prevalence of each. Note any plans by the local authority, landlords, or community effort, to introduce improved methods.

All villages reported that a proportion of villagers did not have access to sanitation facilities and use open areas for toilet purposes. Some villages reported approximately 50% of the population in the village do not have sanitation facilities. The government provides incentive of INR 1200 for BPL card holders to build toilets, which is currently being utilised in the villages. The out of pocket expenses for BPL families depended on the standard of toilet built. An amount of INR 750 is available to above poverty line (APL) people. The subsidised amount was reported to be insufficient. Cost of a useable toilet, with four walls and a roof was estimated at approximately INR 3000.

There was an expressed discontentment amongst respondents regarding toilets built under the government scheme. Respondents reported cases of poorly built toilets, installation of toilet structure without walls and wells of 3 feet (the standard depth) overflowing too quickly. People with toilets of 10 feet depth did not have problems with their system, but these systems cost more with higher out of pocket expense.

In Saran Village there was an expressed concern that the standard 3 feet deep well toilet would be too shallow and 10 feet wells would be more suitable. They felt 3 feet fill too quickly, possibly as a result of high water levels in the land. Participants from Saran village also expressed concerns of the effects ground toilets may have on their bore water supply. Respondents without toilets expressed a desire to have toilet facilities. Using open spaces for toilet purposes was problematic for them, especially in the raining season. Respondents in Orward Village felt unsafe going to the open fields for toilet purposes at night. Women generally reserved going to the field until night time for privacy however the open areas are often far from their homes, not lit and sparsely populated leaving women open to possible attack.

A variety of methods of household waste disposal was used in the villages and did not represent a problem for residents. These methods include dustbins in Orward Village located in some areas of the village. Collecting rubbish and burning it in front of homes and at the boundaries of faliyas was a common and preferred method as there was no waste disposal service in villages other than Orward. In some villages, rubbish is collected in a ditch in the back yard, animal excreta added and made into fertilizer. In Saran Village, rubbish is also disposed of on the road at the end of the faliya. Kolak Village residents reported throwing their rubbish into the sea.

5.2.3.1.5   *Geographical location and effect on health*
AIM: Does the geographical location of settlement create health hazards?

Kolak Village, situated where the mouth of the Kolak River meets the sea reported pollution in the river caused by industry 4-5 kms up the river reportedly dumping their waste in the river. This is having a perceived major affect on their community. Respondents reported an anecdotal perceived increase in cancer amongst residents and a feeling of nausea from the smell of the river. Kolak Village has also experienced erosion of land close to the sea due to tidal movements. To slow the process a large retainer wall was constructed by the government as part of a larger anti sea erosion work in the State. Pollution was also described to be a perceived problem by villagers in Orward Village, affecting their crops; Paria Village, also

stating air pollution affecting crops; and in Saran Village, stating pollution where the village borders Kolak River and air pollution perceived to flow from nearby Vapi Town.

In Orward Village, the national highway eight (NH8) (more than 1000 kilometre highway connecting Mumbai with Delhi, also a major truck route) runs through the centre of the village and presents a major hazard for all – villagers and drivers. Many people cross the busy highway throughout the day. There is no safe method of crossing and many deaths have resulted due to traffic and road crossing accidents. Orward Village is used as a thoroughfare for cars to avoid the toll further up the highway. This has caused an increase in traffic and noise pollution in the village. The nearby stone breaking quarry also causes health hazards due to the increased dust in the air.

Respondents in Saran Village felt isolation and poor connectivity to services was a problem for their village. Scattered hamlets in villages were more isolated than central hamlets. Electricity was reported to be an occasional problem in Orward and Paria Villages. Transport was available in all villages by auto rickshaw however there was poor public transport. Many complained of drivers wanting to fill the rickshaw before departing on their route, causing long delays. Although public bus services were available in all villages besides Saran Village, the quality and punctuality of services were poor. Many people in Kolak and Paria Villages have private vehicles. Kolak Village was the only village that reported an increase in theft from homes over the past few years where the population is less dense.

5.2.3.2 Block E: The socio-economic environment
5.2.3.2.1 Education and child welfare

AIM: Assess the general level of education and describe opportunities for further education; and: Try to gain a sense of child welfare e.g. do children work? Does their environment pose danger to their wellbeing?

The level of education in all villages amongst younger generations was described as "good" by respondents. Older generations had a lower rate of literacy whereas

children were receiving education past primary schooling surpassing the education of the older generation. There is a positive influence of free and compulsory schooling for both girls and boys from 6 to 14 years of age. Children in poorer families drop out of school after 7th or 8th standard to assist families with household chores (particularly girls) or to subsidise household income with work. These vulnerable children also have less regular attendance at schools.

Lesser numbers of students were recorded in government schools than private schools. Privatisation of schooling and a desire to learn English (offered only from 5th standard in government schools – if such services are available) were contributors to this trend of attending private schools. Most villagers preferred their children going to the English Medium Schools. Not all children had the same opportunity for further education because of their financial condition. Although primary school is free, cost of books, uniforms, travel and other costs are factors that influence a family to stop a child's schooling early. Travelling costs were high when high schools were not in the village. This was reported to influence some students to quit school early. Orward and Saran Villages reported no secondary schooling in the villages with children travelling to nearby Bagwada for secondary schooling. Up to 10th standard schooling is available in Amli and Kolak Villages. Children furthering their education travel to Pardi for 11th and 12th standard (Year 11 and 12). This is a substantial distance from Kolak Village. Paria has secondary education to 12th standard within the village.

Respondents perceived that the children in the villages were well looked after in relation to provision of education, nutrition, shelter and care. Athough, there was a lack of services such as organised social and physical recreation groups for this age group. Child labour was not reported outside those children who finish schooling at lower grades (reported as grades 7-8) to assist in family duties and income generation to supplement household income; respondents stated nearly all children attend school.

5.2.3.2.2 Economy

AIM: Explore the means of cash income.

As outlined in Chapter 2, factories in Daman, Vapi and Pardi are a major source of income for residents in all villages, particularly for women. Private factory buses pickup and drop off women for work in the factories in all villages. Cost of transport for men can be expensive, particularly from villages further away, such as Paria Village. Other forms of income include fishing and working as seamen abroad in Kolak Village; labouring and domestic helpers in Orward Village; farming of mango, sugarcane, vegetables and chickoos (Sapodilla or Sapota) in Paria Village; crop farming is also common in Saran Village along with marginal workers seeking labouring work; and labouring in fields (chickoos, mangos and beans) is common in Amli Village along with dairy farming. Researchers observed that a change in type of work is likely in the future because of a higher education level amongst the younger generation. Without the corresponding change in availability of work in villages for more educated generations, this may result in less people taking agricultural work and more people leaving villages for work according to their education level.

All villages were aware of families who found it hard to manage financially with a few families more impoverished and in severe financial hardship in some villages. Kolak and Paria villages were described as "well off". In Kolak, these are the people who do not work offshore, and in Paria, these were from the Halpati community. Both communities tend to work in agriculture. Corruption within the BPL categorisation was reported in some villages – residents without real need for BPL status were reportedly gaining this status regardless of their economic situation.

5.2.3.2.3 Additional information

Alcohol consumption was reported as being high in all villages despite Gujarat being a dry State. Both consumption and manufacturing of alcohol in Gujarat State is illegal under State prohibition laws that were set in 1949. Proximity to Daman Union Territory, major producers of alcohol is seen as a contributor. Alcohol is also reportedly produced in all villages within homes. Alcohol consumption in the

villages is reported to be linked with domestic violence and breakdown of the family unit.

5.2.3.3 Block F: Disease and disability

AIM: Identify the major disease problems in the community and describe the causes of these problems. These may include: malnutrition, communicable disease, trauma, women's health, chronic and degenerative disease.

Generally, communicable diseases were not viewed as problematic by respondents in the villages. Pollution is reported to be affecting health in Kolak Village. Respiratory and skin disease was reported by the community health centre (CHC) in Pardi Town to be more common in or near Vapi Town due to the pollution smog. The District Surveillance Unit of the Health Branch, *Jilla Panchayat* in Valsad reported no disease outbreaks in the Valsad District in 2008 (personal correspondence, *Jilla Panchayat* administrator, March 2008). Skin diseases such as scabies and dermatitis, and cases of acute watery diarrhea were regularly seen at Pardi CHC. Whilst an increased rate of high blood pressure, hypertension, diabetes, arthritis and heart disease was reported in some villages, an improvement in health was also reported in all villages due to better education, higher awareness of health needs and an overall improvement in people taking care of their health. Health checkups in schools were also seen as a reason for improved health. Alcohol related health problems, expanded upon in the following reflection, observation and discussion section, were reported in Kolak, Paria, Saran and Amli Villages. The CHC in Pardi reported Scheduled Tribes (ST) to be particularly affected by alcohol related problems.

Women respondents were unspecific about women's health in villages, describing women's health as "good". Investigation into women's health issues such as reproductive health revealed private-public hospital partnerships for birth deliveries and government assistance to new mothers as having positive influence on maternal health. The CHC in Pardi Town reported anaemia from non balanced diet and eclampsia was observed in approximately 10% of pregnant women they see. They also estimate 20% unsafe labours are occurring regardless of incentives for institutional delivery. One nurse key informant reported an approximate 10-15% of

women use the service of a Dayan (traditional birth attendant), a small amount without skilled birth attendants and most availing government programs that provide incentive for institutional delivery. Government training had commenced with Dayans to improve their skills.

Poor nutrition was described in Saran village and it was reported that some people in the village were not able to provide themselves and their families with two meals per day. Measles is a continuing problem in Amli village despite vaccination. The worst illnesses seen in villages include leptospirosis in the raining season and tuberculosis. The District Surveillance Unit of the Health Branch, *Jilla Panchayat* in Valsad reported 24 cases of leptospirosis resulting in nine deaths in 2008 until 10/11/2008. Three cases were in the study villages. The CHC in Pardi Town reported sickle cell anaemia to be a concern for STs with approximately 10-15% of ST people suffering from this ailment. The highway in Orward was reported to be a cause of injury and death due to traffic and pedestrian accidents. Road traffic accidents were also reported to be common in a particular corner in Amli village.

5.2.4   Reflections, observations and discussion
5.2.4.1 *Underlying issue of poverty*

It is impossible to ignore the underlying issue of poverty when discussing the environmental factors, such as the physical environment and socioeconomic conditions that influence health in these five study villages. Disparity was particularly evident in Kolak and Paria Villages, which are both described by key informants as being "well off", or in a better financial situation than other study villages. In Kolak Village there was a marked difference between the majority (85%) Tandel community (OBC) working abroad as seamen earning a good salary and those working as labourers or in the agricultural sector (Halpati [ST] and Bhandari, [OBC]). In Paria village, the Halpati community (ST), who also predominantly worked in agriculture, were identified as struggling financially compared to other communities.

Certainly, people and caste-communities in lower socioeconomic status were observed to experience hardships on a larger scale than others with higher

socioeconomic status. This was observed across a range of socio ecological factors influencing health. For example, families with pucca houses faced problems such as water rising through mud floors during rains. Some villages identified that some kucca houses had been provided by the government for BLP people, however were becoming dilapidated and in need of reconstruction. Only poorer families reported that they did not have access to sanitation facilities. Whilst subsidies to build toilets are made for BPL people, problems with the system hindered the implementation of the program's assistance.

Lower socioeconomic groups in villages have an observed reliance on government assistance and services such as the provision of homes, and toilet construction subsidies for BPL people, plus government run public transportation. The result of this reliance is when systems in place do not run effectively these groups – already facing hardship –suffer disproportionately more. In some villages, the BPL lists were however described as "chaotic" with people without genuine need of BPL status taking the place of others with a genuine need on the list. It is desirable for people to be on the list due to the relatively attractive government benefits and assistance that above poverty line people are not entitled to.

All key informants were able to identify people who found it hard to manage financially, with some sharing stories of families where endemic poverty had led to depression, alcoholism and in some cases suicide. Saran Village in particular voiced their concerns of their poor financial situation. In this village the community could be divided into Koli Patel (OBC) - those owning the land - and Halpati (ST), those working it. The majority of people (approximately 75%) reportedly work in agriculture with extremely poor income, as little as INR 400 per month. Unlike other villages, which attributed poor nutrition to lifestyle changes, Saran residents identified poor nutrition to their poor economic situation. It was reported that people eat what they get, not what they should, with many dependent on the public distribution scheme (PDS) which provides subsidised wheat flour, rice, sugar, kerosene and cooking oil.

Women in the focus groups expressed the desire for supplemental income for a variety of reasons. In Kolak Village it was to supplement the cost of training for the seaman industry. In Orward Village, despite the abundance of industrial factories in the region, housewives were unable to work factory hours due to their home duties and expressed their need for other livelihood options. Residents in Paria Village described the high cost of transportation for men travelling to factories as a burden and they found it hard for the entire family to live off the income they receive. Electricity and transportation costs were cited by villagers in Amli to be high and seen as a burden. Improvements in education and literacy levels within the current generation of school aged youth in the last decade were reported. This was also observed through interviews where older respondents were less likely to be literate than younger respondents.

Researchers observed that a desire for learning the English language was driving people to private school education rather than free public schooling. This observation was supported by the CRD who reported that SHG groups were taking loans for education and health rather than small business enterprise as the scheme was intended for. Researchers had difficulty in obtaining written health statistics from government health centres. Much of the disease health information was estimated by interviewed doctors and nurses and a clear picture of disease health was not obtained. Repeatedly though, reflecting trends in developing countries, villages reported an increased rate of "western type" chronic diseases such as high blood pressure, diabetes, and heart disease. According to the doctor at the CHC in Pardi Town, increased rates of NCDs are related to poor diet choices. Problems associated with nutrition were only reported in Saran Village, where poorer economic situations resulted in a more limited diet and under nutrition. Anaemia amongst women was also reported in Pardi CHC.

Many of the serious diseases described to be present in the villages were more commonly seen in poorer caste-communities, particularly STs. This was the case for leptospirosis and sickle cell anaemia, a genetic disease common in Gujarat. Leptospirosis is a disease whereby humans become infected through contact with water, food, or soil contaminated with urine from infected animals. Farmers in the

region for example may be exposed to the bacteria through their work. Sickle cell anaemia is a genetic disorder of the blood causing multiple complications and shortening life span. It is more common with indigenous groups, for example, ST in Gujarat State, India. The Health Branch of the *Jilla Panchayat* in Valsad advised that at the time of the research, education was being carried out by the government health services regarding these diseases. Genetic screening and counselling is also part of this program (OneWorld Foundation India, 2011). Many problems reported in responses to questions from this level of the information pyramid were observed to be specific to caste-communities within villages, not common to all village residents. This means that not all information obtained from the key informants could be generalised to the entire village population. Problems common to all villages and resident of those villages were however identified and are detailed below.

5.2.4.2   *Environmental Pollution*

The establishment of the Gujarat Industrial Development Corporation (GIDC) under the Gujarat Industrial Development Act of 1962, with the goal of accelerating industrialisation in the state, has seen industrial estates develop in Pardi Taluka, including Pardi, and most famously, Vapi (Gujarat Industrial Development Corporation, 2008). This industrial belt, mainly comprised of chemical plants, with other industries including paper, pharmaceuticals and plastics, is a major source of employment for villagers. Busloads of women are transported to and from factories in Pardi, Vapi and also into Daman to work each day. Men are employed in the factories, however are not provided with transportation.

Environmental pollution concerns were commonly voiced throughout the research process. Respondents in Orward, Paria and Saran Villages all expressed concerns of air pollution from nearby Vapi affecting their agricultural crops. Respondents in Saran reported nausea from the air pollution and also voiced concerns of pollution where the village borders the Kolak River. The primary researcher (PhD candidate), who lived in Rentlav Village for the period of the research, neighbouring Orward Village personally observed the morning air to be thick with smog and having a pungent smell. The doctor from Pardi CHC identified respiratory skin problems more common to villages closer to Vapi Town due to this smog.

The respondents most vocal about pollution were from Kolak Village situated where the mouth of the Kolak River meets the sea. Respondents perceived the source of their pollution to be industry 2-3 kms upstream. Later, in Stage 2 of the study the Sarpanch of Kolak Village, not initially a key informant confirmed that Vapi industry was the source of pollution to Kolak River after waste is disposed in the River in Bilkhadi, from there entering Kolak River. There was a perceived major effect of this pollution on the community's health. Members of the Kolak community expressed concerns of nausea from foul odour coming from the river, and more seriously, a self-reported increase in cancers. Although there was no data available that could substantiated these concerns, and further complicated by people reportedly not disclosing they have cancer, this reported problem requires further investigation. Other effects from reported pollution in Kolak Village described by the Gram Panchayat include the depletion of fish quantity and quality - a food source for the village and an income generating activity for many. This has also greatly affected the traditional local fishing industry of the Tandel community which comprise 85% of the village population.

This problem has led many to change their traditional fishing trade to working in local factories or offshore as seamen. The difficulty expressed by the Tandel community is that they have had to learn new skills to adapt to the seamen profession. Costs for training to become seamen are high and English is an employment requirement for joining the merchant ships and for employment progression. Respondents revealed that people were sending their children to private schools that offer English from the first year rather than the local free government schools depleting student numbers in the Kolak government school from 1200 to 256.

5.2.4.3 Road Traffic Safety

Road safety is a major safety concern for all the villages such as Amli Village, where residents experienced a high level of accidents on one specific corner in their village. Road safety was however a reported serious concern in only one village, Orward Village. Orward Village is located on the National Highway 8, which links Mumbai and Delhi and runs through the centre of the village. The government PHC catering

to 30,000 people from Orward Village and the surrounding villages is located on the east side of the highway and the railway line, whilst the Gram Panchayat, private doctors, bank, post office, main bus stop and other villages are on the west side. It was both observed and reported that many people cross the busy highway throughout the day, which is very dangerous given that there is no safe way to cross and many deaths have occurred as a result.

5.2.4.4 Alcohol related problems

Alcohol consumption was reported as being high in all villages researched despite Gujarat being a 'dry state' with the sale and consumption of alcohol prohibited (Haworth & Simpson, 2004). Close proximity to the Union Territory of Daman, where people can legally purchase and consume alcohol is seen as one source of alcohol for some villages. Factories in Daman are a major source of employment of the villagers and one village with closest proximity to Daman reported that alcohol was often consumed in Daman before the workers returned home. The major portion of alcohol consumed in the villages is however reportedly illegally brewed in the villages themselves. There were numerous reports of adverse effects of alcohol consumption on the communities including:

- domestic violence and breakdown of the family unit;
- premature death;
- disruption to livelihoods with reports of women being forced to work to supplement family income;
- men had become incapable of working due to their alcohol consumption; and
- disruption to children's education due to disharmony of home life.

The illegal brewing, selling and consumption of alcohol were not perceived to be associated with crime or violence. Intimate partner violence, with which alcohol use was associated, was not categorised by respondents as "crime and violence", reflecting the different perceptions of intimate partner violence in different countries of the world. Alcohol related issues were however identified as an issue of "crime and violence" and a major concern in all villages.

5.2.5 LEVEL 3: Service existence, coverage, accessibility and acceptability

This section will present summarised statements contributing to the fulfilment of the outcome for Level 3 of the information pyramid: *An assessment of the existence, coverage, accessibility and acceptability of services and facilities in the selected villages of Pardi Taluka, Valsad District in Gujarat including health services, environmental services such as water and waste disposal, and social services such as education.*

5.2.5.1 Block G: Health and environmental services

AIMS: Examine service provision at the community, primary health unit and hospital level; and investigate service accessibility, affordability and acceptability. Investigate service provision, service quality, and service organisation. Identify traditional healers, their beliefs, and service uptake.

5.2.5.1.1 Health service provision

Health service provision in the areas surrounding the five villages includes a CHC in Pardi and Rohina Towns and a PHC in Paria and Orward Villages. The civil hospital is situated in Valsad. Services of private doctors are available in Kolak, Paria, Udwada and Orward Villages. Government nurses were present in all villages; however according to key informants, and later confirmed by the new village nurse, Saran Village had experienced up to 5 months with no health personnel servicing the village due to a change over in appointed nurses. The current nurse had only recently been assigned to the village and was not based in Saran, sharing her time with another village. There is no subcentre in Saran or Amli Villages. One of these villages (unnamed to protect confidentiality) has one nurse appointed, however there were varying reports as to the regularity of her services. When there is no subcentre, visiting nurses attend the anganwadi and outreach to numerous faliyas in the village.

There were conflicting reports about health workers servicing the villages. Most villages could not state whether there were health workers or not. One village had a health worker assigned to their village however the subcentre nurse reportedly took these duties as the health worker had never visited the village. Another Village

reportedly had one health worker that had visited the school on only one occasion. Pathology services are available in Udwada and Orward however x-ray and sonography services are only available in Pardi or Valsad. There are 6 beds available for in-door patients in the Orward primary health centre, 5 beds in the Paria primary health centre, however serious cases needing admission need to be forwarded to the CHC in Pardi. Services that are meant to be open 24/7 however reportedly closed on Sundays and they reportedly discharge patients at night.

5.2.5.1.2 Health service accessibility

Given the close proximity of health care and health service providers in all villages, accessibility was observed to be good with presence of health service providers in all villages. Residents of Amli Village had to travel furthest, up to 7km to either Pardi or Rohina CHC and 10kms for a private doctor available after hours and on Sundays. Respondents in Amli village were concerned about their access to health services. The extent, regularity and availability of these services vary. Kolak Village has one subcentre however only one nurse is servicing the area when two should be covering their population size. The next nearest health service is 7kms away in Udwada. Access in Orward was good, less than 2 kms to the primary health centre. Health services are accessible in Paria Village with a maximum distance of 2-2 ½ kms. There are five private doctors in the village. Residents in Saran Village travel 2-2 ½ kms to Udwada or Orward Villages for health care.

Women and children receive health care and information from anganwadis, government and private health care. Anganwadis are observed to be an important source of information and advice to women. The process for health care is described as stage wise – commencing with household treatment, local doctor, then for major care to the civil hospital in Valsad. In some villages, people will see government services, such as the nurse or the primary health centre first, then progress to private doctors if the condition persists, other villagers will visit only private doctors. Regarding transportation, whilst some residents owning private vehicles did not have transportation problems, others had issues when autorickshaw drivers wanted to fill the vehicle with multiple passengers before departing. This caused long delays of up

to an hour making it impossible to travel anywhere on time and in a hurry, such as in an emergency. Unreliable government bus services caused similar problems.

5.2.5.1.3 *Health service acceptability*

Some of the positives of available health care in villages include: primary health centre visits to the school providing free health check-ups and health education in schools; nurse field work providing outreach services; free health services and close proximity of the primary health centre in Orward; private doctors available in central location in Paria village; increased use of government health services rather than traditional healers in Paria because of a good networking of health services; and private doctors taking more care than government doctors because they care about their reputation.

Improvements to health services as proposed by the villagers were: The need for poor perceptions of government services to change in Kolak Village and a qualified doctor in the village so they don't have to travel to other villages. Improvement in primary health centre services and availability of doctors in the primary health centre in Paria so the services would be better utilised were also offered as required improvements. As well as a more central location of the primary health centre and 24 hour services in Paria and extended hours on Saturdays, Sunday and public holidays and ability of the primary health centre to deal with complicated deliveries in the Orward primary health centre.

The need for more regular health check-ups for school children in Saran village and provision of health care in the village was desired as well as educating villagers so they are aware of what government health services are available to them. Regularity of nurses in one of the villages and an expressed concern for the kind of treatment being given by traditional healers – particularly for diabetes and blood pressure problems were raised as issues. Reportedly, deaths are occurring in patients receiving health care from traditional healers. The provision of at least a first aid post in this particular village and an improvement in the government health services so they are better utilised was seen as a requirement. There was however no recommendation on how these suggestions would be achieved.

5.2.5.1.4 Health service affordability

All government health services are free. The cost of visiting private doctors ranges from INR 100-200 including transportation to up to INR 500–1000 depending on the clinical condition of the patient. In Orward, a case was described about a boy who had an accident and no doctors were available in the primary health centre so they had to take him to a private doctor costing INR 1500. His parents couldn't pay so the teachers of the school raised the money for the family. The cost of a normal birth delivery is INR 5000 and INR 40-45,000 for complicated deliveries in private institutions. Government assistance as part of the Janani Suraksha Yojana program, further described later in the chapter, provides 700 INR to pregnant BPL mothers and tie-ups with private institutions which significantly reduce costs.

5.2.5.1.5 Health service quality, service organisation

Perception of the nearest government health service varied. In Kolak, perceptions of the subcentres were that it was good and clean. Services are available, however they need to travel to Udwada 7 kms away if there is something that cannot be handled by the nurse. Perceptions of Orward respondents of the Orward PHC were good as they also provide facilities and expertise to carry out post mortem. Health Staff at one of the PHCs in the study setting expressed poor pay and no travel allowances as a reason for poor motivation to work. There is the perception amongst respondents in all villages that government health services could not be trusted. They were described as irregular with insufficient presence of doctors. It was also reported that health services that should be open at all times discharges patients at night and government doctors don't pay enough care or attention to patients. Some respondents described a mentality that "if it is free, it is no good". In Kolak Village stigma associated with using free services and not being able to afford private doctors was described. A respondent in Paria explained, even if the services were improved in the PHC, they still wouldn't use the services.

Recent changes in healthcare were described by participants. These include assistance to women in the 7th month of pregnancy of INR 500 and INR 200 at the time of delivery so they can afford to eat well. Orward village described an overall improvement over the past 10 years, cessation of corruption, introduction of strips to

disperse medicine instead of from the packet in the hand and improvements in the use of disposable syringes. In Paria, the PHC had recently moved to a larger premise. The introduction of a new 108 emergency number to call an ambulance was discussed and well received by all villages who gave examples of people they knew had used the service.

5.2.5.1.6 Traditional healers

AIM: Identify traditional healers, their beliefs, and service uptake

Traditional healers were discussed in each of the villages. Mixed responses were received about their use and how they are perceived. In Kolak, respondents could not describe the practices of the traditional healer because they reportedly don't use the services. They described, people are educated so they go to hospitals instead. The villagers reported that no traditional healers were resident in Orward however two visit the village or people travel elsewhere for the services. Traditional healers were reported to be present in Paria Village however respondents did not know about the services. There is a traditional healer in Bagwada, servicing Saran village residents. It was reported that 5-6 traditional healers service Amli village, one popular healer offering free food on Thursdays.

The proportion of people using services of the traditional healer varied. In Orward, responses ranged from "noone uses the services", to up to 50% of the Halpati communities frequenting traditional healers. Teachers reported people using these services because the children tell the teachers they have been. In Paria, responses ranged from very little using the services, to 25% and 60%. In Saran, the reported proportion of people using traditional healers varied from 10% to 30% with one respondent saying that *everyone* uses the services of traditional healers. Another respondent explained that everyone uses the services but no one discloses – possibly for privacy.

It was reported that the traditional healer in Amli services mainly outsiders from other villages. Researchers informally visited this man and observed many people, up to 30-40 at the healer's place of service at one time. Some respondents stated a

disbelief in traditional healers because they are "not connected with education or science" and "don't give good treatment" and they require "blind beliefs" on the part of patients. They are also described to be used by the older generations – younger generations do not believe in traditional healing however the older generations insist they are used. There are no fixed charges for traditional healer services and people give as per their own discretion. The Block Health Office (BHO) in Orward reported that training services were available for traditional healers that assisted in improving partnership and referral systems between traditional healers and public health services. They are also aimed at training traditional healers in the symptoms of some diseases that may require referral to modern medical institutions, cited as beyond the scope of the traditional healer.

5.2.5.2 Block H: Social services

AIM: Review the other social services available in the community including formal and informal education institutions, recreational facilities, crèches, etc

5.2.5.2.1 Education institutions

In addition to the education services described in 0: 5.2.3.2.1   Education,   all villages included in the study have anganwadis/ baldwadis: Kolak (7), Orward (4 plus a playgroup), Paria (between 5 and 10), Saran (2 plus a Baldwadi run by SNDT), and Amli (3 baldwadis). Government run anganwadis supply food supplements for pregnant women, new mothers and children under 6 years of age. The anganwadis run playschool and fun activities for children between 6 months and 5 years. Anganwadis are open from 11am – 2 pm. There were no formal community halls in any village. Primary school premises were used in some villages for the collection of people for occasions such as health camps. In Paria and Amli Villages, private computer classes were however available.

5.2.5.2.2 Community facilities and other services

There are no formal youth groups in Kolak, however religious groups had youth groups in all other villages. No formal sporting groups were described by any of the villages. Orward and Saran were the only villages that did not mention presence of sakhi mandals – a government run self help group set up through anganwadis. Banks

and post offices were available in villages or within close proximity to the village. Mobile phone coverage was good in every village and many people had their own mobile phones. Villages were generally happy with the social services available in their villages. Kolak village saw the need for career advice; Orward expressed a desire for sewing classes and technical skill classes for students. In Paria, some respondents expressed the need for an upgrade in education services stating that teachers in government schools have so many responsibilities they lack time for the students. One respondent saw a need for a community hall. Respondents in Saran described a concern for the decreasing numbers of students in the primary school. The primary school in Amli expressed the need for support for students with potential who fall behind because of their financial situation. Respondents in Amli also expressed a desire for schooling to 12th standard.

Villages could not identify other social services they would like in their village. Rather, they suggested the provision of other services such as: In Kolak, a rubbish service is desired for better cleanliness as well as cottage industries to help keep business in the village. In Orward suggested improvements for health services such as provision of x-ray and sonography, night shift doctors and more nurses were given, however it was observed to be unlikely that the PHC (intended to service an area of 30,000 population) would be in a position to receive such upgardes. In Saran, toilet facilities and a functioning PDS was expressed to be required as well as at least the provision of primary health care in the village. The Gram Panchayat also expressed an interest in knowing how they can increase their revenue. In Amli, respondents reinforced their need for health services in the village and improved transport. Most villages looked towards the local government to help in their endeavours for these services.

5.2.6   Reflections, observations and discussion

5.2.6.1   Health service provision and accessibility

There is evidence that the government health network system is operating in the villages researched however the extent, regularity and availability of these services vary. Kolak village, population of 4503 (2001 census), for example has one subcentre however only one nurse is servicing the village when two had been

designated to cover their population size. The next nearest health service for Kolak Village is 7 kms away in Udwada RS. Researchers observed a tendency for villages to want all health services available in their village and reluctance to travel outside their village for services, possibly a reflection of transportation related issues. Both Amli and Saran Villages expressed concern that no immediate health care (first aid) was available to them. Saran Village does not have a subcentre and recently experienced up to 5 months with no health personnel servicing the village due to a change over in nurses. The nurse servicing Saran also services another nearby village. Crossing the National Highway 8 was also seen as problematic for Saran residents, with villagers preferring to use private services in Udwada (2kms distance) at a cost. Similarly, Amli Village does not have a subcentre and has one nurse appointed, however there were varying reports as to the regularity and reach of these services in the village. The next nearest medical services from Amli Village are 7 kms away. Whilst Paria Village has a PHC, the location is isolated and travel costs expensive.

5.2.6.2 Health service acceptability

A common perception amongst respondents in all villages was that government health services could not be trusted, were unreliable and there was no monitoring and evaluation of quality. They were described as irregular with insufficient presence of doctors. It was also reported that in one health service, patients are discharged at night due to lack of night staff supervision and government doctors don't pay enough care or attention to patients. Some respondents described a mentality that "if it is free, it is no good". In Kolak Village a stigma associated with using free services and not being able to afford private doctors was described.

Some villages expressed the need for change in these perceptions so that government services are better utilised. A tendency for villagers to use private health services rather than government services is a major cost for villagers with the cost of visiting private doctors ranging from INR 100-200 plus transportation and medicine of up to INR 500-1000 depending on the condition. Staff at one PHC expressed poor pay and no travel allowances as a reason for poor motivation to work. Furthermore, it was reported that pathology services are available in Udwada and Orward however, x-ray

and sonography services are only available in Pardi or Valsad. This is also a major cost for villagers as transportation costs are high in proportion to their income. However, villagers also reported recent positive changes in the delivery of government services. These include the introduction of a new 108 emergency number to call an ambulance which was discussed and well received by all villages. A Government program named Janani Suraksha Yojana, which aims to improve maternal nutrition and encourage institutional deliveries (GoI: Ministry of Health and Family Welfare, n.d.) was described by respondents as being useful.

A second programme targeting maternal health, named Chiranjeevi Yojana involves the government contracting the services of private practitioners to perform deliveries and has been marked successful (UNICEF, 2009). Tie-ups with private hospitals where women can give birth attended by private physicians, incentive costs provided by government, was seen as a positive change by respondents due to government health centres lacking facilities for complicated deliveries. It was also reported that women and children are more likely to receive health care and information from government anganwadis, government and private health care. Anganwadis are observed to be an important source of information and advice to women; providing pre-school, non-formal education as being the avenue through which the once a month Mamta Day is delivered providing nutrition education and supplements, health checkups, education, and referral services, and immunisation. This program is described later in this chapter.

5.2.6.3   Use of traditional healers

In the discussion of health care in rural India, it is important to consider the role of traditional healers in providing primary health care. Researchers observed reluctance among respondents to discuss traditional healer services and that on occasion people were embarrassed to admit they use the services. Many reportedly do not disclose their consultations with traditional healers to each other because of an element of stigma attached to receiving their services. Although researchers received varying reports on the proportion of people utilising the services of local traditional healers and mixed responses about how they were perceived, it was observed that services of traditional healers were well utilised, particularly amongst the older generation.

Participants shared that villagers from distant and close villages visited the local traditional healer in a particular village, but expressed concern for the kind of treatment being given by traditional healers – particularly for diabetes and blood pressure problems. They reported that many deaths are occurring in patients receiving health care from traditional healers and they were concerned for the well being of people utilising such services. Complicating the situation is that these deaths are not substantiated as no one speaks out about them.

5.2.6.4 Recreation vs essential services

Researchers observed no recreational and/or support services for youth were available in the villages; however no key informant recognised a need in this area. The need for social services was also not raised and researchers observed respondents were unable to identify social services they could benefit from in their village. Rather, they suggested the provision of other necessity services such as: a rubbish service for better cleanliness, cottage industries for supplementary income, provision of health services, health personnel and equipment, toilet facilities, improved educational services and a functioning PDS. Misunderstanding in the question is a possibility; however these responses reflect the simplicity of lives in villages and the desire to have basic needs met.

5.2.7   LEVEL 4: Assessing health policy

KEY OUTCOME: A critical examination of health policies of the state
AIM: Investigate policy and legislation, exploring whether there is the political will to pursue the principles of equity and justice.

Key informants were unaware of the health policies of the State, and Gram Panchayats were only aware of government schemes available for their residents. Given the responses from key informants, information for this level of the information pyramid has been collated from secondary sources including the website of the Government of Gujarat Health and Family Welfare Department (http://www.gujhealth.gov.in/) and information collected from field visits to the Health Branch, *Jilla Panchayat* in Valsad and Block Health Office in Orward. Background information on national health policies, programs and schemes revealed

recognition of the importance to pursue the principles of equity and justice in health delivery in India. A summary of national level policies can be viewed in Chapter 2, Background and Context (p. 48). For the purpose of this review, areas of health policy most relevant to the context of the study and the study area in Gujarat State, and how they are implemented will be explored.

5.2.7.1 *Gujarat State Health Mission*

"Recognizing the importance of health in the process of economic and social development and improving the quality of life of our citizens, the Government of India has resolved to launch the National Rural Health Mission to carry out necessary architectural correction in the basic health care delivery system" (GoI: Ministry of Health and Family Welfare, 2005b, pp. 2, preamble). In Gujarat, the functions under the Mission are carried out through the State Health & Family Welfare Society. The Department of Health & Family Welfare coordinates a number of State Program Committees to plan and review the National Program activities under the NRHM. These are reviewed in more detail.

5.2.7.1.1 *Family Welfare program*

In 1997, a number of Child Survival & Safe Motherhood programs were brought under the umbrella of Reproductive & Child Health (RCH) of the GoG. These programs include: Family planning (later renamed as family welfare), maternal and child health, universal immunisation programme, diarrheal control programme, acute respiratory tract infection control programme, and other nutritional deficiency control programmes. The department is also actively working towards polio eradication. India has only recently achieved 12 months without Polio in the country highlighting the continued vigilance in this area (WHO, 2012, 12 January). The RCH programme supported by the World Bank since 1997 has been the main flagship of the Department of Family Welfare, Government of Gujarat (GoG: Department of Health and Family Welfare, 2005b, p. 12). In 2002 the Government of Gujarat released the State Population Policy 2002 in harmony with the National Population Policy 2000, and Gujarat Vision 2010.

This policy focuses on improving the quality of life of the people. It aims to reduce gender discrimination, empower women, and ensuring extensive service support to reduce fertility rates by 2010. Respecting the reproductive rights of men and women is the underlying principle of the population policy (GoG: Department of Health and Family Welfare, 2002). Through an inter-sectoral approach, the State's objective is to provide integrated reproductive health care services, including addressing the unmet need for contraception and strengthen health care infrastructure and support systems to improve access to these services. The specific Gujarat State health objectives to be achieved by the year 2010 are:

- Increase contraceptive prevalence from 54.2% to an average of 70%.
- Reduce infant mortality rate from 63 to 16 per 1000 live births.
- Reduce maternal mortality rate from 389 in 1992-93 to less than 100 per 100,000 live births (GoG: Department of Health and Family Welfare, 2002).

Other objectives of the policy are to increase child immunisation rates, institutional deliveries and deliveries by trained attendants and to reduce child mortality demonstrating political will to pursue the principles of equity and justice.

5.2.7.1.2 Other programs implemented under the State Health Mission

NACO: The National AIDS Control Programme is being implemented through the Gujarat State AIDS Control Society. Activities involve sentinel surveillance, blood safety program for safe blood collection and transfusions, condom promotion, targeted intervention for at risk groups, and voluntary counseling and testing and rolling out of free ART for people with HIV.

Medical Services: This program involves the provision of curative care via diagnosis and treatment through the State's district hospitals.

Medical Education (ME): ME involves teaching and training of doctors, nurses and all other paramedical personnel to ensure a desired level of proficiency through government and private medical colleges.

Training: involves provision of training for medical personnel at the State Institute of Health and Family Welfare - an apex training institute of the Department of Health & Family Welfare, Gujarat.

Central Medical Stores Organization: The CMSO functions as a separate independent organisation for the procurement of drugs, surgical items & medical equipment to cater the needs of all the Government Medical Institutions of Gujarat State.

Additionally, after the State Health Society was registered, it was resolved to dissolve individual state societies for malaria (and other vector borne diseases), leprosy, TB, ophthalmic (blindness control) and AIDS control and transfer them to the State Health Society. Other departments within the Gujarat Health and Family Welfare include:

Epidemic: Through an integrated disease surveillance program, monitors the current communicable disease epidemic situation in the State.

Health education: Also known as Information-Education-Communication (IEC), to educate the people about health by informing, motivating and helping people to adopt and maintain healthy practices and lifestyles.

Disaster management: Formulation of disaster preparedness plans not only at the national, state and the district level but also penetrate to the community level.

Gujarat implements the National programs for TB, malaria, leprosy, blindness, epidemic control, AIDS, Family welfare (including Reproductive & Child Health) and IEC through health services infrastructure.

5.2.7.2 Evidence of initiatives to improve health

Evidence of a number of national and state run programs were observed and discussed by key informants. A summary of these are described.

5.2.7.2.1 Janani Suraksha Yojana

Janani Suraksha Yojana (JSY) is a Central Government safe motherhood intervention under the NRHM with the objective of reducing maternal and neo-natal mortality by promoting institutional delivery among the poor pregnant women (GoI: Ministry of Health and Family Welfare, n.d.). JSY integrates cash assistance of INR 700 with antenatal care during the pregnancy period, institutional care during delivery and immediate post-partum period in a health centre by establishing a

system of coordinated care by field level health worker. All pregnant women aged 19 years or above belonging to BPL households can avail this assistance for up to two live births. During the year 2007-08 an estimated 182,724 pregnant women were covered in the scheme (GoG: Department of Health and Family Welfare, 2009, p. 38).

5.2.7.2.2 *Chiranjeevi Yojana*

According to a Government of Gujarat published document, India has more than 22,000 obstetrician-cum-gynaecologists in the country, but less than 1300 work in government sector in the rural areas (A. Singh, Mavalankar, Desai, Patel, & Shah, n.d., p. 1). In Gujarat this situation is dire with only 7 obstetricians working in rural areas of Gujarat in the government sector whilst 2000 obstetricians are available in private sector (GoG: Department of Health and Family Welfare, 2009, p. 36; n.d.-a, p. 6).To address this problem, the government of Gujarat health department developed a scheme named Chiranjeevi Yojana, of Public Private Partnership (PPP) to contract private providers to provide delivery care to the poor in rural areas.

Under the scheme, the health department contracts private practicing obgyns who have their own small hospitals in rural areas to provide skilled care for deliveries of poor women and required comprehensive emergency obstetric care free of cost in their own hospital. The government in return compensates the doctors with approximately US$4000 for 100 deliveries (including treatment of complications). In addition, the woman's travel expense to the hospital is reimbursed from this amount to reduce the delay in reaching the hospital (A. Singh et al., n.d.).

Since April 2007, the scheme was scaled up and fully operational in the whole state. An estimated 282,000 deliveries to poor women occur in Gujarat per year; 23,500 per month. Coverage of deliveries among the poor in the state under the scheme increased from 27% in April 2007 to 48% in December 2007 (GoG: Department of Health and Family Welfare, 2009, p. 37). The Gujarat State Health Review Report (2007-2009) reports encouraging results: "On basis of the existing MMR of Gujarat State, 265 mothers would have died out of above 153,717 deliveries; however only

37 maternal deaths were recorded among these deliveries. In other words we are able to save 228 mothers" (2009, p. 37).

5.2.7.2.3 *MAMTA Day*

Many programs by the Department of Health and Family Welfare and Department of Women and Child Development have been implemented and have made impressive progress in many spheres of development (Kanani, 2008, p. 3). These include MAMTA (Malnutrition Assessment and Monitoring to Act) Day, antenatal and postnatal care, micronutrient deficiency control, various services of integrated child development services and other related programs. MAMTA Abhiyan is a comprehensive package providing preventive, promotive, curative and referral services under the RCH Programme initiated in 2006. It caters through MAMTA Divas (Village Health and Nutrition Days), MAMTA Mulakat (Post Natal care visits), MAMTA Sandharb (Referral Services) and MAMTA Nondh (Records and Reports) (GoG: Department of Health and Family Welfare, 2009, p. 38). Grassroots level workers at anganwadis and subcentres are charged with delivering the following service to rural women:

- Weight measurement, health care of children and counselling.
- Immunisation of child/counselling to PNC (lactating) mother.
- Micronutrient supplementation.
- Check up of ANC/immunisation/counselling.
- Health check-up and counselling of lactating woman.

Whilst outreach performance of the program in the State was good, with 2,290,127 visits of pregnant women between 2007-2008 over 337,770 MAMTA Divas Session (GoG: Department of Health and Family Welfare, 2009, p. 38) observational research has revealed poor service delivery. For example, expected teams were not present for the delivery of services, only 50% of children were weighed and 50% of mothers counselled about child feeding in rural/tribal areas, iron folic acid supplements were not given in any observed centre and a number of other Information-Education-Communication messages were not given (Kanani, 2008).

5.2.7.2.4 School Health Program

Key informants in the study noted health checkups in schools as an effective health promotion measure. The School Health Program under the State Health Education Bureau Coordinates a School Health Check Up Programme outlined on the GoG website (GoG: Department of Health and Family Welfare, n.d.-c). The website states, medical officers examine all going and non-school going children of 0-18 years age group in schools and anganwadis. Minor ailments are treated, and children who require spectacles are provided the same free of cost. Children requiring examination by specialists are sent to the related referral centres where different medical experts like ophthalmic surgeons, physicians, paediatricians, dentists, skin specialists and ear-nose-throat surgeons examine and treat them. Children suffering from heart, kidney and cancer diseases are examined by super-specialty hospitals. Operative treatments including renal (kidney) transplant are given free of cost. Transportation is also provided by the state government. In the year prior to this study, 2007-2008, 10,587,247 (95.1% of total children) were examined, 1,303,943 treated on the spot, 78,014 given referral services and 52,361 provided with spectacles (GoG: Department of Health and Family Welfare, 2009, pp. 48-49).

5.2.8 Reflections, observation and discussion

The reviewed data on state health policies reveals political will to pursue the principles of equity and justice. Only a selection of health programs designed to achieve policy targets were discussed in this review. These were programs specifically noted by key informants to be of value to rural people, particularly women.

5.2.9 Community desires

The final question posed to community key informants was: "If you could wave a magic wand what changes would you like to make in the area?" This was asked to summarise the desires of the community for improvement. Responses from the RPA key informants and interviewees are summarised. Many respondents desired better infrastructure in their villages including: broadened roads and fixing of bridges prone to flooding, pipeline for excretia disposal, and better electricity, water and toilet facilities. Also, improved infrastructure in one of the local schools was voiced and

upgrade of toilet facilities in the school. Local employment, improved transportation and better access to the PDS were also raised.

The desire for a clean environment free from pollution was voiced as well as the provision of clean drinking water. Numerous responses were in relation to improvement of education, likely a reflection of the number of teachers interviewed. Two respondents voiced their desire for teachers to be able to do more justice to their work. With the perceived demand for involvement in numerous government programs, they, as teachers felt their time for solely teaching children was disadvantaged – they perceived teachers in private schools however could focus only on teaching. The desire for better assistance for children who, because of economic situations have to leave school, was expressed so they can continue schooling and have opportunity in life. Many times, respondents raised their desire for reducing alcoholism in villages which they felt would restore social order in villages. One respondent felt that more attention should be paid to the moral values of children to ensure they have a good future.

The majority of responses to this question related to the desire for general happiness and good life. For example, "everybody should get the chance to progress for a better life", and "that everyone is happy, healthy and prosperous". Only two of the respondents desired more money, one desiring uniformity in people – no rich and no poor. Harmony, togetherness and good health were also desired.

5.3   Interpreted data

This section presents **interpreted data** – the final stage of analysis. Problems were drawn from the summarised data and listed for each village. An important step in this interpretation stage is community participation. In this study, community participation during analysis involved confirming and prioritising interpreted data.

5.3.1   Results of prioritising problems with communities

The following table displays the problems identified in the interpretation stage of analysis, provides notes on any action already being undertaken and lists additional comments by key informants. The result of the prioritisation process is presented as

the cumulative number allocated to each problem by key informants. The lower the number, the higher the priority.

Table 35

Results of Prioritising Community Identified Problems with Study Participants

Problem/Issue of concern *Results of rapid participatory appraisal*	Action *What action is being taken to solve the problem*	Additional Information *Provided by community members*	Result
KOLAK VILLAGE			
• Effects of environmental pollution in Kolak River and the Arabian Sea causing: - Adverse health effects, - ↓ quality of fish catch, - ↑ unemployment in traditional fisheries, - ↑ costs due to retraining for new occupations	• Water and silt sample collection by government officials. • Discussion at village meetings and complaints made by *Sarpanch* (village leader). • Pollution Control Board informed. • Environment and Forestry Department informed, samples sent to Delhi. • No further action taken by any of the above.	• Two village meetings *(Gram Sabhas)* opposed due to lack of representation and action. • The pollution problem has been seen in the village in the last 8-10 years, with gradual increase in severity since industrialisation (last 15 years).	6
• Effect of alcohol abuse in the village causing: - Domestic violence, - Premature death, - Disruption to livelihoods, - Impact on children.	• Short term increased vigilance of alcohol manufacturing, consumption and transportation after 'Lattha Kand' (Local liquor) deaths incident of Ahmadabad*.	• The village's proximity to the Union Territory of Daman makes alcohol easily available. • Homemade local brew easily available and sold.	12
• Anecdotal and self-reported increase of cancer in the village.	• No action taken by government hospitals. • No accurate evidence to substantiate claims.	• Some community members not disclosing their illness and cancer status. • People attend private hospitals outside the village for treatment. • Village level statistics for health issues are not available.	14
• Potential for an increase in STI /HIV prevalence due to mobility of villagers for long periods during shipping seasons.	• Some awareness work is occurring.	• Risk taking behaviour of young girls has changed due to factory work at a very young age, increasing risk of STIs and HIV/AIDS. • No reported cases of HIV.	18

PARIA VILLAGE			
• Effect of alcohol consumption in the village: Domestic violence, Premature death, Disruption to livelihoods, Wrong learning of children	• Short term reduction in local manufacturing after 'Lattha Kand'.	• Less complaint from children to teachers of violence in the home in the new school term	2
• Insufficient support of the Public Distribution System (PDS) for *above* poverty line (APL) people.	• No action taken.	• The two PDS shops provide for below poverty line (BPL) people only. • Villagers with APL status experiencing economic difficulties do not receive support and have expressed willingness to start some income-generating activity.	4

ORWARD VILLAGE			
• Discomfort caused by lack of sanitation and toilet facilities among some residents.	• Government subsidies and support provided for BPL and APL people for construction of toilets.	• Negative perception of the government assistance provided. • Community grievances due to corruption in the construction of toilets. • Local Government is willing to assist APL people collect money to construct common toilets.	7
• Effect of alcohol consumption in the village: Domestic violence, Premature death, Disruption to livelihoods, Wrong learning of children.	• A vigilance squad was appointed after 'Lattha Kand'. • No action is being taken - alcohol is being sold locally, sourced from Daman.	• Alcohol problems only exist in certain *faliyas* (small groups of houses within villages). • Whilst police vigilance is increased, corruption remains high.	8
• Danger associated with the main highway crossing through the village.	• A 1km over-bridge has been approved by Government to help alleviate the problem.	• Action to alleviate the problem will take significant time and resources and needs sustained support by government.	9

SARAN VILLAGE			
• Poor access to health care. Villagers travel to Udwada for health care which they see as problematic due to transportation cost and availability.	• No action reported.	• Problem persists.	9
• Discomfort caused by lack of toilet facilities.	• In one *faliya*, two common toilets are being built, however this is for 20 families which people report as insufficient.	• There is negative perception of the government assistance provided for toilet construction.	10
• Geographic isolation of Saran village contributing to lack of information and increased costs associated with travel to neighbouring villages for services. • Poor transportation complicates the problem.	• No action reported.	• Private auto rickshaws are the only operating transport to and from the village. • This problem is linked to poor access to health care.	13
• Poor economic situation of a predominately agricultural village resulting in poor nutrition and hardship.	• A new government scheme has been introduced: National Rural Employment Guarantee Act (NREGA) to support local employment. • Lack of uptake of the scheme is reported.	• There is an expectation for an outside Trust or Organization to come forward to assist in building income generating activities. • Lack of village market is contributing to low consumption of fresh vegetables, preferring to consume dhal, rice and potatoes.	16
• Environmental pollution in both in the Kolak River and in the air. • Increase in villagers feeling sick with nausea.	• No action reported.		20
• Effect of alcohol consumption in the village: Domestic violence, Premature death, Disruption to livelihoods, wrong learning of children.	• No action reported.	• From Daman, Saran is a short cut for transporters of alcohol.	21
• Absence of the PDS in Saran Village.	• No action reported.	• In one of the *faliyas* the PDS is working alongside a grocery shop. There is confusion amongst people if it is a Government Fair Price shop or private. Distance to the shop significant.	23

AMLI VILLAGE			
• Effect of alcohol consumption in the village: Domestic violence, Premature death, Disruption to livelihoods, wrong learning of children.	• Supply of alcohol decreased after 'Lattha Kand', but cost of alcohol increased due to short supply. • Police presence is occasional with no concrete action.	• Problem of alcohol is perceived as more of a personal type than a village problem.	11
• Poor transportation to and from Amli village.	• The State Transport Office was notified and temporary improvement was seen, however was not sustained.		11
• Poor access to health care. • Villagers travel up to 10km for health care.	• No action reported.	• Whilst the Government nurse visits the school regularly, the Government doctor only visits the village annually. • Perception of the problem varies according to the experience of the key informant.	13
• Seasonal flooding of the village's access bridge. • Town cut off for days at a time.	• Higher level authorities have been approached with no result.		15

* 'Lattha Kand' (Local liquor) refers to the mass deaths from the consumption of toxic illegal alcohol in Ahmadabad, Gujarat State Capital. This incident occurred during the time between the RPA and confirming and prioritising process, also drawing attention to the historical alcohol prohibition in Gujarat.

5.3.2   Reflection and discussion of interpreted results

Final cumulative numbers (result column) reveals overall prioritisation. It also indicates the weight of priority assigned to each problem. For example, in Kolak village it is possible to see from the low cumulative number assigned to environmental issues (6) that most participants ranked this problem the highest priority problem. In other villages, such as Orward village, numbers are more equally distributed; indicating participants had more diverse ranking preferences. Understanding of the perceptions of locally defined problems is facilitated through this process. The end result of the process is a prioritised list of locally defined problems, revealing possible action that can be taken on those problems identified as most important to communities.

5.4   Chapter summary

This chapter has presented the results of a rapid participatory appraisal in five villages of Pardi Taluka, Valsad District, Western India. Results were presented in two formats: a collective summarised data in succinct statements for each block and level of the information pyramid, supported by reflections and discussion of each level and identification of common themes; and interpreted data, presenting results as a list of confirmed and prioritised problems for each village. With these results, the researchers returned to the villages to share results and commence with Stage 2 - the action-intervention stage of the study. Stage 2 results are presented in the following chapter.

Chapter 6

Report and Findings: Stage 2, Action-Intervention

6.1 Introduction and chapter six overview

Returning to India between September-December 2009, the researcher's primary focus in Stage 2 was to develop and pilot a community-based health action-intervention. The Stage 1 results revealed a succinct list of community identified, confirmed and prioritised problems for each of these villages. Stage 2 commenced with concluding 'diagnosis' - returning to villages to deliver the final results of the rapid participatory appraisal (RPA) conducted in Stage 1 of the study. This chapter reveals that outcomes of interaction with key informants in villages varied. There were several challenging contextual reasons that became evident during the course of intervention development like security, safety, risk to the villagers and researchers, a difficult and complex political situation and an entrenched corrupt system that impacted on participation. This chapter presents the interactions with each village, researcher observations and reflections and the field challenges faced.

6.2 Kolak Village

As discussed in Chapter 4, Part B: Stage 2, Action-Intervention a participatory intervention was developed and planned for piloting in Kolak Village to advocate for meaningful change to their highest priority problem – environmental pollution. The following discussion will outline the research team's interaction with Kolak Village throughout the implementation process. The research team consisted of the primary researcher, the health project coordinator, and on occasions, a representative from the Centre for Rural Development (CRD). When referred to in plural, 'researchers' implies both the primary researcher and the health project coordinator.

6.2.1 Diagnosis

Completing the diagnosis step of the participatory action research (PAR) cycle – the link between Stage 1 and Stage 2, findings of Stage 1 were presented to the key informants involved in the RPA. A report, translated into Gujarati, highlighting in

order of priority the problems in Kolak village was presented to all key informants. The identified problems in this village are revisited below:

1. Effects of environmental pollution in Kolak River and the Arabian Sea causing adverse health effects: ↓ quality of fish catch, ↑ unemployment in traditional fisheries, ↑ costs due to retraining for new occupations.

2. Effect of alcohol abuse in the village causing: domestic violence, premature death, disruption to livelihoods, impact on children.

3. Anecdotal and self-reported increase of cancer in the village.

4. Potential for an increase in STI /HIV prevalence due to mobility of villagers for long periods during shipping seasons.

A summary of the final steps of the diagnosis process in Kolak Village is described.

Kolak Village - Meeting 1	
DATE:	29/09/2009
Attendees:	Sarpanch (Head of the Gram Panchayat [Local Government]) Research Team
Location:	CRD office, Udwada RS.

The first meeting was with the Sarpanch of Kolak Village. Although the Sarpanch was not an initial key informant in Stage 1 because he was unavailable at the time of the research, it was recognised and understood that his approval of the project was mandatory. Out of respect and for protocol reasons, the Sarpanch was therefore contacted first.

A report outlining Stage 1 methods, procedure and resulting prioritised problems was presented and discussed. The top priority problem of environmental pollution was discussed in more detail. The Sarpanch explained that the pollution problem has yet to be solved. The polluted water from Vapi industry enters into Bilkhadi. From there it enters Kolak River. The Gujarat Pollution Control Board (GPCB) and the Ministry of Environment have been informed about the problem and there has been recent activity in Vapi regarding the issue. The Vapi area has been labelled 'critically polluted'. Six months prior the above noted organisations said they would take action on the problem however action is yet to be seen by the Sarpanch. The village has been complaining about this problem for 8-10 years.

In *gram sabhas* (village meetings), the environmental problem is reported to senior authorities, however no action results. Three days prior to this meeting, the Ministry of Environment, GPCB and local collector met with industry in Vapi to assess the situation. The Sarpanch reported that filters are being used before the industry water is dumped; however the filters are only used some of the time because of the cost. The GPCB is responsible for checking they are used however there is corruption amongst them and industry is notified before checks are made. Any communication Kolak Village has with government departments regarding the pollution problems is initiated by the village, not by the government. This reported poor communication leaves the village to always have to follow up their complaints when they are not addressed. The Sarpanch noted cancer, TB, affected drinking water and an affected fishing industry as perceived negative impacts of the pollution.

The Photovoice concept and plan to implement the project in Kolak was communicated. Aims and objectives of Photovoice in Kolak were also communicated. The plan was supported by the Sarpanch and a second meeting was arranged for Saturday 3rd October, 12 noon with all key informants from stage 1.

Kolak Village – Meeting 2	
DATE:	03/10/2009
Attendees:	Sarpanch Self help group representative Subcentre Nurse Gram Panchayat Clerk Primary School Principal Anganwadi worker Research team
Location:	Gram Panchayat Office, Kolak Village

All key informants from Stage 1 attended the second meeting in the Gram Panchayat's office in Kolak Village. The Sarpanch, showing his support notified and collected all participants in his office. A report outlining Stage 1 methods, procedure and resulting prioritised problems was presented and discussed. The group agreed they were ready for change; the Sarpanch confirmed he wanted change for his village. Aims and objectives of Photovoice were communicated and feedback was sought. The group explained that an intervention of this sort had never taken place before. The Principal was impressed with the methodology and all agreed to proceed

with Photovoice. Researchers expressed interest in presenting the Stage 1 report to the wider community. Feedback suggested it would be difficult to mobilise people to come forward to discuss the problems outlined in the report. Community meetings would be difficult due to commitments of the people.

The Sarpanch suggested conveying Stage 1 results through pamphlets. It was advised that the banner system of communication in Kolak Village was not effective. Researchers explained that the method of communicating with the community regarding all the problems from Stage 1 via pamphlets was one-way communication and the Stage 1 results required more explanation that could not be written in a pamphlet. Further, if action was to be taken on any of the problems, it should engage the community in the process; a community meeting would allow for their participation. Information pamphlets could however be used to explain to people why photographs were being taken in the village when conducting Photovoice.

Opinions were sought regarding recruitment for the Photovoice project. The group explained that it is doubtful if anyone will come forward and it would be better to purposively select the participants. On the advice of the group, it was therefore agreed that each of the key informants at the meeting would invite five people they thought would be interested in the project. A group meeting would take place with these people and expression of interest to participate in Photovoice would be sought. The group expressed positive remarks about the project before dispersing. Post meeting the Sarpanch drove the research team through the village for a tour. Researchers were shown the different faliyas, the river and the fishing activities on the shore. The Sarpanch guided researchers by boat up the Kolak River to show the village's proximity to industries, the alleged source of pollution for the village.

Within a few days after the meeting, a total of 25 invitations to the meeting on 13th October were given to the Sarpanch. The Sarpanch then distributed the invitations to the key informants who would then each invite five interested participants.

6.2.2 Mobilising

Researchers moved to the mobilisation step of the Stage 2 PAR cycle once diagnosis was complete and Stage 1 results had been delivered and discussed with all key informants. The first meeting to discuss the Photovoice project with the wider community took place as planned on 13.10.2009 at the Gram Panchayat's office in Kolak Village.

Kolak Village – Photovoice meeting 1	
DATE:	13/10/2009
Attendees:	Sarpanch Gram Panchayat Clerk ex-Sarpanch of Kolak 3 x community elders, active in pollution problem circa 2000 4 x self help group (SHG) representatives Primary School Principal Research team Apologies: Nurse Anganwadi worker
Location:	Gram Panchayat Office, Kolak Village

Each of the five Stage 1 key informants were given five invitations to distribute to people they thought would be interested in participating in Photovoice. The Sarpanch brought four men to the meeting including the ex-Sarpanch and three other community male elders who had been involved in addressing the pollution problem in the past. Four SHG representatives attended the meeting as well as the primary School principal who did not bring interested participants. Both the nurse and the anganwadi worker sent their apologies. Discussion commenced with a more in-depth look at the problem of environmental pollution in Kolak Village. The following summarises key points made by participants in the meeting regarding past activism to improve the problem.

In the year 2000 Green Peace took action against polluting industries. A file of information that included news clippings and letters regarding the pollution problem in Kolak Village was shown to researchers by the ex-Sarpanch (See Appendix H for more detail). A great deal of activism occurred during this time. In Vapi, a protest took place and Green Peace representative entered the Common Effluent Treatment

Plant (CETP) and turned off a valve that stopped effluent entering the river. A criminal case was made against Green Peace, the then MP of Daman and some other participants and trespassing charges were laid. At this time, all influential stakeholders were contacted and brought together to overcome the problem. Reaching success, for a year and a half the waste water from factories was stopped from being discarded up river before Saran Village; however today the waste continues to be discarded and the situation is perceived to be getting worse.

Participants then explained the effect the pollution had on local industries; Before the creation of the industrial zone in Daman and Vapi, and the resulting pollution, there were about 5000 people in Kolak Village, about 90% being fishermen (Tandel) community. Fish was abundant and there were about 49 boats (with 9-10 fishermen per boat). Around 500 families were surviving off this industry and fish from the river and ocean. There was a union of fishermen and they were providing funds to fishermen to fish fins and moss for exporting. The village was dependant on this. Now though, the union is in debt as the fish supply has reduced – according to the group, due to polluted waters. At present day, less than 100 villagers are able to sustain livelihoods from fishing because of the reduction and depletion in fish numbers. The whole industry has been destroyed because of this. Now only 5 to 10 boats according to participants are active with only 2 or more fishermen on each boat.

The villagers have observed that the waste water from factories is released at night every 8-10 days when the water tides are high. This is when polluted water merges into the river estuaries. When the tide recedes dead fish wash up on shore. Residents relate this due to the odour and evidence of a black waste trail in the water. Anecdotal evidence reports increasing cancer rates and other health impacts like upper respiratory infection and stomach ailments attributed by villagers to polluted water in Kolak River. Meeting participants advised, that prior to the year 2000, when records were being kept by the health department, approximately 80 people had died of cancer in Kolak, which was perceived to be high for a small village. Also in the year 2000 reports of dead fish on the shores of Kolak Village appeared in

newspapers. Response to the articles was that the fish deaths were not caused by pollution.

Other self assessed health impacts discussed include deformities (types not specified) and skin diseases. One participant believed 5-6 children had been born with deformities in the village. The School Principal confirmed approximately 10 children under 18 years. The report outlining results of Stage 1 was presented. It was conveyed to participants that only if people want the situation changed can solutions be worked on. One enthusiastic elder said if there is someone ready to lead the group and if they have good leadership they are ready to fight until death. To this the researchers answered, that only the village can take leadership and initiative, researchers can offer guidance and support.

The concept of Photovoice was explained to the meeting participants. Participants informed that many activities have been planned over the years about the pollution problem but what eventuates is the person taking leadership takes a bribe and the action dies. Researchers asked the meeting group about participant safety if the Photovoice project was to take place. One man from the meeting was actively involved in the past and reportedly never took a bribe, revealed that after some time he received death threats against his only son, and he was personally attacked. Again, the point was made by meeting participants; if there is strong leadership who won't take a bribe, then activity can take place. It was then suggested that it is not about a strong leader, rather the whole village uniting for action - this is not the responsibility of one person.

Towards the conclusion of the meeting it was decided that activity needed to be revived. The meeting participants felt however that outsiders may make noise and then action dies when they leave. Researchers reinforced the notion that local activity is important. One elder in the group suggested starting a committee to ensure that local activity continues after the researchers conclude their research in the community and this suggestion was supported. The next meeting was decided to be held at 10.30am on October 29. The purpose of the meeting would be to form the committee and gain expression of interest for participation in Photovoice.

Kolak Village - Photovoice meeting 2	
DATE:	29/10/2009
Attendees:	Sarpanch ex-Sarpanch of Kolak Community elder, active in pollution problem circa 2000 Research team
Location:	Gram Panchayat Office, Kolak Village

One hour after the proposed meeting start time, only three men were present at the meeting. Reasons given by the men for the poor turnout included: rice harvesting season, an event over the last few days and people had a late night the night before, and that it was the 11th day after Diwali festival so pooja (prayers) are being performed in homes. It was suggested a second try at the meeting take place in two weeks. Concerned about time frames, researchers suggested starting with already formed groups rather than trying to make people come together. Schools were one option proposed. The men also advised to go to the Seamen Mandal's meeting to take place on October 31 where there would be about 100 people in attendance.

The Sarpanch expressed disappointment at the poor meeting attendance. He said, every time some activity about environmental issues happens, the two men in attendance come forward because they are passionate about the problem, but there is very little support from other villagers. The two men had been involved in activity to improve the pollution related problems since 1985. In 1997/98 water pollution was not yet a problem. By 2000 people were ready for action; however since then nothing has changed; people were disheartened and feel that there will be no improvement.

One of the elders at this meeting was instrumental in the activity during this period of time. Because of threats to his son's life and his discontinuation in politics he became inactive. Finally, the Sarpanch explained that the meeting details were announced over the loud speaker at a recent religious event in which approximately 1000 people attended. The reaction was reportedly negative, with the impression that like in the past, leaders of any action would also be corrupt, start action and achieve nothing.

After this meeting concluded, the researchers, along with a SHG representative visited the house of the school Principal. Some discussion took place as to why they did not attend the meeting. It was explained to researchers that the two men at the

meeting were in a position to take the lead for action so no other input was required. It was also explained that in the presence of elders, people refrain from speaking. Women in the presence of men also speak less if the men are taking the lead. Researchers asked the principal if she thought children in the school could benefit from some activity regarding awareness of the environment and pollution. The principal advised that the school schedule was hectic and it would be difficult to undertake extra activity.

At this stage of interaction with Kolak Village, researchers reviewed the information given to them by key informants outlining past activity against pollution in Kolak Village and objectively evaluated the observations and reflections recorded. Research supervisors at Curtin University were contacted the next day to review the interaction with villages, reassess ethical considerations regarding safety of researchers and participants, and seek advice regarding pursuing further activity in villages involved in Stage 2. Considering all factors, the decision was made to discontinue Stage 2 of the research. See 0 6.2.3   Observing and reflecting for details.

Given the invitation had been accepted to speak at the Seamen's Mandal group the next day, researchers attended the meeting and gave one last attempt to explain the research and listen to what community members had to say about the problem of pollution.

Kolak Village - Photovoice meeting 3	
DATE:	31/10/2009
Attendees:	Approximately 60 men Sarpanch plus all members of the previous meeting Research team
Location:	Seamen's Mandal meeting, Kolak Village

The Seamen's Mandal is a group of 200-300 males working as Seamen (in the merchant navy) offshore. The group was recognised in Stage 1 data collection as an organisation that "helps" the residents of Kolak and "shows initiative" in taking action on issues concerning the village. It was also found that offshore workers earn comparatively higher salaries to local workers, which elevates their ability to be

influential. The group organises an informal co-operative whereby the Seamen Mandal collectively sells groceries in local markets, with profits returning to the group. They also arrange a loan system for their community to assist aspiring seamen with training or travelling fees. With money raised in the group they were able to erect a mobile phone tower in their village. The monthly rental income they receive from mobile phone companies for the tower goes towards helping the Seamen community by funding small loans.

At the conclusion of the group's monthly meeting, researchers were invited to speak and share information about plans for action regarding pollution. The health project coordinator explained the results of Stage 1 of the research and emphasised the high priority placed on the negative effects of environmental pollution in Kolak River. The meeting participants were asked if this was indeed a big problem for the village, to which they replied "yes!" They were then asked if they were ready to take action, also replying "yes!" When asked who would participate in action, no one replied. Concerns, also raised in previous meetings in the village were voiced. These included concerns of persecution and negative results of past efforts. This discussion was short and the meeting ended soon after.

6.2.3   Observing and reflecting

The initial meeting with the Sarpanch of Kolak Village was positive. He was supportive of the researcher's involvement in Kolak Village and expressed willingness to work with the research team for a common goal. This support was shown by collecting all key informants from Stage 1 for the second meeting to present the results of the Stage 1. This meeting was also positive. There was a consensus among the people to participate in activity to address problems relating to pollution in their village. It was expressed that the group, on behalf of the village were obliged that researchers were showing interest in their village and to help with the problem. Reflecting comments revealed in Stage 1, concerns were however raised about the expected difficulty in mobilising people for action. Key informants were doubtful if people would have time to come to a village meeting when Gram Sabahs do not yield good response. They were also doubtful if anyone would voluntarily participate in the Photovoice project. Researchers also found that from

these early meetings the concept of community collaboration and participation needed to be repeatedly explained and reinforced. Despite researchers conveying the aims and objectives many times throughout the meeting, participants also expressed their expected difficulties in mobilising people in the village.

The third meeting in Kolak Village and the first to discuss Photovoice revealed as much about customs as the enormity of the pollution problem. In the presence of male elders, it was observed that all others, particularly women become reserved in their input. The elder men were leaders in the community and because of their prior involvement on the topic they were also keen to be involved in this project. This was however later revealed by the Principal and the SHG representative to not work in the researchers' favour. With their involvement, out of respect, other villagers and women declined the right to participate.

Reviewing past activity by Green Peace and others (See Appendix H) and hearing of threats to safety by being involved in action against pollution was a major concern for researchers; firstly, for researchers' own safety as 'outsiders' and the safety of participants who would be involved in any action to address the pollution problem. It was a well established and highly political problem with perceived serious health consequences such as cancer, and researchers conceded, more complex than what their input could handle. It was recognised that further specific research would be required to fully comprehend and formally quantify the extent of this problem and effects on health.

The second Photovoice meeting, where only two male elders were present sent a clear message to researchers that mobilisation would be very difficult. The expectation that one or two people would lead the action did not match the intentions or principles of the researcher. Researchers were concerned that despite many explanations, the purpose of the Photovoice project would be misunderstood and result in participants taking photos of waste dumping, which would put all in potential danger. Although key informants were supportive of the Photovoice method, safety concerns questioned whether the method, involving photography, was the most suitable for the situation.

6.3   Amli Village

Unlike Kolak Village, no predetermined plan of action was created for Amli Village and the remaining three villages of Saran, Paria and Orward. Activity in these villages aimed to facilitate dialogue, through community consultation, between key community sectors and the community to foster partnership in improving health and wellbeing of the community.

6.3.1   Diagnosis

A report outlining the following identified problems in Amli Village, in order of priority was presented to all key informants that participated in Stage 1:

1. Effect of alcohol consumption in the village: domestic violence, premature death, disruption to livelihoods, impact on children.
2. Poor transportation to and from Amli village (equal priority to the above).
3. Poor access to health care. Villagers travel up to 10km for health care.
4. Seasonal flooding of the village's access bridge impacts transport. Town cut off for days at a time.

The following meeting summaries outline discussions with key informants regarding the results and potential for future action on identified needs.

6.3.1.1 Presentation of Stage 1 results to key informants

Amli Village - Meeting 1	
DATE:	30/09/2009
Attendees:	Self help group, 10-12 members present Research team
Location:	Bhesu/Aheer Hamlet

A report outlining Stage 1 methods, procedure and resulting prioritised problems was presented and discussed with the 10-12 women of the SHGs. The women were very keen to see the results. They expressed interest in doing something about the alcohol problem in Amli. They were interested to know that alcohol was a problem in other villages as well. The SHG explained that only women should be the ones to join the group to stop the problem because men won't come forward. In response, researchers explained that any meeting that will take place should be a community meeting and

all problems presented collectively. The women agreed to help mobilise people for a meeting. Dates and times were discussed and later set after checking with the school and Sarpanch.

Amli Village - Meeting 2	
DATE:	30/09/2009
Attendees:	Anganwadi worker SHG representative Research team
Location:	Anganwadi, near subcentre, Amli Village.

A report outlining Stage 1 methods, procedure and resulting prioritised problems was presented and discussed among attendees. The problem of lack of health services was the anganwadi worker's main concern. She reported that only one nurse based at the subcentre visits once a month for MAMTA Day (Malnutrition Assessment and Monitoring to Act). This is a government program for monthly growth monitoring, immunisation, antenatal care and mother education within anganwadis. The anganwadi worker showed enthusiasm to help coordinate people for a community meeting. As there are 28 children in the anganwadi, she could inform their parents. Concerns were raised about a recent example of how a person who informed the police about manufacturing alcohol in the village was beaten. It was conveyed that any activity would not be targeting people who manufacture alcohol. The problem would be presented to the community and they would be asked if they want the problem addressed.

Amli Village - Meeting 2	
Date:	30/09/2009
Attendees:	Primary School Principal SHG representative Research team
Location:	Primary School.

A report outlining Stage 1 methods, procedure and resulting prioritised problems was presented and discussed. The principal expressed interest in helping to mobilise people, however did not have much time due to upcoming exams until the 6th October. He offered assistance by informing the parents of the 243 children at the school. A conversation between the SHG representative and the Principal followed

regarding how they felt people would not come forward to help themselves. They expressed negative opinions about the community and likelihood of their involvement in the project. The Principal conveyed that alcohol was more of a personal problem in the village rather than a social problem. He also felt that people in Amli wouldn't want to stop the problem. Researchers explained that it was the effects of alcohol consumption such as domestic violence, negative impact on children and households that were the problems and researchers would not be proposing a stop to all consumption/manufacturing, only convey the problems associated with excessive alcohol consumption.

Amli Village - Meeting 3	
Date:	30/09/2009
Attendees:	Sarpanch
	SHG representative
	Research team
Location:	Sarpanch's home

The desire for a community meeting was put forward to the Sarpanch who was supportive and portrayed the importance of getting the message to the community. The Sarpanch suggested for four banners to be displayed in key locations in village. The concept of PAR was explained and that locally driven change was needed. It was communicated that ownership of action to address problem would be that of the community and that it would be desirable if the Sarpanch could address the people rather than researchers. The Sarpanch raised the question of whether participants in Stage 1, RPA should be revealed at the future planned community meetings. Researchers explained that participant involvement was confidential. The Sarpanch and SHG representative explained that everyone already knew who was involved in Stage 1 because it is a small village. This highlighted difficulties of adhering to confidentiality in community based research.

Regarding the issues surrounding alcohol, the topic of police corruption in the transportation and manufacturing of the alcohol was raised by the Sarpanch. He explained, police checks take place on the main highway, not interior roads and many offenders go unnoticed. From Daman, the transporting of alcohol occurs through interior roads. Community meeting arrangements were confirmed. It was

arranged to meet the Sarpanch before the meeting to discuss the agenda and make sure the messages are conveyed correctly.

6.3.2 Mobilising

Researchers moved to the mobilising step of the Stage 2 PAR cycle once diagnosis was complete and Stage 1 results had been delivered and discussed with all key informants. The first community consultation meeting occurred in Amli Village as planned. The community meeting was advertised through banners located around the village, and through key informants' word of mouth. The information banners outlined the meeting date, time, location, both SNDT and Curtin University, title of the research and a summary of the main findings. Discussion with the Principal and anganwadi worker key informants prior to the meeting revealed that the banners were hung in various locations around the village after they were delivered to the Sarpanch. The key informants were unsure if anyone would come to the meeting.

Despite making prior arrangements to meet the Sarpanch an hour before the start time, he arrived late and researchers were not able to brief him regarding the agenda of the meeting. The Sarpanch was reluctant to take the lead at the meeting. People started arriving over an hour late and continued to arrive and depart at different times throughout the meeting. Despite showing a lot of enthusiasm at the initial meeting, only two women from the SHG attended the meeting. The two anganwadi workers however were most active in bringing women to the meeting. A group of these women stated that they normally went to meetings for matters concerning them.

As the Sarpanch showed reluctance to lead the discussion, the Principal opened the meeting. It was quickly observed that he was pushing his agenda of stopping all alcohol consumption. He talked of his affiliation with Swaminarayan and Rami Swami religious groups and their support for the prohibition and stand against illegal manufacturers and consumption. Sensing the meeting was being steered in another direction, the health project coordinator tactfully took control of the meeting. She gave more explanation of why the meeting had been called and the purpose and results of the conducted in Stage 1. Throughout the meeting it was observed that

people were actively involved in discussions. The following notes document the proceedings.

Amli Village - Community Meeting 1	
DATE:	9/10/2009
Attendees:	Amli Village community members (25 in total, arriving and departing at different times throughout the proceedings: Sarpanch Telati 3 men that arrived with the Sarpanch; Principal 2 men from the public 2 SHG representatives 3 women from the Aheer community, 2 anganwadi workers 10 women from the community
Location:	Primary School

The Principal opened the discussion and motivated people to come forward for action. The Principal spoke of a company named Rohit paper mill that had helped construct the bridge that floods, however they had not followed up with the flooding problem. He expressed that no one comes forward to make changes and that non activism of people is responsible for all problems. The Principal's focus was to work on the problem of alcohol however people showed reluctance. Regardless, he was urging women to come forward to work towards stopping the alcohol problem. (At this stage the health project coordinator added that this is a community problem).

The principal proceeded to tell the people that he is associated with a religious group named Rami Swami. People started to go to an organised *Satsang* (a prayer group) at their own expense of 50Rs twice a week. Amongst other agendas the group conducts work to stop alcohol problems. Initially the presence was about 250 persons, which increased to 750 people because they had made arrangement for transportation. This was mentioned to make the point about the importance of good transportation. The Principal noted that the cost of transportation was very high causing problems for accessing health care. He is from Tamalia, the next village after Amli and it would cost INR 50 (a little over US$1) one way to get to a health centre from Tamalia.

At this stage of the meeting, the Health Project Coordinator gave introductions, an overview of the project and commenced discussion regarding the problems outlined in the Stage 1 report:

- **Transportation***:* People showed most interest in attending to this problem. Everyone was keen to take action. All raised their hands to show interest.
- **Health care***:* again, everyone was keen to take action. All raised their hands to show interest.
- **Alcohol***:* little interest was shown to address this problem. People expressed that they needed more time and strength in numbers to tackle this problem.

There was further discussion detailing the transport problem in the village and it was observed that this was a major concern for villagers. It was noted that the population of Amli is increasing up to 3000 so they will soon be entitled a permanent nurse in the subcentre.

6.3.3   Planning

A second meeting to address transport issues was planned for October 27, 2009 at the Primary School. For this meeting, people agreed to prepare a list of people (groups) who would benefit from better public transport. To address the health care issue, the Sarpanch agreed to prepare a letter to advocate for permanent health worker in the village.

6.3.4   Taking Action

No further action in this village took place after the first community meeting. The second community meeting was cancelled by the Sarpanch and when offered to arrange a new date and time the Sarpanch declined. One week after this discussion researchers attempted to contact the Sarpanch, however calls were not answered. A number of calls were made to the Sarpanch in the following weeks, however none were ever answered and messages not replied to. With lack of support from the Sarpanch, which has been demonstrated as mandatory, and sensing researcher presence was not desired in the village, researchers reluctantly discontinued activity in the village.

6.3.5   Observing and reflecting

A number of observations and reflections regarding interaction with Amli Village were discussed between the researcher and health project coordinator. Researchers perceived, during first meetings with key informants to present the results, enthusiasm for participating in community action was shown. Women in the SHG in particular showed willingness to participate in a community meeting to discuss future plans of action however only two women from the group of seven attended the community meeting. The Sarpanch also showed initial interest in wanting to communicate the results of the research to the community and to discuss possible action. Whilst he did attend the community meeting it was observed that his interest was less than the first meeting; he arrived late, avoided taking the lead in the discussions and spent a large proportion of the meeting time on the telephone.

Despite the Sarpanch's observed change in interest, researchers perceived the community meeting to have positive results. Although researchers had initial concerns that no one would attend, a group of 25 were present in the meeting. This number was however spread throughout the meeting time and many people arrived late or left prior to meeting completion. This made it difficult at the conclusion of the meeting to make future plans for action and evaluate the people's response to the meeting. When the second community meeting, planned for 18 days after the first meeting, was cancelled by the Sarpanch, researchers became concerned by the observed avoidance in securing an alternate date. When researchers were unable to contact the Sarpanch in the following weeks the situation was reassessed and the decision was made that the research could not proceed without the Sarpanch's support. This was a disappointing outcome when people expressed such interest in participating in action to improve their village's problems.

6.4   Saran Village

Interaction with Saran Village is outlined in the following sections.

6.4.1   Diagnosis

A report outlining the following identified problems in Saran Village, in order of priority was presented to all key informants that participated in Stage 1.

1. Poor access to health care. Villagers travel to Udwada for health care which they see as problematic due to transportation cost and availability.

2. Discomfort caused by lack of toilet facilities.

3. Geographic isolation of Saran Village contributing to lack of information and increased costs associated with travel to neighbouring villages for services. Complicating the problem is poor transportation.

4. Poor economic situation of a predominately agricultural village resulting in poor nutrition and hardship.

5. Environmental pollution in both the Kolak River and in the air. Increase in villagers feeling sick with nausea.

6. Effect of alcohol consumption in the village: domestic violence, premature death, disruption to livelihoods, wrong learning of children.

7. Absence of the public distribution system (PDS) in Saran Village.

The following meeting summaries outline discussions with key informants regarding the results and potential for future action on identified needs.

6.4.1.1 Presentation of Stage 1 results to key informants

Saran Village - Meeting 1	
Date:	7/10/2009
Attendees:	Primary School Principal
	Anganwadi worker
	Research team
Location:	Primary School

A report outlining Stage 1 methods, procedure and resulting prioritised problems was presented and discussed. The principal felt the problem of poor financial situation was important and expressed desire for something to be done about it to assist the people. When researchers asked for suggestions on how this could be achieved, the principal suggested for an industry to be set up in the village and create jobs. Researchers explained that this would be difficult especially since Daman Industry was within such close proximity and was already well established. The Principal felt that if people had work within the village, it would improve their situation and income generation activites were needed.

The concept of the SHG using their savings for entrepreneurial purposes was discussed and that work had been offered to women in the SHG however they turned it down due to poor remuneration. The concept of the National Rural Employment Guarantee Act was discussed as an income generating activity in the village – a national program run by central government designed to employ local people for local government work such as road maintenance. The Principal felt the work was however going to outsiders to the village rather than locals taking this opportunity. The idea of cattle rearing was discussed along with villagers offering to cut the grass whilst gaining benefit of their cattle being fed. This was in response to the expressed problem that people couldn't find anyone to cut the grass in farms. The idea of dairy work was also raised however few people in Saran have cattle. Also, people can't afford milk and successful cooperatives were already functioning in the region.

The idea of a community meeting to discuss the problems identified in the Stage 1 report was put forward but the response was negative and the reason given was that people couldn't afford to lose time and wages. However, the School Principal offered a venue at the school if the community meeting was to proceed.

Saran Village - Meeting 2	
Date:	7/10/2009
Attendees:	Deputy Sarpanch Talati (village accountant) and assistant talati Research team
Location:	Gram Panchayat office

A report outlining Stage 1 methods, procedure and resulting prioritised problems was presented and discussed. The Deputy Sarpanch gave updates on identified problems explaining that toilets had now been built in the faliya with initial complaints recorded in Stage 1. Also, 2-3 more rickshaws were operating to/from Saran Village improving transportation issues. The Sarpanch however disagreed that poor nutrition in the village was due to poverty. The key informants also disagreed that the village had poor connectivity, saying that people in the village had good connectivity with Udwada so they get their supplies from there.

The National Rural Employment Guarantee Act was raised with the Deputy. The program was described as problematic for Saran as people in the village did not come forward for the work and pressure for the Gram Panchayat to get the work done pushes them to seek workers from outside the village rather than local workers. The Sarpanch explained that this is problematic providing an example; that there is funding for Saran to improve roads, which would benefit the local community, yet if workers were outsourced rather than utilising local workers, it would receive negative press and higher authorities would discontinue the project funding. Unavailability of workers in the village to do such work was reportedly due to people working in factories rather than working in labouring jobs. Regarding the reported transport of alcohol through Saran Village, the key informants stated they were unaware of this matter and they did not know that police corruption is involved in this. They were hesitant to discuss the topic.

It was communicated that it was important that any action comes from the people and that researchers can provide guidance and assistance. Many of the problems are linked and interrelated. The Deputy Sarpanch acknowledged the report and expressed that he was not supportive of advancing activity in the village. Researchers expressed interest in presenting the report publically in the *gram sabha*. The Deputy Sarpanch articulated that he would let us know if our services were needed.

Saran Village - Meeting 3	
Date:	7/10/2009
Attendees:	SHG members
	Anganwadi worker
	Researcher team
Location:	Navi Nagri Faliya, Saran

A report outlining Stage 1 was presented and discussed to the above attendees. The group conveyed that people would be unlikely to come forward to take any action regarding these problems because there is no unity in the village. The group was unsupportive of community consultation and stated that public messages are communicated through Gram Sabha only. Regarding toilets in their faliya, the toilets had been built and they were satisfied with them. The anganwadi worker raised the issue of the use of village roads as toilets at night due to poor lighting. It was

suggested a lantern be taken to the toilet at night. The group was asked if action groups were set up to tackle some of these problems, would the villagers come forward. The group could only speak for their own faliya, and stated that possibly two people may come forward. The poor response from the Gram Panchayat office was communicated and that further activity in the village would be difficult.

6.4.2   Mobilising

Mobilising stage was not reached in Saran Village primarily due to the lack of support from the Gram Panchayat and Deputy Sarpanch.

6.4.3   Observing and reflecting

A number of observations and reflections regarding interaction with Saran Village were discussed between the primary researcher and health project coordinator. Whilst key informants acknowledged the problems, there was little desire to participate in improving their situation. There was a sense of negativity in regards to organising community consultations and people's involvement. Whilst transportation does present as a problem for the poorest of Saran residents, an abundance of health care providers both government and private is located within 45 minutes walk or 10 minutes by autorickshaw 2-3 kms away in Udwada. There was also a nurse that irregularly visits the village, however had been absent for some time. Compared to other villages in the region, this situation was not considered as problematic; some other villages were not within walking distance of healthcare. Hardship of having to travel to Udwada for other services, including purchasing fresh produce was also raised, however the idea of creating a weekly market as other villages do was never supported when raised by the health project coordinator on many occasions between Stage 1 and Stage 2, even though many of the products could be grown in the village itself.

Another suggestion voiced by a key informant was for industry to be set up in the village. This was seen as unrealistic because of the close proximity (approximately 1 hour away) from Udwada, 2-3 kms from the village. Udwada also has a bus service to/from Daman industry provided for free by industries in Daman for women employees. Researchers also heard of people in the village not taking up work

opportunities. First, through the National Rural Employment Guarantee Act scheme intended to support local people to work on government funded projects. The Deputy Sarpanch hypothesised that people were not willing to do manual labour as they were used to factory jobs. The second example was with the SHG who between Stage 1 and Stage 2 of the study were offered an employment opportunity to work from home however this was turned down because the remuneration was too low; yet they complained that they should be able to avail BPL and PDS benefits. Whilst their living standards were modest, their assets (concrete houses, electricity and electric fans) indicated that they were in reasonable economic situation above BPL level. It is unclear if the research and discussion regarding lack of toilet facilities in Stage 1 prompted the building of toilets in the faliya; however researchers saw this as a potential positive result of the RPA process.

Regarding the Gram Panchayat in the village, it was observed that the Sarpanch and the Deputy Sarpanch had differing perceptions. This may be because they are from different castes, reflecting also the split in the village demographic - Koli Patel (OBC), those owning the land and Halpati (ST), those working on it. The Deputy, who is from the Koli Patel community was observed to be outspoken compared to the Sarpanch and ignored the hardships faced by the poorer Halpati community. The Deputy Sarpanch was also defensive about the problems being discussed in the village and indicated that further activity from researchers in the village would not be welcomed. This was the primary reason to cease activity in this village.

6.5   Paria Village

6.5.1   Diagnosis

Paria Village was visited the day following visits to Saran Village. A report outlining the following identified problems in Paria Village, in order of priority was presented to all key informants that participated in Stage 1.

1. Effect of alcohol consumption in the village: Domestic violence, premature death, disruption to livelihoods, negative effects on children.
2. Insufficient support of the Public Distribution System (PDS) for *above* poverty line (APL) people.

The following meeting summaries outline discussions with key informants regarding the results and potential for future action on identified needs.

6.5.1.1 Presentation of Stage 1 results to key informants

Paria Village - Meeting 1	
DATE:	8/10/2009
Attendees:	Assistant Principal
	Research team
Location:	Paria Primary School

The PDS issue for above poverty line was discussed and how this is a policy decision problem. The PDS has a priority to assist BPL people with subsidised grains and rations; APL people can avail 'fair price' but not fully subsidised prices. The villages felt that the PDS system was not really supportive. The problem of alcohol was discussed. The key informant advised that if people were told to stop drinking, as soon as we would leave they would be drinking again. She was not aware of any programs to address the negative effects of alcohol nor was she sure if alcohol awareness would do any good for such a large problem. The assistant principal was not willing to cooperate with further extra-curricular activity in the school.

Paria Village - Meeting 2	
Date:	8/10/2009
Attendees:	Sarpanch
	Research team
Location:	Gram Panchayat Office, Paria

A report outlining Stage 1 methods, procedure and resulting prioritised problems was presented and discussed. A discussion pursued regarding the complaints of the PDS and how there are many complaints in villages from APL people who want more subsidies. The Sarpanch felt these complaints were not warranted. "If they can buy mobile phones to use then they shouldn't expect subsidies". The Sarpanch expressed, people are living beyond their means and spending more than they can afford. It is a choice to send children to private schools at a cost. The Sarpanch was asked if there were any groups that are working towards helping the problems associated with the negative effects of alcohol. The health department and prohibition department on occasion visit the village. Some awareness activity is taking place such as street

theatre. It was noted by the Sarpanch that all problems regarding alcohol were interconnected and there was corruption and police involvement: "Everyone is aware of it. If the problem was controlled right from Daman, then maybe the problem can be solved".

Paria Village - Meeting 3	
Date:	8/10/2009
Attendees:	SHG
	Research team
Location:	Suthar Faliya, Paria

A report outlining Stage 1 methods, procedure and resulting prioritised problems was presented and discussed. Discussion commenced with the employment opportunity presented to the group by the health project coordinator after Stage 1. The women were offered sewing work however multiple problems arose, including complaints from some that the pay was too little. This made others nervous to participate. Also, the logistics of delivery of goods were in dispute; however the group was unable to come up with a logical suggestion for improvement. The result was that only a small number (approximately six of 20 women) from the group continued the job.

Results of Stage 1 were discussed. When shown that only two problems had arisen from the research compared to multiple problems in other villages, the group expressed that people in Paria just "eat, drink and be happy". Regarding alcohol, the group described that some people have the addiction and some have the business, but no one will come forward to stop the problem. The group stated that there was no one in the village currently helping with this problem. Even with the intention of educating villagers on the impacts of alcohol consumption and health promotion, people wouldn't be interested in participating in any activity. Other benefits from the government were discussed including transport, electricity, income tax relief, and gas. It was explained that these are the many ways in which the Government is providing services to people.

6.5.2 Mobilising

Mobilising stage was not reached in Paria Village primarily due to the negative perception of taking action on the alcohol related problems. Further, Paria was the study village in the best economic situation. Only two problems emerged from the health needs assessment, the first being alcohol related problems; the second, problems with PDS for APL people. Due to the nature of both problems, researchers found the response to initiate community-based interventions very low.

6.5.3 Observing and reflecting

A number of observations and reflections regarding interaction with Paria Village were discussed between the researcher and health project coordinator. It was recognised that the quality of interviews in Stage 1 was not as good as other villages, potentially resulting in less problems identified. It was also considered that results may not necessarily reflect the problems of the people facing hardship in the village since the population of the village was larger and only a small number of key informants were interviewed. Reflected in the comments of the Sarpanch, it was observed that people were finding it hard to keep up with the life style they were choosing − for example, sending their children to private schools, seeking private health care, owning private vehicles.

Similar to Saran village, many people in Paria wanted to be able to purchase subsidised grains and rations without having BPL status. There was little understanding amongst the SHG participants of why they were unable to have BPL status when their spending choices were the reason for their financial hardship. Further, when presented with an in-home employment opportunity the group complained the remuneration was too low. This was also seen in Saran Village. Government workers, such as the assistant principal in this village often complained about being overworked. Researchers realised that their involvement in Stage 2 action on identified problems was questionable. Engaging in activity to address alcohol related problems in the village was not supported.

6.6 Orward Village

6.6.1 Diagnosis

Orward Village was the final village to return to and deliver results of Stage 1. By this time, the researchers had read a news article about a Sarpanch and his son in a district north of Valsad that had been murdered after a dispute with illegal alcohol manufactures in their village. The news item, dated October 28, 2009 translated to English by the health project coordinator (See Appendix I for more detail) was read within days of its release. Collectively with researchers and supervisors the decision was made to distribute the results of Stage 1 to key informants in Orward Village and discontinue further activity in villages after this time.

Key informants were pleased to have the research results report presented to them (on November 10, 2009) and explained that projects to address the problems in the report was not expected. Informants were happy that the Sarpanch would receive the report also. The Sarpanch was sympathetic to the challenges researchers had faced and understood reasoning to discontinue efforts. He told researchers of a local man who had returned from the United States to his home in Orward and wanted to donate money towards cleaning Orward Village – noticeably the Village with most visible trash of the villages in the study. They tried educating people through media and pamphlets for a 'clean up drive' however received little cooperation. Despite major efforts to clean the village and distributing barrels for rubbish collection, the problem persisted. The Sarpanch noted the following points:

- Change is not possible unless people are educated and standard of living improves.
- There will always be suspicion of people who want to improve situations for people in the villages, no matter whether they are outsiders or authorities.
- People will not listen to or accept suggestions.
- The law is such that people cannot be pressured into changing their ways.

Reflecting on these statements, it was decided between the researchers to discontinue Stage 2 research and seek understanding from the experiences of local 'social activists', explored through in-depth interviews. It was anticipated that rich data and good insight into the local community would be reached through these interviews.

6.7 Concluding the research

A number of events occurred that confirmed the conclusion of Stage 2 research prior to the intended development of action-interventions. A telephone meeting with PhD supervisors occurred on October 30, 2009, after Saran Village meetings were completed, the second community meeting in Amli was cancelled and the second Photovoice meeting resulted in disappointing attendance. Collectively, the decision was made to discontinue Stage 2 in villages due to a lack of community participation and the contextual issues discussed previously.

During interaction with villages, researchers observed and were told on numerous occasions how people were fearful of discussing the alcohol problems in their village and how they were not willing to be involved in activity to address negative impacts of the problem. The news item of the murdered father and son reinforced researchers' judgment that the problem was both beyond the capacity of the local people and dangerous. It also confirmed the decision to withdraw activity in villages, including Kolak Village, whose community members had threats to them in the past due to their activity in addressing the pollution problem in the village.

6.7.1 Final village visits

At this stage, Amli and Kolak Villages were visited and a follow up informal meeting took place with available key informants. In Amli, the SHG representative who had supported researchers whilst in the village and the anganwadi worker were met with. Both were amicable about the departure from the village and were hopeful that the Sarpanch, even if independently would address the issues that were now brought to the attention of others in the village. In Kolak Village, the Sarpanch expressed disappointment that he could not mobilise his own people to act on the problem of environmental pollution. He understood the reasons, however was critical of the people who would not join together to act. He was also amicable, and apologetic, that researchers were unable to continue activity in the village.

6.8 Chapter summary

This chapter has presented an audit trail of activity with each of the five villages in this study. Challenges faced by researchers working with communities were

documented revealing a combination of factors that led to the discontinuation of Stage 2. It was recognised that the challenges faced by researchers whilst conducting Stage 2 was an invaluable learning experience. The nature of the challenges and experiences of the community and researchers are vital and critical in the consideration of the participatory community-based action process. Expanding on this concept, eight key informant interviews were conducted with established 'social and grass roots community activists' who worked in the area. The interview analysis is presented in Chapter 7.

Chapter 7

Furthering understanding: Key informant interviews

7.1   Introduction and chapter seven overview

At the conclusion of Stage 2 of the study, semi structured in-depth interviews were conducted with eight experienced grass-roots practitioners who, through their years of practice, advocacy and activism in the region, shared their in-depth and personal experiences about working with local communities towards empowerment and social change. This chapter commences with key informant profiles followed by the major themes that emerged through thematic content analysis of the interviews. By exploring the insider's perspective and capturing, in the participants' own words, their thoughts, perceptions, feelings and experiences, further understanding of the challenges of working with marginalised communities was gained.

7.2   Key informant profiles

Key informant 1 was a 51 year old woman who had moved from the National Capital Territory of Delhi to Valsad District as a newlywed. Her initial isolation in her new surroundings, a desire to do something constructive for society and to apply her educational background as a psychologist with a Master of Philosophy Degree, led her to her first job working for women's empowerment. For 18 years from 1987 to 2005, she worked as a counsellor for a women's organisation in Valsad Taluka. Domestic violence, matrimonial and family disputes were among her counselling cases in this role. She also engaged in support activities such as awareness and education of women's rights, legal aid and protection, and strived for the equal status of women in society. Expanding her experience, Key informant 1 later worked with rural communities in an interior tribal region and for the last year has been coordinating health projects for rural, predominantly tribal communities in Pardi Taluka. Using the metaphor of a tree, she feels that acceptability of a group/NGO cannot grow in a couple of weeks, months, or years. For it to be strong, it has to withstand all the seasons, over time and have strong roots. And if it can survive, then people can be benefited by this tree.

Key informant 2, is a 78 year old woman born in Surat, Gujarat State and commenced her professional career as a teacher after completing a Bachelor of Education degree. She was strongly influenced by the teachings, activism and work of Vinoba Bhave (an Indian grass-roots community activist) - considered as the spiritual successor of Mahatma Gandhi for his teachings and advocacy of non-violence and human rights. Bhave's work and activism was the motivation for her decision to leave her home and teaching service to join his movement. She and other colleagues became motivated and involved in 1951 in a personal capacity and commenced work with Bhave in 1957. By 1964-68 she and other followers had visited 237 remote tribal villages with widespread deprivation and need. What started with the opening of a charitable primary health centre to fulfil the unmet health needs of Scheduled Tribe communities evolved into donor sponsored activities to address other basic needs including income generation, education, infrastructure development and provision of housing. Now, as an elderly woman, Key informant 2 is retired but encourages others to come forward to work for the people and advises that medical and employment needs continue to be unmet amongst the tribal populations.

Key informant 3 is a 59 year old feminist writer living in Valsad, Gujarat State. She has received local awards for her writing including the Gujarati Sahitya Parishad Award (2006) and Bhagini Nivedita Award for Women Writers (2005). At the age of 28, she was researching for her first book, compiling the rights and rituals of the most powerful caste in the areas of Surat, Valsad and Vapi when she witnessed first-hand the deprivation of women in this society. It was her inner instinct and feminist views opposing the orthodox society of gender and class discrimination which was her main motivation and impetus to dedicating her life to the upliftment of women. Coming from a politically and financially strong family background, she always felt that the role of women was not considered equal to men, and women were accorded a secondary status. She started searching for the roots of this discrimination by studying traditions, rituals and the role of women. This enlightened her to work for the awareness of women in an effort to eradicate the root causes through education and awareness. She established a woman's organisation with a number of schools run in the name of the women of her family. Her own experience of gender oppression in

her family was a key factor in her own positioning. For 26 years, Key informant 3 worked for a women's organisation that provided counselling for matrimonial and family disputes as well as support activities such as awareness and education of women's rights, legal aid and protection for women. She says: commitment, devotion and optimism are needed by those working for social upliftment.

Key informant 4 is a 62 year old and another award winning Gujarati female writer. After completing a doctorate in humanities, she worked as a Professor of English from 1968 to 1994 in Surat, Gujarat State. During this time she and her students participated in social service activities visiting underprivileged children's homes. By 1982, her charitable activities had expanded and seeing the value in investing in children's futures, she started visiting the slums to care for and provide basic education and health care for underprivileged children. She also set up and ran a mobile school on the Surat railway platform, which she wrote a book about that won her the prestigious Nanjangudu Theerumalamba Award (a writer's award named after the pioneering Indian woman journalist of the 20th century) and other awards. Commencing this work in an individual capacity she later set up a registered charitable trust which ran a medical dispensary servicing the children. In 1994 she retired from teaching and moved to Valsad the following year, where by 1997 she was providing informal education and support for children of transient communities and landless labourers in her locality. Key Informant 4 admits that "everybody cannot do everything, but a little bit can be done by everyone" to contribute to and improve society. What is important is the inner desire to do something.

Key informant 5, 42 years of age, started working for the "poor" society on September 1, 1994. As the daughter of parents working for an institution based on Vinobha Bhave's ideals, she was involved in social activities from a young age. After completing a Masters Degree in physics and in education, she decided that she did not want to lead the traditional life society expected of her. She visited many organisations in the region until she found one in a most "needy and poor" area. For six years Key informant 5 worked for an organisation providing education and health amongst other rural development activities for the tribal communities in the area. Nine years ago she moved further into the interior region where there were no roads,

electricity or schools servicing the tribal communities. Now, she is the administrator of a school for 232 students, 120 of whom are from remote villages and lives in an onsite hostel cum boarding school. The organisation, run by private, national donations also works with the local famers for land, water and forestry conservation. In addition, a health worker provides services to the surrounding villages, working with local traditional birth attendants to ensure safe pregnancy and delivery. Key informant 5 believes that creating sense of ownership and shared responsibility for development activities has contributed to the success of her organisation.

Key informant 6 is 57 years and a native of Vapi town in Valsad District, Gujarat State. With a Bachelor of Education in Geography and Gujarati she says working for an organisation concerned with the development of rural communities is far from her original work as a teacher. She responded to a vacancy in this organisation based in Pardi Taluka in 1982 and commenced work as a field worker. Now, 27 years later she is the coordinator of the organisation. The organisation originally started working with young children who were unable to continue schooling because of the impoverished financial situation of their families. Research in the field conducted by the organisation revealed that skills training programs for women were needed so that they could contribute financially to the family income. The Centre has continued to provide training in computer literacy and sewing and now also provides family counselling services, village *baldwadis* (playgroups) and other activities such as health camps. Self help groups are coordinated by the organisation, which are micro-finance orientated linking groups of women to banks, encouraging saving, and facilitating small loans for social enterprise. Key informant 6 advises that in order to work with the community you cannot impose; rather you should first take the community's opinion, collect information and then gradually work to achieve results.

Key informant 7 is an 82 year old who has been described as one of Gujarat's most powerful writers. Her most famous novel, winner of 6 literary awards since it was first published in 1982 was seen as a trendsetter in Indian feminist writing. As well as being an accomplished writer, since her school and college days she felt inclined to serve underprivileged communities. She cites Mahatma Gandhi's teachings as a motivation for her and a group of like minded friends to move to rural Gujarat and

live in the community, work for the people, and practice *Sadhana* for self-enrichment. Sadhana is a spiritual movement that promotes self-discipline, self-knowledge, moral purity and spiritual aspirations along with transforming good intentions to good actions. There they have been working as a registered charitable trust since 1985 providing a wide range of programs and services for the local Valsad, Dharampur and Kaprada Talukas including health, education and rural development activities. They also have an onsite organic farm, a '*gorshala*', for sacred cows that have been neglected, a small hostel, computer centre and children's club on a large property in rural Gujarat. Key informant 7 believes societal change requires a long term sustained commitment that must start with winning the people's confidence, talking to them, finding out their needs, and slowly reaching the people's hearts.

Key informant 8 is 58 years and was working in the statistics department of a university when she realised that work will not enrich her holistic capacity. In the early 1980s she started working for a local chemical industry concerned with addressing the alcohol manufacturing practices and oppression of women in local communities. Now she works under the name of the chemical industry funded foundation based in Vapi, primarily on economic development projects providing training and loans for small enterprises. The foundation also engages a broad range of health and hygiene activities, *baldwadi* (playgroup) education, and social work activities for Scheduled Castes and Scheduled Tribes. Key informant 8 believes that forcing programs on the communities will not work; when you choose a community to work with, you have to choose the area of their interest.

7.3   Themes drawn from interview analysis

The following presentation of interview themes was developed through a process of thematic content analysis. Each of the interviews were transcribed, read, re-read and reflected upon. Then, coding, sorting and developing, evaluating and re-examining the thematic classification scheme took place. Through this process, the key findings were decided and are reported in the following sections of this chapter.

7.3.1 Motivation for helping the marginalised

Each of the key informants, whilst their stories differ in nature, had a self desire to contribute to the society and remain committed to their cause. Many of the women chose to divert their energy towards this field of work:

...I thought; instead of having fun socialization let us do really constructive (work) for the society which can help the people, especially woman - That is what actually motivated me to work. Key informant 1

...I left my work, my college job in 1994... I said I want to utilise my energy for a better purpose. This is not a place where I can fully utilise my energy. Key informant 4

...I realised that the statistics department I was working for will not give enlightenment, nor will it enrich me or my holistic capacity. It's just monetary type of work. So, it's better if I directly work for the rural and working (class) people. Key informant 8, through interpreter

For key informant 3, her *"inner instinct"* and the gender, class and caste discrimination of the society was her motivation. Key informant 5 had the desire for a more fulfilling life: *when I completed my studies I decided that I don't want to lead the traditional life of earning money and being a housewife.* Her parents were working for an organisation based on Vinoba Bhave's ideals, which connected her with social work from a young age.

Vinoba Bhave, known as Gandhi's disciple, sparked the influential Village Awakening movement that peaked in 1964. A generation of middle class youths began the "next wave of community organising" in local groups aided by independent development organisations (Durning, 1989, p. 69). Key informant 2 was a teacher in her 20s during this movement and was motivated to leave her home and her job to join the service. She has remained devoted to this cause for more than 50 years. Key informant 7, the eldest of the key informants (82 years), a locally renowned feminist writer cites Mahatma Gandhi's messages to serve villages as her

inspiration to work for the society. She also explains the spiritual element of their work:

...originally we came here with an idea to form a group of like-minded friends who'd live here in the community and work for the people, as well as work on themselves. That is what we call Sadhana. That is something spiritual in our work. Key informant 7.

Table 36 shows the age and length of service of each of the key informants interviewed. The median age of key informants was 58.5 years and the average length of service, 28 years.

Table 36

Key Informants' Age and Length of Service to the Society

	Age	Length of service for the society
Key informant 1	51 years	22 years (since 1987)
Key informant 2	78 years	52 years (since 1957)
Key informant 3	59 years	30 years (since 1979)
Key informant 4	62 years	27 years (since 1982)
Key informant 5	42 years	15 years (since 1994)
Key informant 6	57 years	27 years (since 1982)
Key informant 7	82 years	24 years (since 1985)
Key informant 8	58 years	Approx 27 years (since the early 1980s)

Note. Data taken in 2009

7.3.2   Descriptions of deprivation in the society

Key informants described deprivation, the lack of material benefits considered to be basic necessities in a society, within the beneficiaries with which they work. Key informants 1 and 3 who work for the uplift of women describe the deprivation this group within the society experience.

Key informant 3 explains: *Gender discrimination is the first. Socially, economically, wealth, health and hygiene – in so many areas the women are very deprived.*

Key informant 1 sees that women are deprived of status within the society: *No doubt, she was found to be a useful person in the house, but the status which she should be enjoying was not given to her.* She explains her role in improving this situation:

...we are simply asking for the right to what you (women) are deprived of. If that is given, we are happy. We (women) don't want to dominate; we don't want us to be in a privileged position. But we don't want to be in a deprived position as well. Key informant 1

Key informants 2 works in interior rural regions: *we wanted to work for the poor and underprivileged so we went around the whole Taluka of Dharampur. We found this place to be the neediest... So we decided that we will stay here and work for these people.*

Key informant 5 states*: first I visited so many institutions [in the region]. When I came here to Dharampur I saw that this is a very needy and poor area.* She describes the scenario when she first arrived in the village she works in Dharampur: *When I came to this village 9 years ago there were no roads, electricity or school. I chose the neediest area.*

These key words, "needy" and "poor" were echoed by Key informant 8 when asked why she wanted to work for Scheduled Caste and Scheduled Tribe beneficiaries: *they are the real poor people. We decided to work with these people most in need.*

For key informant 4, who has worked with children in a variety of settings including in slums, on the railway platform, with children of sex workers and landless labourers, she saw her beneficiaries were deprived of a future.

7.3.2.1 *Working to fill unmet need(s)*

Viewing their beneficiaries as deprived, the key informants worked to fill what they perceived to be an unmet need for their beneficiary. Key informant 4 explains the scenario for the children she worked with:

...But the root is that they are being neglected and that's why they are tempted to leave their home, leave their relatives, leave even their parents, and, say loiter around. So first of all, somebody should take interest in them, offer them love, care, counsel. Listen to them, what they observe. And so I started going to slums.

Key informant 4 saw the areas of need in the slums: *health and education... I thought that these two things are really very important.... Reading, writing and then health and hygiene.* These basic needs she worked to fill, as well as teaching "*basic information that will be useful to them in... life in general.*"

Other key informants also worked to fulfil the basic needs of their beneficiaries through their work: *They are basically working for the basic needs to be fulfilled of the tribal people... income, their education, their health needs and even housin.* Key informant 2 (through interpreter).

Key informant 5 first provided an avenue for children in remote villages to have their educational needs filled. Their residential school provides shelter, food and clothing for 120 children who live too far from a school, whose parents are either too poor to send their children to school or migrate to other areas for times of the year when agriculture is not viable in their area. Another 112 children from the local village also attend the school on a day basis.

Key informant 7 commenced work with local communities by first fulfilling a need for drinking water that communities would have to walk long distances for in the summer months. They then concentrated their budget on assisting beneficiaries with operation costs for major illnesses. Working in numerous locations, they respond to needs as they arose and were requested by the beneficiaries. Currently the need is for sanitation:

...at present our biggest budget is for providing toilets to all the 8 villages. One village we have completed, which are 172 families. For each and every family we provide a toilet. Now there are 8 other villages and everybody wants to have one of those. Key informant 7.

7.3.2.1.1 Providing skills training and awareness

Key informant 1 believes: *we have to bring change in the society; that acknowledges the role of the woman and what she is giving to the family.* To do this, she describes the work she undertook for 18 years: *our work focus was total upliftment, right from*

building awareness and knowledge, to giving them counselling, legal aid and protection. Helping them to sort out their problems and violence was actually the main area of focus.

In addition to the charitable work fulfilling basic health needs of the community, Key informant 7 also provided basic skills training. An example of this is the provision of 250 *cherka* machines to make handloom cotton cloth, a type of fabric, and 40 weaving machines which they use to teach their beneficiaries to produce material which is then sold. An example of an awareness activity with the community is the efforts to influence beneficiaries not to "*spend unnecessarily for wedding ceremonies*" which are a large financial burden for these groups already in poor financial straits.

From the residential school Key informant 5 engages the surrounding communities in a variety of awareness raising and community education programs. Land, water and forestry conservation (linked to sustainability) are what Key informant 5 sees as the most needed activities for the area. Being a hilly region with heavy rainfall, top soil erosion is a problem. Their programs work towards soil preservation as well as forest preservation which Key informant 5 says has been depleted in the 10-15 years she has been working in that region. In this same area, they provide information to the rural farmers about their land rights. They have a doctor and health worker who provides training to the local Dayan, the traditional birth attendant. They also provide safe birthing kits and provide checkups with the Dayan to ensure safe delivery techniques are used to reduce maternal and child mortality.

Key informant 8 also described the range of skills training and awareness activities undertaken by her organisation based in Vapi Town. She estimated 1500 people per year were receiving skills training, and had bank loans made accessible to them so they can start their own businesses. For women, the training is termed '*Happiness Training*' in which they teach the women skills such as sewing, broom making and bamboo work. In addition, the organisation also runs HIV/AIDS awareness programs and an alcohol addiction centre is run by the State Prohibition Department. They also

run 16 *balwadis*, local child care centres and provide legal support for cases of family disputes.

The baldwadi and legal support services provided by Key informant 8's organisation are similar to the services provided by Key informant 6's organisation. They also provide *anganwadi* services, a child care centre similar to the baldwadi concept, and counselling services: *Gents consume alcohol, waste time on playing cards, trouble the woman and don't fulfil her needs. Because of these types of problems the family counselling cell was established* (Key informant 6, through interpreter). In addition, they provide skills training such as block printing, book binding, sewing and computer classes. Through established self help groups they encourage group saving and link rural women to banks for loans.

Reflecting on the comments made by Key informant 6 regarding the men consuming alcohol, Key informant 7 also described the situation in the rural area she worked: *one very big obstruction is they (men) are alcoholic.* In the same region, Key informant 5 explained, they only work with villages under the condition that they do not produce and sell alcohol for although Gujarat is a dry State where alcohol is prohibited; villages continue to have problems with illegal brewing, selling and alcohol consumption.

7.3.3   Expression of outsider perspectives

The background of each of the key informants revealed that only four of the eight key informants work in the same area as their place of birth and upbringing (Key informants 3, 4, 6 and 8). All except Key informant 1 are from different areas of Gujarat State, one from interstate, and all relocated to live and reside within 20 kilometres of their place of work. Whilst this influences the key informants perspective and attitude towards their beneficiaries, the disparity in education level and family background between these two groups was seen as elements that would cause a larger power imbalance between key informants and beneficiaries; thus influencing the "outsider" perspective. All key informants have a tertiary educational qualification. One has a PhD and two hold Masters level qualifications. Further, none of the key informants were from the lower castes or scheduled tribes. Some of the

key informants discussed their own family background and how it related to their desire to work for the society. For Key informant 1, although she worked with women, she came from a different, more "privileged" family background: *if I look back to 20-30 years ago, I feel I was quite privileged that I never came across such problems (as seen in her beneficiaries).*

Key informant 7, through interpreter also refers to her background as privileged and for this reason she wanted to work for the society: *After meeting such people (beneficiaries) [you realise] that we people are so privileged and they are so under-privileged.*

Key informant 3 believes she was accepted by her beneficiaries because of her good family background and that this background gave her the opportunity to conduct her work. She also felt being a local of the area was positive to her work: *I'm a grass root person and I think globally and locally.*

For Key informant 1 and 3, feminist views which challenge common values of the region and society could also place them in the outsider role. Key informant 3 describes: *Of course I project myself as an activist, feminist, and a writer [...] when we work for women, we work for the society.*

7.3.3.1 *How the key informants described their beneficiaries*

Some of the comments made by the key informants about their beneficiaries can be perceived to be critical and judgemental. Whilst their observations may be reflective of the situation, their comprehension of their beneficiaries can never be fully attained due to their outsider role and possibly their higher castes.

Key informant 4 was critical of the parents of her children beneficiaries: *You know you can't have children for begging. You are supposed to look after them instead of doing that. You just throw them to the streets and you ask them to beg for you? Do you have children for this purpose?* She held the parents directly responsible for the "*hopeless future that they give to their children*" and she believes that parents should be held accountable:

... If they do not put their children into school they should be fined. Otherwise there cannot be any progress! If one section (community) becomes a burden to the entire society, and if not one, but so many sections become a burden to the society, then how do you expect any kind of progress?

Key informant 8 made generalised comments about her Scheduled Tribe and Scheduled Caste beneficiaries she has been working with for approximately 27 years: *there are not many major social or health issues (in the beneficiaries' communities), but the main problem is they don't have the desire to work and earn well. This is their main problem. They don't want to work and earn well.* At different times throughout the interview she also used the word *laziness* and *lack of connection to this world* as reasons why beneficiaries would not come forward for their organisation's programs.

Similarly, Key informant 7 also made generalised comments about her beneficiaries: *usually there are not many quarrels or legal problems in villages. They are docile. Docile, humble people. Yeah, but one very big obstruction is they are alcoholic.* On another occasion, when explaining what motivated her to work for the society, she sighted the people's *ignorance* as one of her reasons:

…So some are very advanced, say Dhodia people, they are very advanced. Sometimes you won't even know that they are adivasi. They are very well dressed, well educated, sometimes in quite high posts in education. Then there are other people, especially Vardi people... That community is very, very backward.

Giving an example and showing researchers a photograph, she explained the efforts to build toilets for a group of Vardi people. They had made arrangements with the Dhodia group, on one side of the photograph to construct toilets if they contributed some material. They extended the offer to the Vardi group, on the other side of the photograph and requested one woman to talk to her people to explain the offer. The result was explained by Key informant 7: *She never turned up... We don't know what happened to them. They are so backward that they cannot even desire to have these things.*

Key informant 2, through interpreter gives her insight into her beneficiaries: *They are very innocent people, innocent and simple people. They don't crib about their conditions. They were happy with what they had. No complaints from the people but they lived in jungles and under the open sky and have no complaints for anything. Very limited needs.*

Key informant 8 also described the limited needs of the tribal groups in the region with which she worked: *when we initially came to this region and asked people what their average income yearly was, they said it was 1,200 rupees....How can you manage with 1,200 rupees? ... they said, we have only rotla (bread) and red chili chutney... we have 3 sets of clothes, 2 pairs for alternate days, one for outings. These are their basic needs, that's all.*

7.3.4   Acceptance issues experienced by key informants

There were mixed experiences among key informants regarding their acceptance in the community by their beneficiaries. Some key informants experienced difficulties with acceptability. Two key informants were met with suspicion when they commenced their work. Key informant 4 was working with children from a different religion to her own. She wanted to send 40 to 45 children from a *"Muslim ghetto"* community to school: *So I started spending some time with those children, with the Muslim community. I was not acceptable to them in the beginning. When I went there they thought; who is that? With a lot of suspicion the mothers and fathers would come just to see what I was doing.*

Key informant 7 made an initial mistake that took many years to rectify with the local community. The land they acquired for their centre was given at concessional rates by the Government, disgruntling the local community:

...We used to live in Bombay, and when we came here we knew nothing about the people or about their mentality. So the people here who are living in the periphery used to raise their cattle in this land. So when we came, they were against us. They did not like us. It was not specifically us, but anybody coming outside, from the big

city like Bombay. They were just doubtful as to what we will do. "Will they take up our land?" So, when we started doing something, they always used to create trouble.

Key informant 7 gave two examples of the trouble they experienced. On one occasion, approximately 100 or more holes had been dug for tree planting but were filled in overnight. On another occasion a hut that was built to keep cement bags in was brought down. The local community, acting against the newcomers were responsible for both incidents.

A combination of Key informant 1's strong feminist views, which differed from the vast majority of the community, and her being from another State in India, affected the acceptability of the work she undertook:

…Initially the acceptability was not that good. People used to have a negative image that we are home breakers. We are having the image that we are just unnecessarily trying to instigate woman to stand for their rights. And then we would explain to them "So see, this is not the thing". They will disagree with us, even in our counselling sessions also, they will straight away disagree with me: "it may occur in your region, where it is not acceptable". It was very hard to make them understand that gender inequality is a global issue. She found communicating these views to the local communities, both men and women, difficult.

7.3.4.1 Overcoming acceptance issues

Key informants 4, 7 and 1 were able to overcome their acceptability issues for different reasons. Key informant 4 slowly won the trust of the children and parents of the Muslim community. She commenced by telling the children stories and playing with them every day: w*hen people accept that you are selfless and there is no vested interest; motive is very clear. Then there is no problem whatsoever.* Eventually the parents saw her good intention and the community sent 20 children to school.

Key informant 7 realised that by communicating with the community, mutually beneficial arrangements could be made. They met with the community and understood that they wanted only land for grazing. With no objection, they offered

the land however it took 3 to 4 years according to Key informant 7, to win people's trust: *even then they were not very friendly in the beginning. Even when we opened the small dispensary they would not come. People would come from farther places, but nearby people would not come. Slowly, it took time here.* Providing some insight to the problem, she described: *their experience of the city people was that they were exploitative and always exploited the local communities. That's why they might have learnt not to trust.*

She also recognised the necessity of communicating with the village Sarpanch for their activities: *Eventually we were being accepted, invited and respected everywhere. Whenever we called any Sarpanch from any village they would come... Supporting us here, they are with us. We always like to have them with us, and to participate in whatever meeting we are doing.*

When asked why this is important, Key informant 7 explained: *because he controls the village; controls the village people and has connection with the government... if Sarpanch goes against us, says things like "who are you to come to my village" then he can create some problems for us.*

The importance of cultural nuances was critical to Key informant 1 when counselling for marriage disputes:

...You will not be counselling only a woman or only a man. You will be counselling a group of people, or their whole community sometimes. They will come along with their Sarpanch, they will come along with their head of the community, and you have to first break the ice with them, convince them, and they will only mobilize the people.... This was very unique. Unless you can convince their families, communities leaders, you cannot get things done. They will follow the people of their community [....] There will be very few incidents where a man will say "I don't want anybody around me. I will reach a decision on my own". I can hardly remember or recollect any incidents in which a woman will come and say "I don't want to listen to anybody. I will take decision on my own". It's always involving others and making a collective decision.

Key informant 6 also viewed acceptability of their work as a barrier, however the "*Sarpanch, government and PHCs helped us a lot to accomplish their work.*" She said: *initially when we started working, right from the stage of surveying, people were not cooperative. On the contrary sometimes men used to abuse them: "For what have you come here?"* Their continued persistent hard work built them a good reputation in the community.

Key informant 1 attributes their success in building a good reputation in the community for the work they undertook with counselling marital disputes and raising awareness of women's rights to the strong group with whom she worked with and the rapport built between them: *we were a group and I was with local woman* of *this region who belonged to good family backgrounds. The women (her colleagues) were originally from this area and their families were very, very reputed ones... gradually I came to know that these people have some other connections. They were known politically and economically. If at all there was a problem, we collectively used to solve it.*

Some of the key informants were well accepted from the beginning, again for varying reasons: *They started accepting us because of our intense field work in the region. They were deprived of all these things and because of this interaction with them we were accepted very nicely.* Key informant 2.

The education and health care services Key informant 2 and accompanying group provided for the beneficiaries was free of charge. The charitable nature of the work is expected to have been well received by beneficiaries. They also started their work in a residential school in the area; the connection with this established school she believes helped with their acceptability. Key informant 2 explains:

…They were willing to accept our work because we wanted to work for their welfare. It was a charitable family health centre. Injection, medicine, everything was provided free. The people were not in a position to give any money for their services so they never charged anything from them. The people of the community accepted their work as a very positive thing.

Key informant 8 feels well accepted by her beneficiaries. On one occasion she was in a village with her child. It was late and the child was crying so the women in the program tried everything to calm the child so she would stay and continue the program: *there was nobody working in this region on this platform. So basically people were happy to know that something new is coming to them, so we never had any barriers or ill experiences in the field.*

She also believes that offering a) small gifts such as bowls and cooking utensils; and b) snacks to the participants of the programs she ran were very important to her being accepted in her work by the beneficiaries: *these two things were the most important because what you are seeing today is basically a result of that gesture in the beginning. When we offered these things to those people, they started to be attracted to our programs.*

7.3.5 Continued challenges faced by key informants

Despite overcoming initial issues related to acceptability, most key informants continued to experience challenges in their work outlined in the following sections.

7.3.5.1 *Mobilising the beneficiaries*

All those key informants whose work was not purely charitable in nature like that of key informants 2, 5 and 7 found mobilising communities for their activities difficult. Key informant 1 explains: *it was difficult to bring the women together. When we used to go for meetings, they would not turn up or they would just leave when they have to. The women would say their water supply has come or their children have come home which always took precedence over other activity.* Key informant 4 also experienced difficulty in mobilising and motivating a community of sex workers she was working with which she tributed to migration: *Here you are constantly working with migrated people. You can influence up to, say two or three families and after a year or two, they are not there. Some more people will come in. Some new faces will be there and you will begin work again.* Key informant 6 explained that initially it was not easy to be accepted but now, after 27 years in the community it has become easy to mobilise people. Key informant 8 echoed this difficulty: *We have to work*

hard to mobilise them. We have to go not less than 4 to 5 times. It's very hard. It was very hard to get them ready to undergo this training program.

7.3.5.2   Opposition from outsiders to their work

Sometimes, key informants met challenges from external people in the community who were opposed to their work. Key informant 1 met this problem. People would ask her: *"Why are you involved in talking and working with all these woman?"* She continues to explain: *Sometimes more popular, stronger person of the society will interfere and they will not let us work. They would try to affect our positive attitude towards woman.* Opposing popular belief of that time, 24 years ago, was challenging: *Gender bias was very much in the society and it was accepted by people [...] even woman also did not understand the meaning of gender equality.*

Key informant 3 shares a similar scenario in her efforts to raise the status of women: *You have to struggle every day to continue this work. To collect the people, to convince them, at every stage there was some other hindrance ... It's not easy. It's very easy to go and talk about health with people, but it is not easy to talk about their status in the family or domestic violence... because people do not easily agree on the prima facie situation.*

Key informant 4, also working on a sensitive issue with sex workers faced similar problems to that of Key informant 1. Both these women talked of *stronger* people in the community that interfered with their work. Key informant 4 explains how she wanted to hold a meeting with the sex workers in her area to discuss their future and sexual health. The result was however unsuccessful:

…I wanted to have a meeting, but in organising that meeting I found so many difficulties. All these people connected with the underworld never wanted me to have that meeting because they always want these women to be under their thumbs. I approached everyone politically, social workers, doctors, but I could not mobilise them... I could not have that meeting at all.

In another challenge for Key informant 4, when working with children on the railway platform, community members would criticise her work and say: *"These are thieves, do you feel they are going to learn anything? Why waste your energy, why waste your time?"* Constantly defending the children returned positive results with the children gaining trust in key informant 4 and strengthening their bond.

7.3.5.3 Overcoming challenges

Similar to key informant 4 in the example given above, whose persistence benefited the challenging situation, the other key informants also found solutions to their challenges.

Key informant 1 who experienced initial resistance from her women beneficiaries and *"stronger people in the society",* found connections within her own organisation assisted greatly in achieving action. In one example, she and a team member had made a house visit to a girl who requested their help. Her father had opposed her falling in love, and marrying a young man of her choice. The visit ended in confrontation towards the Key Informant and the girl. Later at the police station lodging a complaint, they were able to call upon the organisation's trustees' contacts to assist in the matter. Later, Key informant 1 explains: *we contacted the Collector (senior administrative official) of the region. We contacted the DSP of the region. We contacted media also, that this is attack on a woman's liberation.* Unity within the organisation and the political connections of the organisation's trustees in this case worked in favour for achieving action and eventually coming to amicable agreement between all parties.

Key informant 6 believes that awareness has assisted in conducting their work with fewer challenges: *Initially they [women] were confined to their families, children and husband. Now with awareness, they understand that if they go and learn something then it is good for them.* She also notes that their access to women in the villages increased with their establishment of self help groups: *Previously, we used to contact each and every woman separately. Now if they just inform one group, many women are available and they can get any work done by them.*

Key informant 8 told researchers bluntly that *"you have to bribe them"* to get the women involved in their training programs. They would tell the women that they would take them by bus to a popular temple to attract them to the program: *When they keep on asking "when will this time come, when will this time come" we just keep on prolonging them. When the training is over then you take them to the temple.* She continued to explain: *first we have to attract them, then bribe them. We fulfil the promise so that we can get the co-operation for the next time.*

Commitment and positivity were common themes that key informants sighted as elements that helped them continue their work despite the challenges they experienced. Key informants 1 and 4 explain:

…Initially it was difficult to make our point of view understood by them (beneficiaries). It was very difficult. But we were positive and neutral in our work, and just defined our point of view collectively and we developed our acceptability in the society and in the region. Key informant 1.

…I feel that by not doing anything is not going to solve the problem. It is only by doing something, whatever you can, in whatever fashion... I feel that it is always better to go on doing something rather than to putting an end to it. Because putting an end to it, the solution is simple: that I am now out of it. But that it is not going to help at all. Key informant 4.

For key informant 8, the chairman in her organisation is the main driving force for motivation. She explains: *His [chairman of the organisation] nature is like that. If we say the people are not interested in this and they are not doing it, he just gets annoyed with us and says, "How can you say that people are not ready. You make them ready."*

7.3.6 Barriers to establishing societal change

Key informants were asked whether they experienced any resistance or unwillingness from the community to work towards change. All key informants experienced difficulty in this element of their work. Key informant 5 gave two

examples of established beliefs and practices that they had not been able to change, despite efforts. The first is a common belief in the area that women should not drink milk during pregnancy because the baby will stick to the womb. The second is the young age (14, 15 years) of marriage amongst girls and subsequent young age of pregnancy. *"Such things will take time"*, explains Key informant 5. She estimates half a life time or 20 to 50 years to change such established beliefs. She feels that if she worked 20 years towards change followed by another person continuing her work then her efforts will be seen: *[Change] cannot be given overnight. If we look for immediate results then we cannot work in such fields. It needs lots of patience.*

Key informant 7 estimated a similar timeframe to achieve change in the communities she works with: *there are so many problems that one has to work at it for 20, 35 years in order to upgrade them.*

Similarly, whilst Key informant 3 reached success in getting the beneficiaries to "*come and listen*" she found change a whole lot more difficult. She blames both the women themselves and the society for this: *Firstly they [women] have accepted that they are the second sex in the society. And in some cases, despite being financially independent, they still cannot come out of the pressures and stresses of the society.*

Similarly, Key informant 4 explained her frustration regarding the attitude of the society, government and policy makers and their absence of the "will" for change. With this will, she believes: *for change to be immediate there has to be a sense of urgency. That sense of urgency is not there. Neither in the policy makers nor in the other social structures, so change is so slow that it is not visible and sometimes I doubt whether if at all there will be change.*

At a community level, she says that uniting people for change is extremely difficult because of *"economic structure"* of the community combined with: *their [the beneficiaries'] lack of understanding, their apathy, their indifference, their own personal problems, the familial problems, because these familial problems are also very acute in this section of the society.* These factors contribute to a lack of common goal amongst the community: *You can unite people and make them work in a*

particular direction if there is a goal, a common goal, but to provide that goal is extremely difficult.

With a common goal, Key informant 4 believes that: *in so many years we could have found some solution about the slums dwellers and their lifestyle. It is not that difficult, but we could not do it because of this, it is very difficult to unite them.*

7.3.6.1   *Not ready for change*

Most discussion regarding unwillingness for change pivoted around the community and their perceived reluctance to accept change. Key informant 3 noted that the women they worked with would listen, understand, agree, and show the willingness for change however they would not change. She believes a *"lack of courage"* amongst the women in society and cultural and societal norms is to blame for this.

Key informant 4 also places responsibility on the part of the parents of the children she worked with. Her experience was that the children were willing to accept new things however the parents were very reluctant. She explains in reference to a community of sex worker women and their children: *To part with their children and send them to school and for these parents to take interest in their children, and do something to build their life was difficult. That... was totally absent. They are indifferent.* This she found distressing in her work: *those who oppose the ideas were the different kin of the children and not the other persons. That is a saddest part of the thing. That, they themselves are not willing to do anything for their children's future.*

Key informant 6 repeated her previous examples of the difficulties to mobilise the women that demonstrated unwillingness: *it was very difficult to mobilise women in this region because basically the attitude was as if it was only our [the organisation's] need to bring them out of their houses. They never wanted to come out for their own welfare.* She later noted that: *people were not willing to come forward for the change.*

Key informant 7 experienced hesitation to change and used the example of providing toilets for communities to demonstrate this: *In the beginning they were not*

convinced. We had to hold meetings and tell them how hygienically it is important to have a toilet here. Otherwise they would go to the open spaces. She continues to explain that: *if people would use toilet or water they would laugh at them.* In addition to the previous example given about the Vardi people and their "*lack of desire*" to have toilets built, Key informant 7 added that the people have: *lack of wanting to have some little better life... They are happy with what they have... And what they don't have. Both ways they are happy.*

In a similar but more critical view, Key informant 8, who earlier in the interview blamed "*laziness*" for the community not coming forward for something that might help them, said:

...They are happy with what they have. They have no desire to do anything new. If they get food in the morning they don't bother about their input... They always believe "what is the need? We don't need it". Even if they get 20 rupees as their labour charges, they will just have liquid rice congee and they will be happy with that. They don't feel the need for material things, like "I need a television" or "I need a fridge in my home, so I need to earn". They are not interested. They have no connection with this world (laughs) ... actually initially it was very difficult to make these people change, I mean, to change their attitudes.

7.3.7   Views of societal change

Whilst there were many barriers to implementing change with each of the beneficiaries of the key informants, the key informants did view notable changes within the communities. These can be broken down into three categories. Some changes have occurred as a direct result of the key informant and/or their organisation's presence in the community. For other changes, it was more difficult to distinguish if the impetus for the change was a result of the key informant and/or their organsiation's presence or because of a natural progression of change over many years - an average length of 15 years - working in the community. The following sections explore these views.

7.3.7.1 Improved living standards

For Key informant 2, the change in the region she works is notable. The rural, tribal communities now have a *"full stomach"* have opportunity to work and earn and access education up to 10th standard. She was also pleased with the charitable medical services they provided and saw an improvement in health in this area: *when they were not working in this region the general condition of the people was that they were just lying down in their houses with fever and all. They were not in a position to travel to get the medication.*Two more changes have occurred; not making unnecessary expenses for the marriage ceremony and supporting children's education. These two changes were able to occur because: *they themselves have realized that this is needed.*

Key informant 5 sees small changes in the community, including changes in health seeking behaviour. People will now visit a medical doctor before a traditional healer when they used to see the traditional healer first. Women also prefer going to hospitals for deliveries when they used to deliver their children at home. Change as a result of the work Key informant 8 undertakes includes an improvement in economic activity and opening of savings accounts at the bank or post offices: *Now they have generation of money. The people who are only having rotla (bread) and rice, they are now having better food. They are sending their children to better schools also now, so these changes have been seen from our work.*

When Key informant 5 first arrived in the region she is working in 15 years ago, approximately 90% of homes were *kuccha*, made from non-permanent structures such as cow dung, dried grass and bamboo. In the last 5 to 6 years however they have built their homes with bricks or mud they made themselves. Another new addition to the villages is about 10-15 privately owned motorbikes used for personal use when previously there were none.

7.3.7.2 Desire for improvement and increased awareness

Change amongst the children beneficiaries of Key informant 4 is also seen: *they wanted to change themselves, they wanted to learn, they wanted to improve their life.* In the slums where she worked she has also seen change a change in parents, who are

now ready to educate their children. This however only occurs when there is a "cluster" of families influencing each other:

…In scattered ghettos, it is still the same. They send the children to beg, they won't do any work and they won't send their children to schools. But in cluster where there are concentrated and localized communities staying together, there is a marked change. They have started sending their children to school. That change has taken place. So people now, I feel that they understood the importance of education. That can be seen. Key Informant 4.

Similarly, compared to 15 years ago when Key informant 5 first arrived in the region, she now notes that only a few families do not send their children to school. One change viewed negatively by Key informant 5 is the desire for an easy, comfortable life and material things. The younger generation, influenced by media, have the desire to move away from the rural areas to more developed areas to work and to afford such things. Key informant 6 gave one example of how increased awareness has led women to now coming to the *balwadis* and dropping their children when previously the teachers would have to pick up each of the children to take them to the balwadi.

7.3.7.3 *More empowered*

Both key informants 1 and 3 have seen changes amongst the women beneficiaries they worked with. When Key informant 1 commenced work more than 20 years ago: *it was a man who was the deciding factor, whether I want to be in this marriage or not. Now it was the woman. She was coming out.* Now, key informant 1 feels the men are now praying: *"Please, please don't leave me"… So we have to counsel the woman now "please think of your children. Think of your family. Try to adjust with a man. Don't break the family." This is the change which I found.*

Similarly, Key informant 3 views women are becoming more demanding of their rights and as such, they are seeing more cases of divorce. Whilst this is not necessarily viewed as a positive change in Indian society, she does feel: *what is good in divorce is, that at least a woman is not forced to commit suicide,* or be killed in

family dispute. Also, *now women have started coming out... she has starting coming to a stage when she can say "no more harassment, no more abuse, I can't take it anymore."*

These examples demonstrate how a collective effort on behalf of organisations and a natural progression of change can work together to produce change.

7.3.7.4 Personal successes
7.3.7.4.1 Individual's stories and reflections

Key informants took joy in sharing their success stories, which often involved individuals who, because they helped had made an improvement in their life. Key informant 1 shared her successes:

...I will say that when we used to make compromises between fighting couples all struggling for their existence, misunderstandings within themselves, when we used to make compromises and they started living together, they used to come and they will just touch my feet. They used to treat me like, you know, "You are my elder sister. You have changed our life."

Key informant 4 shared three success stories of children, now grown up, who have improved their lives because of what she taught them and/or her support to attend school. Key informant 6 still recalls the success story of one young man who started a printing press business with help from the organisation. He is now the Sarpanch of his village. Other examples of success include one anganwadi which was created after an awareness raising project, two families now running a businesses through information provided by the organisation and all the women who are working on their sewing machines after receiving training from the organisation.

One story stands out as a personal success for Key informant 8. Initially the beneficiary was not prepared to attend the training their organisation was offering, however he attended and as a result applied and was granted a 70,000 rupee loan from the Gujarat State Finance Corporation. With this he started a brick making company. Key informant 8, through interpreter explains how this made her feel:

249

...One of the trustees of this organization, used to fire [yell at] me, "You are not capable of doing anything. You can't do anything." I used to cry listening to all these things, but one man (a beneficiary) agreed to take a loan for 70,000 rupees and started a successful industry. I was most delighted with that. This, Key informant 8 says renewed her confidence that change is possible.

7.3.7.5 Additional successes

Growth has been a success for Key informant 5 and two accompanying ladies who started in the most interior rural village with no roads, school and electricity to build a school with all amenities for the local communities. A number of stories were told by Key informant 7 that she feels exemplifies how their efforts have paid off. One example is providing discarded water bottles from a hotel to school children so they did not have to take many long walks up and down the hilly area to the water source throughout their school day. Then they were able to collect donated material and create sewed bags with a slate and pen inside for 600 students. Key informant 8 feels that they have never experienced a shortage of funds for these activities with all the external assistance they were able to conjure.

7.3.8 Key messages from key informants

Finally, key informants were asked if they could impart some advice to those people willing to work for the society. Their answers are summarised in the following sections.

7.3.8.1 Avoid imposing upon the community

After 27 years working for the same organisation in the one region, Key informant 6 had some valuable advice to share: *you cannot impose what you want to do. You have to take their opinion first. First we should get information from them, and then we should work on it. Then you can get some result.* Giving an example of an eye camp in a remote village they are planning, she advises: *first we have to go through the channel of Sarpanch. We will have to take him in confidence.*

During the 15 years Key informant 5 has worked in the surrounding communities to her residential school, she has learned that: *We should start work with an open mind.*

250

In their work they aim for common ownership between the community and the organisation; that together they work to make improvements, not independently of each other.

Key informant 7 gives similar advice. She has been living and working at her rural centre for 27 years:

…One should not go with a prepared program for them … First go and have contact and win their confidence, talk to them, find out their needs, and then only slowly they have to reach their heart first. And then only they can start being some help. Always start with the small and then they slowly learn to trust you, to accept you, and then they will accept you fully.

Echoing the comments of key informants 5, 6 and 7 is the advice given by Key informant 8, through interpreter:

…When you choose a community to work with, you have to choose the area of their interest - what they're interested in. If they want you to dance with them, you have to dance with them also. That type of a thing. Whatever is their attitude toward any problem, I mean, you have to work accordingly. Otherwise if you'll just force them to do something, it's not going to work.

7.3.8.2   Other advice

Key informants 1 and 2 offer different advice. Key informant 1: *Working individually may not be that effective. If you really want to work with the community, you really have to have a good group of people. A sound group with equal understanding, vision, will power, all working as a team. And at times of stress and depression, helping each other out.*

Key informant 2 advises that work should commence with medical and health work as their work did over 50 years ago because*: this is needed very much, and then they can start as per the needs. Employment is definitely an issue.*

7.3.9 Having the right attitude

Key informants 2, 3 and 4 all believe that it takes a certain type of personal attitude to work with the society for change: *It is something that comes from within*, says Key informant 4. That person should be comfortable working at the grass roots level, patient and tolerant: *And of course a very broadening desire to commit. Burning desire... it is not just a wish or desire or liking, but it has to be a passion. It has to be a passion that will make you so restless, that you feel that you have to do it, if you cannot do it you won't survive.* Simply, Key informant 3 advises: *Commitment and devotion should be there. Be optimistic and never satisfied.* At the same time, Key informant 2 reminds that: *It's not possible for everybody to do this type of thing.*

7.4 Chapter summary

This chapter has highlighted the realities and practicalities of working with local communities within the context of the study area. This information strengthens and adds depth to Stage 1 and particularly Stage 2 data and assists in explaining some of the experiences the primary researcher had during the study. By combining this learning with what was learned from Stage 1 and 2 of the study, conclusions are drawn about conducting PAR in the context of the marginalised, oppressed such as those in the study area. This will be discussed in Chapter 8, which is the Discussion chapter.

Chapter 8

Discussion, Limitations & Strengths of the study

8.1 Introduction and chapter eight overview

This chapter discusses the key findings of the study. In addition, limitations and strengths of the overall study will be presented. The chapter brings together the major lessons from this study and provides a basis of information for the creation of a new practical framework of PAR, which will be presented in the final Chapter 9 along with recommendations and significance of the study.

8.2 Discussion of results from each element of the PAR framework

Revisited in Figure 19, the main components of the applied framework include "Stage 1, Health Needs Assessment", "Diagnosis" and "Stage 2, Action-Intervention".
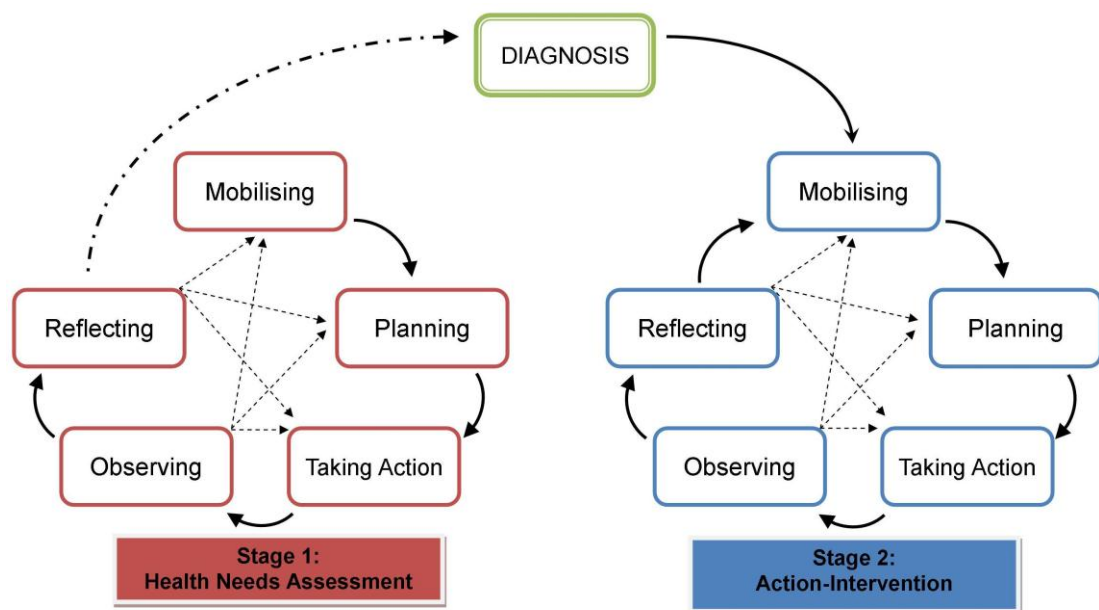

Figure 19. Revisiting the applied frameworks in Stage 1 and Stage 2 of this study.

In this discussion, results of Stage 1 will be discussed in relation to the context of India and the broader context of global health. A reflective critique of RPA applied in Stage 1 will be presented from which recommendations will be drawn to improve

the approach for future applications. Results of the Diagnosis stage and a reflective critique of the process to confirm and prioritise results from Stage 1 will also be provided. This discussion will focus on the challenges of CBPR experienced in this study and offer possible reasons for these challenges according to the study context. The reflective critique of the overall iterative PAR processes involved in the framework will be reserved and presented in Chapter 9 with the introduction of a modified version of this framework.

8.2.1 Stage 1, Health Needs Assessment

The results of the RPA revealed a number of long standing problems in the communities. The results, correlating with major global health concerns affecting low and middle income countries (LMICs) did not reveal problems that were not previously unknown in the study area, or to the global health field. However, the results do reflect local perceptions and patterns, and for the first time in this study area, were recorded with the involvement of local people, respecting and embracing local knowledge. The following discussion will review these established problems and provide evidence of how the results of this RPA correlate with trends within India and on a global scale.

8.2.1.1 Discussion of results
8.2.1.1.1 Environmental pollution

The results of the RPA documented environmental pollution affecting study villages; the most serious of the perceived negative impacts of industrial pollution was expressed in Kolak Village. The largest city in Valsad District, Vapi also falls under Pardi Taluka. The city is one of the largest industrial areas in Asia in terms of small-scale industries, with more than 2,500 companies, many of them chemical industries, producing chemical waste products containing heavy metals, cyanides, pesticides, complex aromatic compounds (such as polychlorinated biphenyls), and other toxic by-products (The Blacksmith Institute, 2006, p. 50). Pardi Taluka thus experiences hazardous side effects from proximity to Vapi, which is ranked amongst the top 10 most polluted places in the world (The Blacksmith Institute, 2006, 2007, updated 2009; Walsh, 2007, 7 September).

In 2007, Time Magazine published an article based on the Blacksmith Institute's list of the world's worst ecological disaster areas; of which Vapi was included. The article reported that levels of mercury in the city's groundwater are reportedly 96 times higher than WHO safety levels, and heavy metals are present in the air and the local produce (Walsh, 2007, 7 September). In the Blacksmith Institute's 2011 report on the World's Worst Toxic Pollution Problems, lead pollution from industrial estates is highlighted as the second worst contributor to toxic pollution, putting an estimated population of 2.9 million people at 29 *identified* sites at risk. The Industrial belt in Southern Gujarat is one of these sites. "Industrial parks can be less harmful when all the precautions are taken. Unfortunately, in many low and middle income countries, industrial estates have little to no waste treatment and disposal infrastructure, and are located near populated areas" (Harris & McCartor, 2011, p. 24).

The Vapi Industrial estate was brought to international attention along with nearby Ankleshwar when they were declared "critically polluted" by the Government of India's Ministry of Environment and Forrest's Central Pollution Control Board (CPCB) in 1994. This followed a survey that revealed that there was "no system in place to dispose of industrial waste at these estates" (The Blacksmith Institute, 2006, p. 50). Later, with the involvement of Greenpeace and results of their samples taken from the nearby Damanganga River in 1996 and 1999 which exposed high levels of pollutants, Vapi industries again became the focus of attention (Labunska et al., 1999, pp. 23-27). The 1999 Greenpeace report states that between 1996 and 1999 a common effluent treatment plant (CETP) was installed in an effort to treat the combined effluents from several industries (See Appendix H for more information about CETPs, collected from community leaders in Kolak Village). The effluents from the CETP were discharged into the Damanganga River, to the south of Vapi, and "visual surveys of the plant reveal that some wastes are also discharged into this river, carried by a channel which appears to bypass the CETP".

In 2000, Greenpeace staged a sit-in activism protest by chaining themselves to the World Bank funded CETPs that were reported to be "not an appropriate pollution control strategy" (Halliday, 2011, 14 May). Several Greenpeace press releases

(Greenpeace, 1999, 1 July, 2000, 19 October) regarding activism at Vapi explain their involvement in 2000. In addition, the activism was covered in newspapers (R. Sharma, 2000; "Wheezing at Vapi," 2000, 20 October) and pollution related problems associated with Vapi continued to be reported (outlined in Appendix J).

Despite the high profile nature of the Vapi area and apparent acknowledgement of the health effects of industries when located in populated areas, few studies researching health impact of industry in Pardi Taluka exist; there is even less research on the levels of pollution in Kolak River, which is used by villagers. One study investigating the effects of industrial pollution on respiratory morbidity among female residents in India revealed that a significant number of residents of Vapi and nearby villages who were exposed to air pollutants discharged from industrial estates appeared to have pulmonary function abnormalities (Patel et al., 2008).

While there are reported improvements in waste treatment and disposal at Vapi industries, residents of nearby villages, especially Kolak Village clearly voiced their concerns regarding the perceived persisting problems of poor waste disposal management on their river and their population. In 2011 an article appeared in the Times of India regarding dead fish on a 2.5 kilometre stretch of Kolak River from Udwada to Kolak Village – supporting reports in this study. The Sarpanch of Kolak Village was quoted in this article explaining that for the first time, two small fish species, Bhoi and Levta, plus crabs and prawns at many locations were found dead. The Sarpanch stated "we feel the solid waste containing chemical residue has led to this situation" (Bhatt, 2011, 14 April).

Sites such as Vapi were however only low on the Blacksmith Institute's consensus list for the 2006 Top 10 worst polluters: "They may be creating environmental and economic costs in the ground and surface waters, but the immediate health impacts are less clear [...] The immediate impact of Vapi in India is much lower [than other sites around the world] because the pollution is well downstream and is mainly discharged to the sea (with serious ecological impacts)" (The Blacksmith Institute, 2006, pp. 9-10). The communities of Kolak Village reside by the sea at the mouth of

the river and have experienced loss of livelihood and adverse health effects due to this discharge, as revealed in the RPA of this study.

8.2.1.1.2 Road traffic safety

Road safety was reported as a serious concern in Orward Village, located on a major national highway that runs through the centre of the village. With major services spread on either side of the highway, residents from surrounding areas, not just Orward Village face dangers crossing the highway to reach services. It is estimated that over 90% of global deaths on roads occur in low and middle income countries (LMICs), which have only 48% of the world's registered vehicles (WHO, n.d.-a). Every year, road traffic injuries (RTIs) in India result in deaths of more than 100,000 persons, two million hospitalisations, 7.7 million minor injuries and an estimated economic loss of nearly 3% of GDP every year (WHO, 2006b, p. 8). In 2006, 105,725 deaths were reported in India (defined as died within 30 days of the crash), with males disproportionately sharing a higher burden of RTI deaths than females (84% males, 16% females). Another 452,922 non-fatal road traffic injuries were reported in the same year (WHO, 2009, p. 114). This figure reflects only those hospitalisations reported to police and does not include unreported incidences.

Commenting on the WHO's first ever Global Status Report on Road Safety, Dash (2009, 17 August) reports that more people die in road accidents in India - at least 13 people every hour - than anywhere else in the world. Also, road deaths in India registered a sharp 6.1% rise between 2006 and 2007. National highways, such as National Highway 8 (NH8) that passes through Pardi Taluka and reportedly causes severe hazard for citizens, account for 2% of the national road network carrying 40% of transport and freight movement (Gururaj, 2008, p. 15). When highways pass through densely populated villages and towns, such as Orward Village, with spatial distribution of various community services such as schools, colleges, hospitals, religious places, public offices, business centres (including small and petty shops) exposure of people to RTIs increases (Gururaj, 2008, p. 15).

Among the 28 states of India, the mortality rate per million population due to RTIs varies. Gujarat State ranks 13th amongst states with death rate at 97 per million

population (above the 2005 national average of 90 per million population) (Gururaj, 2008, p. 16).

It is suggested that "policy makers [in LMICs including India] have ignored RTI as a public health problem because the poor, who are disproportionately affected by RTI are the least likely to influence policy making, and hence benefit the least from the policies designed for motorised travel" (Dandona, Kumar, Raj, & Dandona, 2006, p. 183). A study investigating fatalities of RTIs in three urban centres showed the majority of fatalities were amongst pedestrians, riders of motorised two-wheeled vehicles and other non-motorised road users (Mohan, Tsimhoni, Sivak, & Flannagan, 2009, p. 34): 86% in Delhi (between 2001 and 2005), 93% in Mumbai (between 1996 and 1997) and 67% in Kota (in 2007). These findings reflect an earlier estimation that vulnerable road users constitute 60-80% of all traffic fatalities in India (Mohan, 2004, p. 3).

Whilst official data specific to Pardi Taluka is not readily available, the Orward Sarpanch's estimation during the RPA, of 4-5 deaths per day of pedestrians crossing the highway in surrounding localities, may not be too far from the actual figure. Given such a danger to the surrounding communities, construction of a fly-over has been sanctioned in Orward and was due to commence according to the Orward Sarpanch in 2009. Until then, the communities surrounding the highway will continue to be exposed to the dangers of crossing the highway, as so many people in India are, to reach health and other services.

8.2.1.1.3 *Alcohol related problems*

Results of the RPA revealed that alcohol consumption was high in all villages despite Gujarat being a dry State, with alcohol being produced and consumed within homes which was reported to be linked with domestic violence and breakdown of the family unit. Gujarat has employed a policy of complete alcohol prohibition since 1949. Whilst Gujarat has much lower proportions of people reporting frequent alcohol consumption than other states (Mahal, 2000, p. 3964), its long-standing policy banning alcohol consumption within its boundaries does not suggest that prohibition is achieving its goals (Mahal, 2000, p. 3959). Prohibition also does not imply that

alcohol is not available in the region. Jacob (2010, p. 224) found that while the ease of availability is reduced in Gujarat, those who are dependent on the substance will find ways of obtaining it. The rich and powerful for example have easy access to alcohol while the poor rely on a thriving illicit industry. "Extreme policies of prohibition and the current permissive strategies are both counterproductive" (K. Jacob, 2010, p. 224).

Supporting reports from key informants in the RPA, Rahman (2009, p. 12) reports that data for Gujarat shows alcohol is consumed in the State; the source being from either illicit production, smuggled goods from neighbouring states and in some reports, from individuals living near state borders temporarily crossing over for consumption (particularly to the Union Territory of Daman, bordering Valsad District, as revealed in the study) (Rahman, 2009).

There is significant variation in reported consumption across states in India with the percentage of households reporting alcohol consumption ranging from 4.7% in Gujarat to 20% in Andhra Pradesh. Disparity in average alcohol budget shares is however lower with households in Gujarat reporting an average budget share of 5.2% relative to 6.0% in Andhra Pradesh (Rahman, 2009, p. 11). Overall in India, there are also distinct rural-urban differences in the level and type of liquor consumed - reported prevalence of alcohol consumption is much higher in the rural sector, 14% compared to 8.3% in the urban sector, as is quantity consumed - 10.3 litres per month per household compared to 8.6 in the urban sector (Rahman, 2009, p. 11). There is a preference for toddy (fermented palm liquor generally home-brewed) in rural households such as those in the study setting and for more expensive formally brewed alcohol items such as whisky, gin and rum in urban centres (Rahman, 2009, p. 7&11).

The historical alcohol prohibition in Gujarat, birth place of Mahatma Gandhi, came into spotlight in 2009 when more than 100 "slum dwellers and poor labourers in Ahmedabad" died after drinking toxic illegal alcohol ("India toxic alcohol toll tops 100," 2009, July 10). Raids across the state of Gujarat followed the incident along with detention of over 800 people. Effects of the locally named 'Lattha Kand' (Local

liquor) incident were felt in the study setting with many key informants reporting a temporary increased surveillance of alcohol manufacturing and transporting in the area. The article states that "illegally brewed alcohol is readily found across India and is popular because it is cheap and said to be stronger than legal brews. But it is often laced with chemicals and pesticides in an attempt to boost its strength and has often caused people to die". Since this report several similar incidences have occurred across India:

- At least 30 people killed in Uttar Pradesh in 2009 ("Illegal alcohol kills 30 in India," 2009, 14 September).
- At least 143 people died in West Bengal State of India in 2011 ("India toxic alcohol kills 143 in West Bengal," 2011, 15 December).
- At least 17 people died in Andhra Pradesh after new year celebrations 2012 ("India toxic alcohol 'kills 17' in Andhra Pradesh," 2012, 2 January).

This however is not a new phenomenon with newspaper archives of alcohol deaths found as far back as 1976 ("Methyl alcohol kills 118 in 'dry' Indian region," 1976, 6 July; "Poisonous Drink Toll now 237," 1981, 10 July)

All villages in the study setting reported alcohol related problems regardless of the prohibition policies in the State. Alcohol related deaths are however at the extreme end of negative effects of alcohol spectrum. There is a "woeful lack of data and research on its [alcohol's] national health, social, and economic effect" (Prasad, 2009). What is known, Prasad continues, is that on a national level, alcohol-related problems account for more than a fifth of hospital admissions; 18% of psychiatric emergencies; more than 20% of all brain injuries and 60% of all injuries reporting to India's emergency rooms. Alcohol consumption is also a major contributor to the occurrence of intimate partner violence and links between the two are manifold (WHO, n.d.-b), as revealed in the results of the RPA.

In December 2011 Gujarat passed a law making the illegal manufacture and sale of toxic alcohol punishable by death ("Gujarat introduces death penalty for toxic alcohol," 2011, 6 DecemberBritish Broadcasting Corporation). The effects of

strengthening an already extreme prohibition policy that evidently does not deter people from consuming alcohol in the State will be seen in the future.

8.2.1.1.4 Health service provision, acceptability and accessibility

The RPA revealed a preference of people to use private health services despite the large out-of-pocket expenses involved. There were complaints about the poor availability and functioning of the public health services in the study area, with a common perception amongst respondents in all villages being that government health services could not be trusted, were unreliable and were not monitored for quality. Their voices reflect commonly reported problems with the health care in LMICs and in India in general. Improvements have been seen in providing access to health care in LMICs however substantial proportions of their populations have limited access. "The poor in these countries suffer from a disproportionate burden of disease yet usually have less access to health care, whether measured by geographic accessibility, availability, financial accessibility, acceptability, or quality of care" (Peters et al., 2008, p. 167). The following sections will review these factors demonstrating that many of the perceived problems related to health care services in the study area reflect common trends in the country and other LMICs.

- **Preference for private health care**

A number of Asian countries have been encouraged to expand the private-sector healthcare due to concerns about the ability of governments to finance health services adequately, the poor performance of public health service delivery systems and the desire to expand the choices available to patients (C. Kumar, 2011, pp. 25-26). India is not an exception; the private sector provides almost 75% of health services in India (p. 26). However, the strong and growing private health sector in India may be "failing its own people" (Sengupta & Nundy, 2005, p. 1158), as it increasingly appears to be geared towards treating wealthy Indians and foreign patients. Indeed, "medical tourism" is big business in India, with patients coming in even from developed countries for "quick, efficient, and cheap coronary bypasses or orthopaedic procedures" (Sengupta & Nundy, 2005, p. 1157). Public health expenditure is woefully inadequate (estimated to be 1.10% of the share of the GDP

during 2008–09), and what little is allocated is often not distributed towards ensuring adequate and appropriate physical access to good-quality health services (Balarajan et al., 2011, p. 505).

On the other hand, in 2005, India ranked among the top 20 of the world's countries in its private health care spending, at 4.2% of GDP. Of the total private health care expenditure in the country, employer contributions account for 9%, health insurance 5-10%, and the remaining 82% is out of pocket. More than 40% of all patients admitted to hospital have to borrow money or sell assets, including inherited property and farmland to cover health care expenses, and it is estimated that 25% of farmers are driven below the poverty line by the costs of their medical care (Sengupta & Nundy, 2005, p. 1158).

Reflecting the results of the RPA, one report states that in Gujarat, amongst other states, even in rural areas more than 70% of the people exclusively utilised private hospitals (C. Kumar, 2011, p. 33). It is estimated that in India the private sector provides more than 75% of the health care services and two-thirds of India's hospitals are privately owned (Dummer & Cook, 2008, p. 602). Table 37 demonstrates this trend showing less than 10% of the rural population in Gujarat and 29.3% of the lowest two quintiles utilise public PHC and CHC services.

Table 37

Utilisation of Primary and Community Health Centres for Outpatient Care in Rural Areas.

	Utilisation of PHC/CHC for *OP care (%)	Utilisation of PHC/CHC for OP care by the poorest 2 quintiles (%)	Untreated ailments out of total no. of ailments	Untreated ailments due to financial reasons	Average total household expenditure for treatment per ailment (RS)
Gujarat	9.9	29.3	8	-	144
All India	6.4	37.9	17.3	3.5	144

Note. *OP= Outpatient. Adapted from Table 3 in "Financing and Delivery of Health Care Services in India" (GoI: Ministry of Health and Family Welfare, 2005a, p. 46).

Overall patterns in India clearly show an inclination toward private services, with more than 95% of hospital inpatients in rural and urban areas reported receiving treatment at least once in the year before the survey through private health services (years 2003-2004) (C. Kumar, 2011, p. 43). The segments of the population who suffer most from the unregulated spread of private health services in India are the poor. The government has been unable to satisfy rural health care since almost 70% of India's population lives in rural areas that lack adequate health facilities (C. Kumar, 2011, p. 26).

The wide disparity in health service utilisation between public and private sources reinforces existing inequalities in the country. "The rich benefit from having access to both better quality health care services in the private sector and to subsidised services from government sources. The poor lose out on quality in the public sector and cannot afford private health care services" (C. Kumar, 2011, p. 27).

- **Health service acceptability**

One explanation for why respondents in the RPA study, and Indians in general are choosing the private sector in overwhelming numbers is "because the public alternative is so much worse, with interminable waits in dirty surroundings with hordes of other patients" (Sengupta & Nundy, 2005, p. 1158). Studies in India, as well as in Bangladesh and Burkina Faso have demonstrated that patients' perceptions of quality can be more important determinants of utilisation than price or other determinants of access (Peters et al., 2008, p. 166). Reflecting many complaints of the RPA study participants, Sengupta & Nundy (2005, p. 1158) summarise some reasons for the poor utilisation of public health services:

- Many medicines and tests are not available in the public sector, so patients have to go to private shops and laboratories.
- Each doctor may have to see more than 100 patients in a single outpatient session. Some of these doctors advise patients, legally or illegally, to "meet them privately" if they want more personalised care.
- Patients in government hospitals claimed that they had had to pay bribes or use influence to jump queues for treatment and for outpatient appointments with senior doctors, and to get clean bed sheets and better food in hospital.

A government report mirrors some of these findings: "Vehicles without POL (petrol, oil, lubricants) budgets, beds without washing allowances, x-ray machines lying idle for the want of consumables or maintenance budget and empty shelves in pharmacy counters" all contribute to management failure. In addition, quality of services is perceived to be low due to the often "unfriendly, rude, corrupt behaviour of the personnel working in these facilities, distance, inconvenient timings and lack of reliability in the availability or the skill of the provider" (GoI: Ministry of Health and Family Welfare, 2005a, p. 53).

The subcentre, often the only available health service in small villages, are also criticised in the report, echoing comments from study respondents: "The subcentres are never open as the single ANM (Auxiliary Nurse Midwife) is required to undertake village visits, attend to fixed day immunisation schedules, domiciliary deliveries, disseminate health information, oversee the work of the TBA (traditional birth attendant), coordinate with the anganwadi worker, conduct household survey, attend review meetings in PHCs, maintain records, etc" (GoI: Ministry of Health and Family Welfare, 2005a, p. 53).

Severe shortage of human resources in the health services sector of Gujarat State should not be forgotten in this discussion. A review of public health services in Gujarat State was provided in Chapter 2, Background and Context showing that in 2008 only 6 Obstetricians/Gynaecologists and 6 Paediatricians (likely to be the same dual role specialist) were working in the public health service in the whole of Gujarat State. There are gaps in physical infrastructure as well, with a shortfall of 99 PHCs and 20 CHCs in 2008 in Gujarat.

- **Health service accessibility**

In the participating study villages, transportation was often cited as a problem in accessing health care. Certainly, this is a common problem in rural areas and can affect accessibility of health services. For rural people, more time and money are spent on travel related expenditures to reach remote health centres; all of which act as obstacles to obtaining care, especially for the poor (Peters et al., 2008, p. 165). The issues raised in the RPA are part of the larger disparity in access to health care

among LMICs. Even though LMICs account for 90% of the global burden of disease, they only account for 12% of global spending on health (Peters et al., 2008, p. 163). High-income countries spend about 100 times more on health per capita than low-income countries (US$3039 versus US$30). It is thus not surprising that the density of health workers and hospital beds per population are much lower in LMICs than in high-income countries, decreasing the availability of services to many of the world's poor.

8.2.1.1.5 *Reported health problems in the study area*

Repeatedly, reflecting trends in developing countries, villages reported an increased rate of "western type" diseases such as high blood pressure, diabetes, and heart disease. WHO (2006b) recognises that non-communicable diseases (NCDs), especially cardiovascular diseases, diabetes mellitus, cancer, stroke and chronic lung diseases have emerged as major public health problems in India, due to an ageing population and environmentally driven changes in behaviour. It is estimated that in 2005, NCDs accounted for 5,466,000 (53%) of all deaths (n=10,362,000) in India (WHO, 2006b, p. 7). This same report notes that the poor have been found to be more vulnerable to chronic diseases because of material deprivation, psychosocial stress, higher levels of risk behaviour, unhealthy living conditions and limited access to good quality health care. This is a global health phenomena explained by the three phases of the classical epidemiological transition model: the age of pestilence and famine, the age of receding pandemics, the age of degenerative and human induced diseases (Dummer & Cook, 2008, p. 591). "As society develops, infectious diseases decline and there is increasing mortality and morbidity caused by lifestyle factors and chronic illnesses, linked to increasing life expectancy (diseases of affluence)" (Dummer & Cook, 2008, p. 591).

Residents in Kolak Village also reported an increased rate in cancer in their village, perceived to be a result of environmental pollution in their village. It is noted though that cancer, like cardiovascular diseases, is an increasing problem in India with the National Cancer Registry Programme estimating 800,000 new cases every year (WHO, 2006b, p. 7). Nine percent of all deaths in the 30-59 year age group in India (2005) were from cancer.

8.2.1.1.6 Poverty and disparity in the study setting

The extent of poverty and disparity in India was clearly observed during the RPA. These disparities were seen in all levels, mostly between urban/rural areas, between the "haves" and the "have nots" which often correlated with caste classification, and between sexes. This discussion focuses on the main poverty associated issues raised in the RPA, relating to the poverty line system, public distribution system (PDS), and availability of sanitation facilities.

- **Problems with the public distribution system (PDS)**

The PDS was developed in the 1960s to provide food for the poorer strata of the population and regions with deficiencies and to create an effective demand so as to encourage agricultural production (K. L. M. Walker, 2008, p. 572). PDS cardholders were later classified as poor, that is, those below the poverty line (BPL) and non-poor, that is, those above the poverty line (APL) households to define food grain and subsidy benefits by differential pricing and quantity entitlements (Suryanarayana, 2008, p. 3). This targeted public distribution system introduced several price categories within the same distribution network which created distortions and opened the system up to corruption (Cheriyan, 2006, p. 10)

One study between 2004 and 2005 found 58% of subsidised food grains did not reach BPL families (only half of whom had received the ration cards that entitled them to monthly allotments of rice, wheat, sugar and kerosene); 22% went to APL families, while the remaining 36% were "lost" to the "black market". Altogether only 28% of the rural poor benefited from any type of government food assistance (K. L. M. Walker, 2008, p. 574). The multiple levels of corruption in the PDS system have been well described by Cheriyan (2006), who estimated that the government spent INR 20 to get one rupee worth of food to the poor (Cheriyan, 2006, p. 10). Also, according to a government survey undertaken in several Indian states in 2003-2004, over 50% of subsidised food grain meant for BPL people did not reach them. Many food security experts suspect that "those who don't qualify under the scheme are grabbing up to one-fifth of the allotted grain" (Cheriyan, 2006, p. 11). Of the 81% of the rural households in India who had ration cards, only 24% reported rice consumption from the PDS and only 11% for wheat (Suryanarayana, 2008, p. 5).

In Gujarat State, percentage of households in rural areas reporting consumption during a 30-day period (in 2004-05) from PDS for rice was only 31.5% and 94% from any source. For wheat, 28.7% reported purchases from the PDS, 83% from any source (Suryanarayana, 2008, p. 6). Amongst those who do not have a ration card are the urban destitute, including the homeless, migrant labourers, destitute women, and children because several states reportedly refuse to issue ration cards due to lack of proof of address (Cheriyan, 2006, p. 9). Similar problems exist with the BPL system, discussed next.

- **Poverty line systems**

Integrally related to the PDS is the BPL/APL system. According to Cheriyan (2006, p. 9) failure of the PDS and other food security schemes began with the 'BPL identification survey' which is noted to be unreliable with massive "exclusion errors" and "inclusion errors". The BPL system has been changed many times over the years by a "long lineage of expert groups and committees considered to be a type of political technology of the government to refine the technical methods of identifying poor people" (Fernandez, 2010, p. 417). Many of the problems have been associated with the underlying political problem of separating out 'poor' from 'non-poor' people, and making the former the targets of anti-poverty policy (p.18). In contrast to the implied deficit and negative connotations of the label 'the poor', the empirical label of BPL is deployed as a coveted status because of the wide range of policy benefits to which BPL families are eligible (Fernandez, 2010, p. 418). Consequently, despite the potential stigmatisation as 'poor', villagers in the study setting and in India in general, poor or not, seek BPL status.

The BPL system is plagued with problems of corruption and misuse (Fernandez, 2010; Ram et al., 2009). This was expressed in the results of the RPA with study participants expressing problems with the poverty line classifications. There were reports of corruption in the system and a desire for those not eligible for BPL status to want to avail the benefits. For APL families, concerns that they miss out on BPL benefits by only being marginally above the BPL were voiced. Concerns about people who have crossed the poverty line and are at present above it are also expressed in a Government of India report (GoI: Ministry of Finance, 2008, p. 244).

In 2004-2005 in rural Gujarat, 36% of households had BPL cards (against national rural percentage of 27.5%), 50% with ordinary cards and 13% with no card (Suryanarayana, 2008, p. 4). Household poverty is however estimated at 14.72% in Gujarat showing a higher proportion of BPL cards issued against estimated household poverty. Such systemic issues shows that the participants and their families in the RPA are not alone in the problems associated with the poorly functioning BPL and PDS systems; these are nationwide issues requiring intervention at policy making levels.

- **Access to sanitation facilities**

Household ownership of toilets in India is determined by income, with the poorest quintile of the population having the lowest percentage of households with toilets. Caste-based differentials are also notable with only 18% of ST households with toilets (2005-2006). Moreover, only 23% of ST households have access to any form of drainage, likely due to a high degree of inequality in access to basic drainage facilities associated with remote rural areas and with dispersed faliyas (Asian Development Bank, 2009, p. 16). In Gujarat, nearly 30% of the households have access to a flush toilet with a piped sewer system, but the state also has a high proportion of population with no toilets (Asian Development Bank, 2009, p. 17). Figure 20 shows a comparison against three other Indian states.
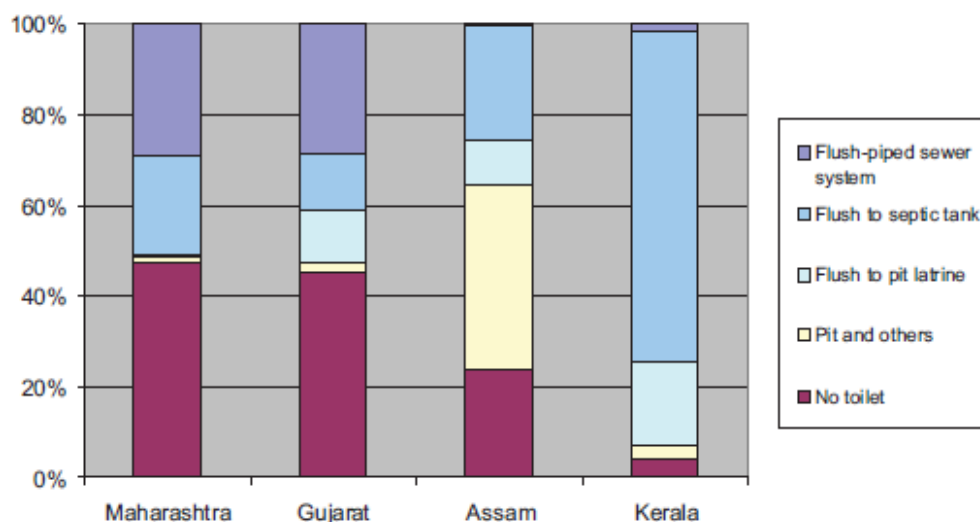

Figure 20. Access to different types of toilets: A comparison of Indian States (2005-2006).
Adapted from "India's Sanitation for All: How to Make it Happen" (Asian Development Bank, 2009, p. 17).

268

Maharashtra and Gujarat lead India in the percentage of households served by underground drainage systems but also leave a much higher percentage of their populations without any form of drainage at all compared to those states that have pursued less advanced (but cheaper) options, such as open *puccas* (channels with concrete lining drainage systems) (Asian Development Bank, 2009, p. 17). This data correlates with the estimates made in the RPA. Respondents in the RPA with toilet facilities expressed dissatisfaction with the installation of the toilets availed under the BPL – another systemic issue for BPL families; Respondents without toilets expressed a desire to have such facilities. Safety was voiced as a concern for the women in the villages in the study setting. Once again, these are not issues confined to the study setting.

In one study conducted in two urban slums of Hyderabad, Andhra Pradesh (Reddy & Snehalatha, 2011), women in focus group discussions provided in-depth insight into the problems associated with lack of toilet facilities in the home and having to go far to find open spaces. For example, meals get burnt on the stove unless there is a child at home to prevent it; in the rainy season, open areas are muddy and slippery, and small children being taken to relieve themselves slip and fall; whenever young girls go out, they are often threatened by miscreants and run the risk of molestation; and women are vulnerable to physical and sexual violence if they are forced to wait until early morning or late evenings to look for a secluded place in which to defecate.

An estimated 50% of people in the RPA study setting, and similar national figures (55%) are without toilets in India (Asian Development Bank, 2009, p. 10). In one interesting comparison, researchers have estimated that more mobile (cell) phones are connected to service than people with access to toilets (*Greater access to cell phones than toilets in India*, n.d.). This estimation also reflects the researcher's own observation in the present study.

This section has discussed the reported health problems in the study area. The following section will provide a critique of the participatory approach utilised to generate knowledge of these health concerns.

8.2.1.2 Reflective critique of RPA for application in Stage 1, "Assessment"

This section focuses on critiquing the RPA. RPA is one of many participatory approaches to needs assessment that can be applied to the first PAR cycle in Figure 19, to assess health needs. To reflectively critique this chosen participatory approach, the effectiveness of the RPA and resulting benefits plus the limitations and challenges of the approach will be reviewed. Recommendations to researchers summarise this reflective critique and discussion of RPA for application in Stage 1, Assessment.

8.2.1.2.1 Effectiveness of the RPA process

This study demonstrated that RPA is a viable approach for assessing community health problems in rural, indigenous, resource-poor settings in developing countries. The RPA was an inexpensive and relatively quick process. The problems described in the results chapter are examples of common problems as described and perceived by respondents from these villages displaying a commitment to the applied approach. These strengths and benefits to communities will be discussed in more detail in the following sections.

- **Depth and breadth of results**

A plethora of information was willingly offered by key informants and focus group participants. This information provided a broad snapshot of the current situation in these villages. From the information received, health related problems, in the holistic PHC interpretation of the word, were easily identified in each village. Whilst needs assessments have been criticised as "deficit-based" (Kretzmann & McKnight, 1993; Mathie & Cunningham, 2003; McKnight & Kretzmann, 2005), the information revealed as a result of the RPA was highly valuable and promoted understanding of the health situation in the study villages. Emphasis in a RPA is placed on recording results as perceived and defined by the community members themselves, while triangulating data introduces an element of scientific rigour and validity to the research that other participatory approaches may not.

- **Preparation for action**

The knowledge generated by the assessment process was a prerequisite to Stage 2, Action-Intervention. Not only did the RPA reveal information about community health situations, it also provided a learning base to understanding the communities in the study setting. Recording information on community composition, organisation and capacity, forming the base of the information pyramid, helped provide an understanding of the community context and to discover strengths and weaknesses of the community leadership, organisations and structures. It also gave an insight into the community's capacity to participate in transforming knowledge into action. This RPA has highlighted the necessity of a solid assessment stage, which RPA can offer, prior to moving onto action-interventions.

- **Emphasis on involving community leaders and understanding the community**

RPA promoted the involvement of key informants in the research process. Researchers are encouraged to recognise community leaders as potential sources of data on a wide range of subjects. Local government support has been shown to be a prerequisite for success for participatory field study methods (Mikkelsen, 1995, p. 201). Certainly in this study, support from the village Sarpanch was vital to conducting research in study villages and their influence can determine whether research can be conducted and continued in villages or not. Although village leaders provide insight into the community as a whole, they also provide insight into the specific groups they represent, often economically advantaged members of the community (Annett & Rifkin, 1995, p. 16). It was during the RPA that the effects of entrenched social disparities were documented extensively.

- **Cheap, rapid and easy**

The RPA methodology is cost effectively applied, rapid and easy and this is a particularly attractive strength of RPA for organisations with severely limited resources. The process undertaken to apply the RPA in this study required a suitable amount of money, time and manpower for a grass-roots organisation in developing country such as India. The ease of application can be attributed to the preparatory work prior to the field placement as well as the long standing relationship and

resulting trust and rapport the CRD had with women in the study villages. The time to consolidate and analyse results is often lengthier and needs to be factored into timeframes especially if communities are involved in the analysis phase.

8.2.1.2.2 Limitations and challenges of RPA

A number of limitations and challenges of the RPA were noted both during the RPA process and during the reflection phase of the Stage 1 PAR cycle. Many of these limitations have been noted by researchers in the past and their contribution to the discussion supports examples from this study.

- **Assumption of common interests in the RPA**

The RPA information pyramid "forms the basis of an approach for obtaining and analysing data that will enable planners to have useful, although not exhaustive, information with which to identify the health problems of people living in a defined *geographical area* and seek solutions" (Annett & Rifkin, 1995, p. 9). The meaning and usage of the term community has long been the subject of debate (Kenny, 2007b). In the context of the study setting in rural, tribal India, this approach does not take adequate cognizance of the coexistence of multiple diverse communities with their own set of diverse needs in any one geographical area, the village. The RPA guidelines do recognise that many low-income communities are composed of different linguistic, tribal and/or cultural groups, often sharing *only* a common geographical area; however defining the common interests of these *groups* within the geographically defined community as the RPA instructs (p. 51) limited the results of this study.

The common interests and needs amongst groups within villages were in fact confined to those related to their geographical location which the groups within a village share. For example, road safety, transportation issues, alcohol related issues, access to health care and environment pollution are common needs; however they are only common due to the geographic locality of the village that each group shares. The findings of the RPA did not reflect that some groups suffer disproportionately more due to their economic situation, and these groups almost always correlate with

caste. The realities and hardships of lower castes and tribal groups are vividly different from higher castes.

The challenge of capturing the extent of hardship for these groups was realised in the data collection process where confusion was reported regarding whether interview questions were directed at caste groups (referred to in the findings as caste-communities); or groups' clustered locality within the village (faliya-communities); and/or the entire village (village-community) – the defined geographic area the RPA was applied to. Caste-communities and *faliya* (hamlet)-communities are more likely to be homogenous, sharing mutual commitment, identity, common bond and social interaction than the whole village community, thus more likely to share common interests and needs. These challenges support an earlier finding by Murray (1999) whose summary of the experiences of five rapid appraisals notes that the approach is best used in homogenous communities.

- **Key informant bias**

Related to the above discussion regarding the difficulties of defining the Indian village as a community, is the challenge of using key informants to describe village problems. RPA, in an effort for a "rapid" process bases its data collection on interviews with key informants who are likely to be able to provide information about the entire community. However, bias can occur when informants are chosen from groups that share similar views and are not offset with informants who may have a different view (Murray, 1999, p. 442). It is possible that in villages such as those in the study setting, key informants, as well as having information about community, rather than individual views about community problems, also have political motivations, money, power, and are generally from higher castes; and know less about lower-caste hardships than their position in the community would assume. Researchers also experienced a key informant with religious motivations, insisting connections with his affiliated religious group would help solve a certain community problem. Kenny (2007a, p. 340) warns researchers of this issue, saying that groups who are more vocal or active in providing information, particularly key informants, are likely to be already in privileged positions in their communities and their contribution may reflect only the interest of the most articulate or powerful lobby

groups. Despite choosing a broad range of key informants for the RPA to represent the populations of the villages included in this study, the risk of not representing some members, particularly minority groups, below poverty line groups and scattered communities is present. Furthermore, interviews with purposive samples of key informants, also instructed by the RPA, could create narrow and biased views of community problems.

- **Other forms of bias in RPA preferred methods**

Use of key informant interviews is also susceptible to interviewer bias due to professional training, ethnicity, sex and theoretical perspectives (Murray, 1999, p. 442). Insider-outsider tensions that arise in relation to differential race, power, time constraints, and reward structures also pose challenges in community based participatory research (Minkler, 2004, p. 685). Focus group interviews are susceptible to moderator bias and selection bias when participants are selected from the most easily accessible groups, as they were in this study. Also, discussions may be dominated by a few individuals who because of their higher caste/socioeconomic level/education/gender/age etc are not contradicted by others. Additionally, in cases where translations are necessary, there is the potential for misinterpretation or information to be lost.

RPA relies on triangulation to support validity of data, however only three methods are proposed: observation, key informant interviews and analysis of secondary data. When one arm of the triangle is weaker than the rest, results rigour could be compromised, especially when there is not an additional source of data to fill the gap should one of the methods not provide sufficient or reliable data. In this study, observations and key informant interview methods were strong. They were also complemented by focus group interviews. However, relatively less secondary data in the form of health and statistical written records were received from government health services servicing the area. This compromised triangulation of data, affecting results relating to specific disease related health problems. Information from interviews and focus groups indicated low reports of disease, however due to poor statistical data required for triangulation these results have to be used with caution.

- **Definition of need**

This challenge rises from the question of how to define and separate terms such as needs, wants, desires, preferences and demands. The RPA approach allows for all categories of Bradshaw's Taxonomy of needs to be reviewed through the methods it employs. However, emphasis is placed on revealing *felt needs*, promoted by participation of community members in interviews and focus groups, in addition to the prioritisation stage where community members confirmed and prioritised the importance of each issue revealed. The use of felt needs as a measure of community needs is criticised because the "perceptions of community members are often limited by the harsh day-to-day realities of survival" (Kenny, 2007a, p. 340). This might lead respondents to focus on the symptoms of problems and not the actual causes (Kettner, Moroney, & Martin, 1999, p. 40). One response to this criticism however is that a survey of felt needs "accepts the integrity of the views of disadvantaged people" (Kenny, 2007a, p. 340).

It was this effort to interpret data as perceived by the people, respecting disadvantaged peoples' integrity that can lead to complication. In Saran Village for example, poor access to health care was revealed as an issue (felt need) by the participants. If this issue is viewed from a *comparative need* approach, it may be possible to see that this village in fact has relatively good access to health care when compared to similar villages with similar populations. As a *normative need*, the 'expert', or researcher may take the subjective view that given health care is within 2-3 km from the village, thus this should not really be a need. In this case, access to health care may be a symptom of poor transportation.

In another example, in Paria Village the felt need for a PDS to service APL people was expressed. Given that efforts were made to record findings as perceived by the community, this was included as a result of the RPA. However, many people in the community sent their children to private schools and were observed to be in comparatively better economic situation than nearby villages with similar populations. Scrutinising these felt needs by applying all categories of Bradshaw's needs would have resulted in this felt need being removed from the results and substituting it with a cause of the problem rather than the symptom.

Given that felt needs can be described as what people in the community say they *want,* another complication arises. That is, the distinction between needs and wants. It has been said that "to search for a universal and objective grounding for what amounts to no more than cultural or individual preference is, according to the relativist, to pursue an illusion" (Doyal & Gough, 1991, p. 44). If there is no rational way of resolving disputes about what is and is not generalisable about the human condition or about specific groups of humans, then what are needs for some can be said to be merely wants for others – and vice versa (Doyal & Gough, 1991, p. 44). This argument then becomes a question of objectivity and subjectivity. Can an objectively determined set of human needs really be identified? Or, is the ultimate basis the subjective perception of the "individual"?

In this study, as previously discussed, choice of key informant (or "individual") in a caste dominated society can raise such questions of subjectivity vs. objectivity. This argument extends to the researcher, who when measuring the normative need exercises subjectivity based on ethnic, educational and experience levels. After all, who is capable of objectively determining need, not only of communities, but of larger populations and entire populations? "If it is agreed that both subjective preference and professional/bureaucratic dictates are suspect in determining what needs are and how they should be measured, who is to decide on the appropriate social indicators and how?" (Doyal & Gough, 1991, p. 168). Whilst this particular issue may seem like it will never reach a resolution, it should not discount the place of needs assessment in development. We, as researchers, should however be mindful of the needs debate and incorporate some of the suggested recommendations into the research.

- **Level of community participation in RPA**

One consensual answer to the above stated challenges with needs definition is participation. Effective and informed participation on the part of the populations whose needs are being assessed is vital, and has yielded impressive results at village level, however participation alone is not enough (Doyal & Gough, 1991, p. 168). RPA guidelines do promote participation; however it does not address the difference

between participation and consultation. On reflection, the RPA applied in this study was effective in consulting people. That is, information and opinions were sought regarding a range of topics via interviews and focus groups because researchers needed the knowledge that came from engaging with communities. The RPA was however not as effective in promoting quality community participation. That is when communities are invited to play an active part in generating ideas as well as making decisions. Participative planning for example with communities rather than only with the research team would have been effective participation. It may be counter argued that genuine participatory approaches are aware of conflicting interest and refrain from attempting full consensus, for example in preference ranking exercises (Mikkelsen, 1995, p. 201). However as revealed in this study, in a caste dominated society and when felt needs are emphasised, this issue remains.

- **Snapshot of community needs**

A limitation inherent in needs assessments, not only RPA, is that they only reflect a situation at a given point in time, while communities often experience comparatively rapid evolving change. According to Annett & Rifkin, (1995) RPA information pyramids are "constructed in the recognition that communities often experience comparatively rapid change and, therefore, that the pyramids reflect the situation only at a given point in time" (p. 9). In a changing environment, this limits the RPA to a set amount of time, which is not defined.

- **Problem focused; a negative approach?**

One point of contention the researcher has with the RPA guidelines is the interchangeable use of the terms "problem" and "need" (Annett & Rifkin, 1995). The guidelines (p. 6) defines RPA as a method for obtaining information about a set of problems with the involvement of community members. Reviewing the results of this study, the RPA applied was successful in achieving this aim. In the next sentence of the definition, RPA is then described as a way of assessing needs prior to the preparation of plans for future action (p. 6). In this light, and as again defined on page 9 of the guidelines, which describes RPA as a method that will "enable planners to have useful, although not exhaustive, information with which to identify the health problems... and seek solutions" (Annett & Rifkin, 1995, p. 9), it can be inferred that

seeking solutions to the problems is what the guidelines refer to as defining needs. After all, one task is to identify a community problem and another is to prescribe a need to that problem, or, dictate what solution is needed to overcome the problem.

Stage seven of the RPA process instructs team members to decide which interventions they are prepared to undertake (p. 19) (the transition from problem to "need" identification). With this instruction however, involvement from the wider community is not promoted, rather confined only to the involvement of key informants and the research team.

Another issue with RPA arises from the needs focused approach. Consequences of the needs-based approach used by "universities, donor agencies, and governments" to generate needs surveys, analyse problems, and identify solutions to meet those needs is heavily criticised by some proponents of alternatives to community development (Kretzmann & McKnight, 1993; Mathie & Cunningham, 2003, p. 475; McKnight & Kretzmann, 2005). By focusing on identifying *problems* or *deficits* in communities rather than *strengths* and *opportunities*, practitioners have "inadvertently presented a one-sided negative view, which has often compromised, rather than contributed to, community capacity building" (Mathie & Cunningham, 2003, p. 476). The result of such problem or deficit based assessments determines how problems are to be addressed, through "deficiency-oriented" policies and programs. Thus communities become recipients of services that exist to fill a deficit or "need". Residents come to believe that their well-being depends upon being a recipient of aid, which has "devastating" long term consequences (Kretzmann & McKnight, 1993, p. 4; Mathie & Cunningham, 2003, p. 476).

- **Post RPA complications**

A recognised feature of rapid *rural* appraisal, the precursor of RPA, is "the necessity of finding mechanisms to translate the information into action to gain credibility with those who provided the information" (Rifkin, 1996b, p. 517). Caution should be taken that meaningful action can be pursued after a RPA, as it can be challenging to overcome damages done by previous researchers (e.g. promises not kept and abandonment after data collection) (Karmaliani, 2009, p. 207).

8.2.1.3 Recommendations of the RPA process

Based on the previous discussion on limitations and strengths of the RPA, a number of recommendations can be made for improving the RPA process.

8.2.1.3.1 Apply an appropriate definition of community for the RPA

It is important to apply the concept of community according to the context of the study setting rather than having a preconceived idea of what community should be based on what the participatory approach recommends. The shortcomings of defining community by geographic location in the Indian village context and assuming that groups within the village will have common interests and needs, as demonstrated in this study, need to be taken into consideration by researchers before applying this participatory approach to assessing community needs. Most importantly, respecting participatory values, asking participants to define community according to their village prior to commencing the research would be beneficial to the PRA process.

8.2.1.3.2 Choose key informants wisely

A more diverse range of key informants with representation of minority groups should be used to gain a more even representation of the community's interests. Appropriate caution should be taken so that community members, in collaboration with researchers, identify a broad range of key informants, not only those influential in the community because of their wealth, caste, educational, political or family background. Researchers should be mindful of biases that may result from the key informant's caste, gender, economic, social and education background.

8.2.1.3.3 Understand common debate of what "need" is

Having knowledge of Bradshaw's typology of need (Bradshaw, 1972) could be beneficial during the RPA analysis process to distinguish between felt, expressed, comparative and relative needs. Cross-checking where the four perspectives cross would allow for the identification of real need rather than an emphasis on felt need as experienced in this study. Asking research participants from the community what they view as need for them, their families and their communities will also assist, as will an iterative process to continually redefine needs of communities.

8.2.1.3.4 *Align the scope of the RPA to the capacity and expectation of the organisation*

Whilst highly valuable, the depth and breadth of the information that RPA generates should be appropriate for the organisation conducting the research. In this study, the results gave a holistic indication of shared community problems; such information may be better placed at an organisation or government body with more capacity to transform knowledge to action. Information regarding poor functioning of health services for example may not be within the scope, or mandate, of small, resource-poor, grass roots organisations to address. A consultation component is therefore recommended to determine the expectations of the organisation. This could assist in aligning the outcomes of a needs assessment approach to the needs and capacity of the organisation and respective community.

8.2.1.3.5 *Allow the RPA information pyramid to evolve with the input of the organisation and the community*

The information pyramid provides a good checklist for asking questions and a framework for analysis. It serves as a basis for developing the interview protocol, determining what data to be extracted from written records and aiding the interpretation of data. Given the importance of the information pyramid, it is recommended for communities to be consulted at step 2 of the RPA, deciding what information is needed.

8.2.1.3.6 *Promote community participation in the RPA process, and choice wherever possible*

It is recognised that participation by itself is no panacea because it can advantage the already privileged through their ability to manipulate the information process, and it can sacrifice the common good to sectional interpretations of it (Doyal & Gough, 1991, p. 168). However, many of the challenges of the RPA can be improved with increasing community participation to:

- define community and need;
- clarify and align expectations;
- choose key informants; and
- assist in deciding what information to collect for the information pyramid.

Participatory planning can address many of the challenges described in this reflective critique of the RPA. It is also proposed that communities should have the right to choose the type of needs assessment approach, or if they even want to use a needs-based approach. With open communication about the strengths and limitations of different approaches communities could choose the research type they feel is right for their community. One suggested alternative is to develop policies and activities based on the capacities, skills, and assets of low-income people, rather than taking deficiency-oriented approaches such as needs assessments (McKnight & Kretzmann, 2005, p. 159). RPA could benefit from incorporating asset based community development processes that recognise strengths and assets and are more likely to inspire positive action for change (Mathie & Cunningham, 2003, p. 477).

8.2.1.3.7 *Apply an iterative approach and reapply the RPA in the future*

An iterative approach, applied as part of the PAR cycles encouraged the ongoing growth of knowledge, continually modifying and improving understanding of RPA results as they started to appear during the data collection process. Applying a formal iterative approach throughout the RPA process will further promote flexibility and ability to adapt to changes as they arise. As Twelvetrees (2008, p. 19) highlights, ideally, assessing needs should be a continual process in order to accurately reflect and address the needs of the community through the duration of a project. Given that the validity of the knowledge generated by a RPA can change at an unknown point in time, results should be reviewed and the process repeated at intervals, if possible, by the organisation or community. Using consecutive RPAs to assess, facilitate and evaluate health and social change in community settings has been found to be effective (C. Brown et al., 2006) as they enhance knowledge of community problems and how they transform over time.

8.2.1.3.8 *Address biases and limitations of the RPA*

One recommendation to help reduce bias in RPA is to use methods that ensure representation of minority groups. It should be noted however, that selection of informants should be performed within segments of the community, for example, within homogenous groups of castes groups, and scattered communities. This will

help reduce problems associated with subjectivity and objectivity of participants, as previously discussed, and other limitations related to key informant interviews.

8.2.1.3.9 Conclude the RPA at the prioritisation of problems stage

The RPA can benefit from either amending stage seven to incorporate wider community participation, or bypassing this stage and producing the final report (stage 8) after the prioritisation of problems in stage 6 – as was done in this study. In this regard, the RPA is therefore about problem identification rather than needs identification; use of terminology should reflect this. A comprehensive process is required to transform identified problems into needs, as researchers prescribing needs for communities may be unsupportive of best practice community based action and development that promote local people decision making in their lives. Possibly amending the final stages of the RPA to promote best practice community participation in decisions regarding interventions that affect them would be beneficial. It also has the potential, through effective dialogue such as that at the commencement of Stage 2 of this study, to give a better indication of the feasibility of implementing interventions to address community problems.

8.2.1.3.10 Disseminate RPA results to participants and local organisations

Researchers need to ensure that results of the RPA, after the confirmation and prioritisation stage, are shared with participants and their respective communities. Given the broad scope of the results that RPA reveal, it is important that study findings are disseminated to the appropriate government departments and organisations if possible.

8.2.2 "Diagnosis"

This stage of the PAR framework represented the link between Stages 1 and 2. Results of the RPA of Stage 1 were confirmed and prioritised by research participants at the conclusion of Stage 1, then at the commencement of Stage 2 results were again discussed in depth with participants. In some villages where Stage 2 proceeded, results were presented and discussed with the broader community.

Participatory data analysis is often difficult to achieve due to the large quantity of data that is obtained from qualitative methods and the time consuming nature of the iterative processes involved (Wallerstein & Duran, 2003, p. 40). It is however "in this crucial stage of data analysis and the subsequent steps of dissemination that community ownership is most strengthened" (Wallerstein & Duran, 2006, p. 315) and it is vital that researchers involve communities in the interpretation process.

8.2.2.1 Discussion of results

As most of the in-depth analysis was undertaken by the primary researcher, involving participants to confirm and prioritise results of the RPA strengthened their validity. In general, the results presented to research participants for confirmation and prioritisation was confirmed by participants as a true reflection of what they had indicated in the RPA stages. The process did however allow researchers to become more aware of community problems that had not previously been identified, for example, in Paria Village, after sharing the research findings some research participants felt their access to income generating activities was limited and could be improved with access to micro-finance.

Annett & Rifkin (1995, p. 19) state; "If a problem has been identified by the team which is not seen as a problem by community leaders, it will be given low priority in this priority-setting exercise". This was the case in Kolak Village for example. After receiving anecdotal reports and information from community health workers, analysis identified the potential for an increase in STIs/HIV due to the mobility of seamen in the village and increased level of alcoholism in the many months of unemployment between deployments; however community members placed lowest importance on this health issue indicating they did not see this as a threat.

Asking participants what action had been taken to resolve the problem, or if future action was likely during the prioritisation process was beneficial as the researchers could judge whether intervention efforts were still relevant. For example, it was revealed that a fly over-bridge had already been approved by the government to help alleviate the road safety problem in Orward Village. A vigilance squad had been appointed to address alcohol related problems after the *Lattha Kand* incident when

more than 100 people died at a function in Gujarat State after drinking toxic illegal alcohol ("India toxic alcohol toll tops 100," 2009, July 10). Vigilance in the whole of Gujarat State has increased after this incident. In Saran Village, one identified issue, lack of toilet facilities, had already been addressed by the prioritisation stage.

Returning to villages for the commencement of Stage 2, a continuation of the "Diagnosis" stage involving in-depth discussion of community problems revealed important information and indicated if intervention efforts were viable, practical and realistic. The final findings detailed in Chapter 6 are again briefly summarised:

- Kolak Village: Insight was gained into the extent of past actions to resolve environmental pollution and the safety issues that may impact community members.

- Amli Village: Concerns were raised about the possible dangers of alcohol interventions in the village.

- Saran Village: The Sarpanch's lack of support was indicated in the diagnosis stage.

- Paria Village: The perceptions of the PDS were explained to villagers and that it is more of a policy and governance issue. Also, the diagnosis stage revealed that alcohol related problems would be extremely difficult to address.

Ideally, assessing needs should be a continual process in order to accurately reflect and address the needs of the community through the duration of a project (Twelvetrees, 2008). This further validates the value of this prioritisation process to ensure findings are still current and no major changes have taken place prior to developing future action and intervention plans.

8.2.2.2 Reflective critique of confirming and prioritising process

Although the confirming and prioritising process was found to be beneficial, there were several limitations in the process. These include:

1. Due to unavailability of original key informants in some villages the prioritisation may not be representative, for example in Paria Village only

two of the four original study participants were available to participate in the confirming and prioritising process.

2. Possible bias inherent in prioritising process when a mixture of focus group and interview methods is used. Given that focus groups were generally homogenous, each focus group was allocated one collective vote to prioritise the problems. This limited giving all participating women a voice. Despite this limitation, allocating only one vote per focus group prevented the number of votes representing the focus groups outweighing those by individual key informants.

3. Possible researcher error: In Amli Village three interviews and one focus group were conducted. Results of the prioritising process however show five votes were counted rather than four. It is possible that a focus group was allocated two rather than one vote.

8.2.3 Stage 2: Action-Intervention

The aim of Stage 2 was to transform knowledge into action with meaningful participation of community members. CBPR was selected as an appropriate approach for this task. Amongst many documented benefits of CBPR, "theoretically, CBPR increases the likelihood that research findings will be readily implemented in communities, because communities are invested in the preliminary testing during the research process" (Faridi, Grunbaum, Gray, Franks, & Simones, 2007, p. 2). Unfortunately, this was not the case in this study.

8.2.3.1 Discussion of results

Researcher reflections and observations documented a variety of challenges to gaining community participation to proceed with Stage 2 of the research. Whilst cooperation in Stage 1 exceeded expectation, it was below expectation in Stage 2. People were willing to talk about community problems, however reluctant and apprehensive to come forward to participate in action to improve their situation. The following sections present a summary of the possible underlying reasons that impacted community participation.

8.2.3.1.1 Challenges in mobilising communities: possible
underlying causes

Whilst it is difficult to accurately specify the reasons why villages were apprehensive and reluctant to participate in Stage 2, a number of observations were made and interrelated themes are presented, supported by examples of each theme.

- **Low priority for community members**

Researchers sensed that the problems uncovered in the needs assessment, whilst important, were not a priority for key informants and this may have contributed to their reluctance to participate. Personal matters, such as earning an income to feed the family, attending to seasonal crop work, and social commitments including weddings, illness, and festivals took priority over community issues. In both Kolak and Amli Villages problems were agreed upon, however mobilising the community to participate in action and intervention was difficult. In some situations, researchers perceived that people had accepted to live with village problems and/or conceded that nothing could be done about the problems. In Kolak Village for example, there was a sense of acceptance of the pollution problem as they had been living with the problem for more than a decade and they realised that a more powerful intermediary would have a more realistic chance to challenge industry than the villagers. This was also the case with alcohol related problems. Both problems would require higher level involvement of concerned authorities and political will to change the situation. The problems to some degree were outside the capacity of local villagers to make changes without higher level intervention.

In the cases when the Sarpanch did show commitment, a prerequisite for activity in the villages, it was observed that the Sarpanch, who often had other primary businesses than being the village leader, was extremely busy.

Additional observations were made, which do not necessarily indicate low priority of issues, rather any of the underlying causes of lack of participation discussed. It was reported that in Gram Sabha (village level government meeting), the quorum of 10% of the population is often not reached. In Kolak Village, researchers were told that approximately 2000 people came to a religious event in the village; however no one

would attend meetings about community issues. Also in Kolak, researchers were asked for assurances to take full leadership to approach government and concerned authorities and bring about change. Interest declined when told that this may not be possible. Finally, it was also observed that there was no initiative demonstrated on behalf of the villages to follow up with researchers. Reflecting on the communities in the study villages, researchers observed that people led simple lives and had a simple approach to their lives. This is reflected in one woman's words in Paria Village: "people just eat, drink, sleep and are happy". This 'simplicity', acceptance and contentment brings into question whether interventions would be welcome.

- **Lack of agreement on the "common" issues**

The results in Stage 1 also reflect the range of diversity in Indian villages. It is possible that the different caste and faliya communities in villages may have differing needs. In Orward Village alcohol related problems were described in certain faliyas. In both Paria and Amli Villages comments were made about how alcohol was a personal problem and interventions would be unwanted by those individuals. It was expressed that people were not willing to come forward and address what they saw as personal problems. Castes in better financial situations have less knowledge of poorer people's circumstances and problems may be perceived differently by different castes making it difficult to find consensus and therefore "common need".

- **Element of risk to participating**

A recognised challenge of CBPR is that "participation in the action phase of CBPR projects may sometimes present risks to community participants and actions that involve challenging powerful corporate or other entrenched interests may have negative consequences for those involved" (Minkler, 2005, p. ii10). Apprehension to participate in activities in Stage 2 was particularly evident when discussing alcohol related problems in villages and environmental pollution in Kolak Village. In Amli Village, people were fearful of the repercussions of their participation should the problem of alcohol be addressed and preferred to work with large numbers of people for better impact (and safety). They feared for their safety because incidences of

violence reported against people who had tried to raise their voice against illegal alcohol brewing.

In Paria Village the school principal felt that interference in others' business would not be welcomed. In Kolak Village, incidences of corruption, intimidation and violence during past activity to address pollution problems were discussed many times. Concerns were raised about how taking photos of dumping waste, would result in violence – despite researchers explaining many times that the project would not involve exposing anyone. Regardless, real risk to community participants was felt in this case. In such scenarios, participation driven CBPR may not be a practical approach. Due to the strength of the alleged nexus between offenders and law enforcement agencies, people were apprehensive of interfering with problems relating to alcohol and pollution. It was expressed on many occasions that higher authorities for example, Gujarat Pollution Control Board, Industry and politicians were seen as turning a blind eye to the problem.

- **Past experience**

Researchers observed that communities' past experience working towards change hindered progress of Stage 2. In Kolak Village, two male elders expressed disappointment that once again the community was not willing to support them in their efforts to work on pollution related issues. One reason may be the attempts of Green Peace in 2000, where police cases were filed against 'front runners' for trespassing and damaging machinery in protest against pollution. Further, threats against leaders of movements instilled fear in people as in the case where the main leader acting against pollution in 2000 received threats against his only son and discontinued activity against pollution. In Kolak Village there was an observed distrust by the community for anyone working towards the problem of environmental pollution since in the past people had allegedly taken bribes from industries to stop action about the problem. Changes in the village Sarpanch every five year Panchayat term makes it difficult for any change initiated to come to fruition and be sustained over time.

- **The role of the Sarpanch and government in hindering capacity**

The Stage 1 results documented that the Sarpanch and only few others were the only people who are looked upon to show initiative in acting on village problems. 'Moti' people or 'big' people in the village – those with money and power – were viewed as the only people who could help improve village situations. Many of these people had political connections. The state and local government, led by the Sarpanch has a major role in uplifting and empowering poorer communities as they are the only providers of affordable (often free) services, infrastructure, basic amenities and social/economic assistance in the study area. Community members therefore look to government to solve problems for them.

- **Lack of experience with participatory action research**

The concept of participatory development was new for the villagers; therefore open to possible resistance. Government programs do exist where people are expected to contribute, for example in the building of toilets; however this is for personal use, not community use. Also, their past experiences have taught them to look towards others to make change for them; changing these thought processes proved difficult and would require a lot of time, presence and persuasion in the community. Oppressed communities and communities whose only exposure to assistance is what the local government has provided for them may not have ever experienced that their actions can contribute to changing their own community's problems. Taking this point into consideration, the researcher is confronted with the question if level of participation would have been different if the request for needs assessment and action had come from the community itself rather than the organisation.

When liaising with people in the villages, researchers experienced repeated misunderstanding by villagers of the intention, aims and objectives of the research despite reinforcing the concepts many times. There were constantly expectations for researchers to find solutions to problems, not for solutions to be found collectively. In Kolak Village, it was difficult to get people to understand PAR. Researchers were introduced as 'working on solving the pollution problem' despite being corrected many times. In Amli and Paria Villages, despite explaining many times that the intention of an intervention would not be to stop alcohol manufacturing, rather

highlight negative effects of drinking, people still raised concerns about backlash from bootleggers at attempts to stop the illegal manufacturing and selling of alcohol. In Kolak, the intention of Photovoice was often misunderstood with ideas that the photos would expose the polluters. Communities' expectations on how to improve problems were at times unrealistic. Key informants in this village also expected for services such as healthcare and markets to be present in their own town when services were available 2-3km away.

8.2.3.2 Reflective critique of CBPR for application in Stage 2, "Actio-Intervention"

Two approaches for CBPR were applied in this study. The first was to return to one village, Kolak Village, with a prescribed method of CBPR, Photovoice. For all other villages, no plan was in place; the direction of the CBPR would be set by the community members themselves decided through community consultation. Stage 2 in all villages commenced with dialogue regarding the problems revealed in the RPA. The CBPR in each village reached different phases of the PAR cycle but the taking action phase was not reached in any village. Thus, one full cycle of the PAR was not performed and the following critique of CBPR can only be given on what was completed.

8.2.3.2.1 Challenges and pitfalls experienced in CBPR

Critical issues that specifically arise when trying to adopt and follow the principles of CBPR are well reviewed in literature, particularly by Israel et al (2003, p. 58) and Minkler (2005, p. ii8). This critique will highlight the extent of specific challenges faced in this study.

- **Time constraints**

"Time is a huge challenge" for CBPR that results in less participation than its methodological expectation (Karmaliani, 2009, p. 207). In this study, time required to mobilise community members, amongst other factors, was constrained by the timelines of a PhD study. Given that five villages were involved in the study, building trust, true collaboration and empowerment of marginalised communities takes a considerable amount of time and requires a continuous presence in villages,

over an extended period. The concept of time also needs to be reconsidered when doing field work in villages. Work pace can be slow and the work period short. In this study setting hours of work were typically from 10.00am to 4.00pm with a one hour lunch break. The long travel time to study villages by public transportation in hot and humid weather further reduced effective working hours. On occasion, heavy rainfall made it impossible to access villages and these working days were lost. Additional working days were lost due to the large number of public holidays (12) and festivals during Stage 2. In addition, dependence on a translator meant that if she was sick or had other work priorities further work days were lost. These realities of field work are often underestimated.

- **Practicality of participation**

"Outside researchers committed to a CBPR approach not infrequently express frustration at the difficulty moving from the goal of health community partner involvement in the research process to the reality" (Minkler, 2005, p. ii9). This was a particularly relevant issue in this study. Given that one of the core principles of CBPR is participation, a difficult situation arises when community participation, for a variety of reasons is not achieved.

Many times, the level of participation was practically absent. In Amli Village, women from the focus group showed most enthusiasm to participate in a community meeting to start action against the problems, particularly alcohol related problems; however none showed up at the meeting. This may be related to the political nature of the problem, fear of public involvement or pressure from male family members who may be involved in either manufacturing or buying and consuming alcohol. If people did attend arranged meetings, many times people would leave prior to their completion if they had other matters to attend to, making it difficult to follow up at the end of the meeting about next steps of action. If they did not attend or if meeting attendance was low, researchers observed at times people would make up reasons why; possibly to 'save face'. Cultural protocol was observed on a number of occasions making participation by women difficult. For example, women were more reserved in the presence of men in meetings. This was seen in Kolak Village. Also in

Kolak Village, the hierarchy within villages was observed in community meetings where people let elders speak on their behalf and didn't express themselves.

- **Managing expectations**

As outlined earlier in this chapter in the recommendations from the RPA (0), managing expectations is a challenging but necessary component of CBPR. In the effort of PAR to allow the study to evolve as the research progresses, it is not easy to specify explicitly what involvement in the research will mean for the participants (Holkup et al., 2004, p. 166). The inability to fully specify all aspects of the research design and intervention up-front presented challenges in this study when trying to sell the process without completely specifying all the outcomes beforehand (Israel et al., 1998, p. 188). This troubles researchers, community members and in some cases, funders and institutional review boards (IRB) and ethics committees. In line with Twelvetree's recommendations for community intervention (2008, p. 20), stakeholders, particularly community members, were often reminded on what this study expected to achieve "in order to give everybody a chance to think about the implications". As previously noted however, intentions of the participatory approach were often misunderstood.

The CBP researcher will also have their own set of expectations. An inexperienced researcher for example, may have idealistic ideas of the outcome of the research and less comprehension of the reality of challenges inherent in participatory approaches to research. Even experienced researchers when faced with the challenges in a research study face the possibility of the research outcomes not meeting expectations. Reflexivity and a constant reflection of the impact and role of the researcher in the research will help keep expectations in check.

- **Sharing of benefits between academic researchers and communities**

It is agreed that a major aim of CBPR is to benefit the local community; however benefits are not necessarily spread with outside researchers typically "standing to gain the most from such collaborations" (Minkler, 2004, p. 689; 2005, p. ii9). In this study, the researcher perceived that the learning experience and academic award outweighed the benefits brought to the community by the research.

Nyden (2003, p. 577) highlights that the concept of community members defining, guiding and completing research challenges the traditional academic research model that supports research agendas shaped by one's discipline, not by the community. CBPR not only increases the body of knowledge available to us, but also the goal of involving community members in the process, improving a community's own capacity to engage in research and most importantly, facilitating social change. Whilst attention was made to ensure this research agenda was guided by the community, the initial choices, such as using rapid participatory appraisal in Stage 1 was influenced by 'best practice' and suitability rather than the community.

Wallerstein & Duran also note: the recognition and systematic evaluation of culturally supported interventions confront the tradition of one-way translation of knowledge—from academia to the community (Wallerstein & Duran, 2010, p. S41). Further, described as "business as usual", is a situation where academics control the research process, often by adapting and "manualising" evidence-based behavioural prescriptions to impose on the "other". Wallerstein & Duran (2006, p. 319) also note that traditional tenure and promotion criteria can inhibit academic researchers' commitment because of the long development time to create valid partnerships, implement collaborative interventions, and publish jointly with community members. In this study, even though working in communities the collaborative partner had established contacts in, time required to create valid partnerships and interventions greatly surpassed the academic timeframe offered to conduct the research.

8.3 Key Informant interviews

The findings from the key informant interviews (Chapter 7) supported, and furthered understanding of the researcher experiences throughout the previously discussed Stage 1 and Stage 2 of the study. A number of these lessons learned are highlighted in the following sections.

8.3.1 Power imbalance

Insider-outsider tensions that arise in relation to differential race, power, time constraints, and reward structures were raised as limitations of both RPA and CBPR

approaches. It was noted that the key informants, while often from the same area and speaking the same language as their beneficiaries, still possessed an element of misunderstanding their beneficiaries and their actions. Power imbalances, such as education, family background and wealth were observed between the key informants interviewed and their beneficiaries regardless of the length of time they had been working in the field. As Wallerstein (1999) puts forth, the relationship between researcher and researched is a central issue for post-modern emancipatory researchers; this relationship should therefore be treated as one factor that may affect the ability to transform knowledge of community problems into action, and therefore impact on ability to change a situation.

8.3.2   Difficulty of change

Examples of efforts for change offered by key informants were cultural (such as changing potentially harmful beliefs and practices surrounding pregnancy); societal (such as empowering women to take an equal stand in the society) and behavioural (such as improving hygiene and sanitation practices). Each example was found to be challenging to influence. Achieving change, whether societal, cultural or behavioural is extremely challenging. Whilst small changes can result, like the individual success stories offered by the key informants, sustained change to improve lives is a long term undertaking, often requiring dedication, funds, perseverance and support of governance structures.

8.3.3   Reinforcing of lessons learned in the study

The key informant interviews reinforced many of the lessons learned from this study. These include the importance of:

- Sarpanch involvement in activity in villages.
- Building trusting relationships to overcome initial acceptance issues.
- Time and patience to mobilise communities for action.
- Activity having perceived benefit to the community to increase motivation.

These points raised also represent factors affecting the effectiveness of action research projects in general – and in the cases of the key informants, development work to improve wellbeing in communities. The key informant interviews were a

valuable part of this study. The results contribute to refining the PAR framework applied in the study and to the discussion of contextual factors that will affect knowledge to action transformation in a PAR study or in development based work in the field, outlined in Chapter 9: 9.3   Factors   affecting   the   transformation   of knowledge to action.

8.4   Strengths and limitations of the overall study

Strengths and limitations of the study will be viewed in three ways; those related to the international study collaboration, those specific to the researchers and finally, the strengths and limitations of the overall study.

8.4.1   Strengths and limitations of the international study collaboration

In the CRD field office limited infrastructure caused some delays. The involvement of staff members, who were made available to assist in the study where necessary, was limited by their own work load demands. Also, only one Gujarati/English speaker (the health project coordinator) was available to assist the primary researcher to interact with 5 villages which placed heavy burden on the former. A particular concern for the primary researcher was the realisation that the supporting organisation would likely be unable to continue activity in the villages after the researcher withdrew, thus not able to meet the expectation of CBPR. This was further compounded by limited funding for activity in villages which made it difficult to implement action.

The CRD had established a solid network of women through self help groups (SHGs) and built trust amongst them over many years. Work with the entire communities in the villages of the SHGs however was new for CRD and whilst the SHGs provided an excellent avenue to the community, the study could have benefited from a more established trust with village leaders and communities within villages. The appointed health project coordinator/translator had strong academic and employment history in the field of development. This greatly assisted the research process, the work with villages and understanding of communities. The health project coordinator acted as a cultural interpreter for the primary researcher and a strong and positive relationship between the primary research and health project coordinator resulted.

8.4.2 Strengths and limitations of the researchers: Reflexivity

Reflexivity, is where "the researcher should constantly take stock of their actions and their role in the research process, and subject these to the same critical scrutiny as the rest of their "data"" (Mason, 1996 cited in Rice & Ezzy, 1999, pp. 40-41). Therefore researcher limitations and strengths are reviewed. Overall, researchers had a good rapport with people. Village residents welcomed researchers to the village and at times, into homes offering cool drinks and snacks. In Kolak and Amli Villages transportation within the village was provided by community members. A consideration here is however the phenomena of courtesy bias. Courtesy is an important and pervasive quality common to many developing countries and eagerness to invite researchers (especially foreigners) into homes, provide refreshments and even willingly answer questions that in the "Western world" would be considered invasive (for example, questions regarding one's income) could be part of the phenomena which could have affected responses (Jones, 2001, p. 258).

Researchers showed flexibility throughout both stages of the study. Meeting times and days were always arranged in consultation with community members. In Kolak Village, when hesitation was shown about the Photovoice idea, community members were asked if there was any other way they would like to express their concern on the issue. Lines of communication were always open. Banners were supplied by researchers to advertise to the whole village that meetings were to take place. Pre-meeting courtesy reminder phone calls were made to key informants and communities were always listened to. Communication was however observed to be more one-sided, with researchers initiating contact at all stages. Many follow-up phone calls after meetings were made and researchers remained persistent until the final stages, always returning to villages even after no attendance at meetings. Disappointment was never expressed regarding lack of turn out at meetings.

Researchers also remained faithful to the concept of participatory research; people were consulted at all stages of the research and were also revisited to confirm and prioritise issues before finalising results. Standard ethical practice was adhered to at all times. A number of researcher related limitations were recognised. Time required to mobilise communities was severely under estimated. Continuous presence is

required in villages to build trust; this is more difficult with occasional visits. The work-load that resulted from the study was also underestimated. A team of people would be required for the amount of work undertaken however office staff were not in a position to assist due to their own work-loads and inability to converse with primary researcher, who could not speak the local language.

The experience level of the primary researcher has been taken into consideration in this discussion. Being early career, the researcher lacked full comprehension of the challenges of participatory action research. Given that this study was the researcher's first time to conduct research in the developing world, researcher expectations tended to be idealistic. Also, whilst aware of insider-outsider tensions inherent in participatory action research and in the international development field, the extent of this bias was possibly underestimated.

8.4.3   Strengths and limitations of the study

Stage 1 was a particularly strong component of the overall study providing a thorough information base to prepare plans for future action. Solid and tested methodologies, approaches and methods were applied in the study. More than demonstrating common pitfalls in the participatory approaches applied, challenges relating to contextual factors in the study area were highlighted. These provided valuable lessons, and when applied prior to commencing future research, can help predict the potential for action based research to be effective. By emphasising the use of reflective analysis and reflection throughout this study, these contextual factors were able to be separated from those limitations of the applied approaches to research. The results, presented in Chapter 9, have the potential to benefit a broad range of stakeholders involved in applying participatory action research.

Overall, the strength of this study was that it recorded the perceptions of local people regarding problems in their communities. The information provided in this study also provides insight into information that is usually not recorded in literature, or journal articles. Problems or unsuccessful studies are rarely showcased in journals; however as this study demonstrates, more could be learned from contextual complexities than "successfully" implemented studies. This study is not without its limitations. Results

of Stage 1 cannot be generalised to all communities outside the study setting. Only qualitative data collection was collected, when it would have been advantageous to possibly use a mix of both qualitative and quantitative methods and obtain government health statistics. Possibly one of the most obvious limitations of this study is that stage 2 did not reach action stages of the PAR cycle, as intended.

8.4.3.1 Difficulties adhering to ethical requirements

PAR based studies can be more riddled with dilemmas than other forms of research creating "ethical conundrums that emerge throughout the process and are not easily predicted at the onset" (Manzo & Brightbill, 2007, p. 33). In this study, the researchers' presence in the community soon attracted attention from community members. Given that a small number of key informants and focus group participants were interviewed, it was difficult to ensure anonymity and confidentiality to the level expected of academic research. Participants were keen to discuss their communication with other community members and whilst the researchers protected the identity of participants when distributing results, many of the community members already knew who had been interviewed and who had said what. Examples of the ethical challenges experienced were: it was common for interviews to be undertaken outdoors with multiple community members surrounding. If indoors, windows would be open with just as many curious onlookers peering through the windows and doors. One onlooker during a RPA interview started filming the proceedings on their cell phone and was asked to stop. A wide gap was observed between what was expected of the primary researcher in relation to anonymity and confidentiality and what the in-field reality of the situation permitted.

One ethical dilemma of this study mentioned earlier was that projects can engage ordinary people in potentially controversial social action. In these cases, researchers and respective communities must critically assess the benefit to risk ratio of pursuing such controversial action. Participant anonymity cannot be guaranteed in community group work focused on local change. Similarly, when community consultation occurs through mass community meetings, researchers cannot control what information is passed through the community about the proceedings of the meetings. Controversial statements made in such consultations can easily be reported back to the wider

community and those groups whose actions may be at the centre of community problems. Such an example is in Amli Village where no community member was willing to discuss alcohol related problems in the community consultation despite openly sharing concerns about the matter in interviews and focus groups (in safe environments) in Stage 1.

8.5   Chapter summary

This chapter has discussed the key findings of the study and limitations and strengths of the overall study. The chapter brings together the major lessons from this study and provides a basis of information for the creation of a new practical framework of PAR, which will be presented in the following final chapter.

Chapter 9

The PAR framework, Significance of the Study & Recommendations

9.1 Introduction and chapter nine overview

Exploration of the contextual challenges in this study reveals valuable information that can guide future efforts of researchers and practitioners in this field. It is argued, based on experiences of this study that a set of requirements must be in place in order for knowledge to be successfully transformed into action to positively address community problems. These requirements are proposed and outlined in this chapter. Concluding the chapter and this thesis is a review of the significance of the study and recommendations applicable to practitioners, researchers, and the grassroots communities with whom community based organisations, NGOs and development workers work.

9.2 Introduction to a practical framework of PAR

Based on reflection and review of research throughout the duration of the PhD study, the conceptual framework applied in this study, shown in Figure 19 (p.253) was modified and further developed. The result is presented diagrammatically in Figure 21 followed by explanations of each of its major components. Representing the two stages of this study involving assessment of community issues and action-intervention, the framework is proposed as an effective practical guide for participatory action researchers engaged in the collaborate PAR process of research, education and action. The proposed framework aims to guide researchers and practitioners working with communities to produce knowledge and action whilst empowering communities by constructing and using their own knowledge to emancipate them from their situations – the goal of PAR.
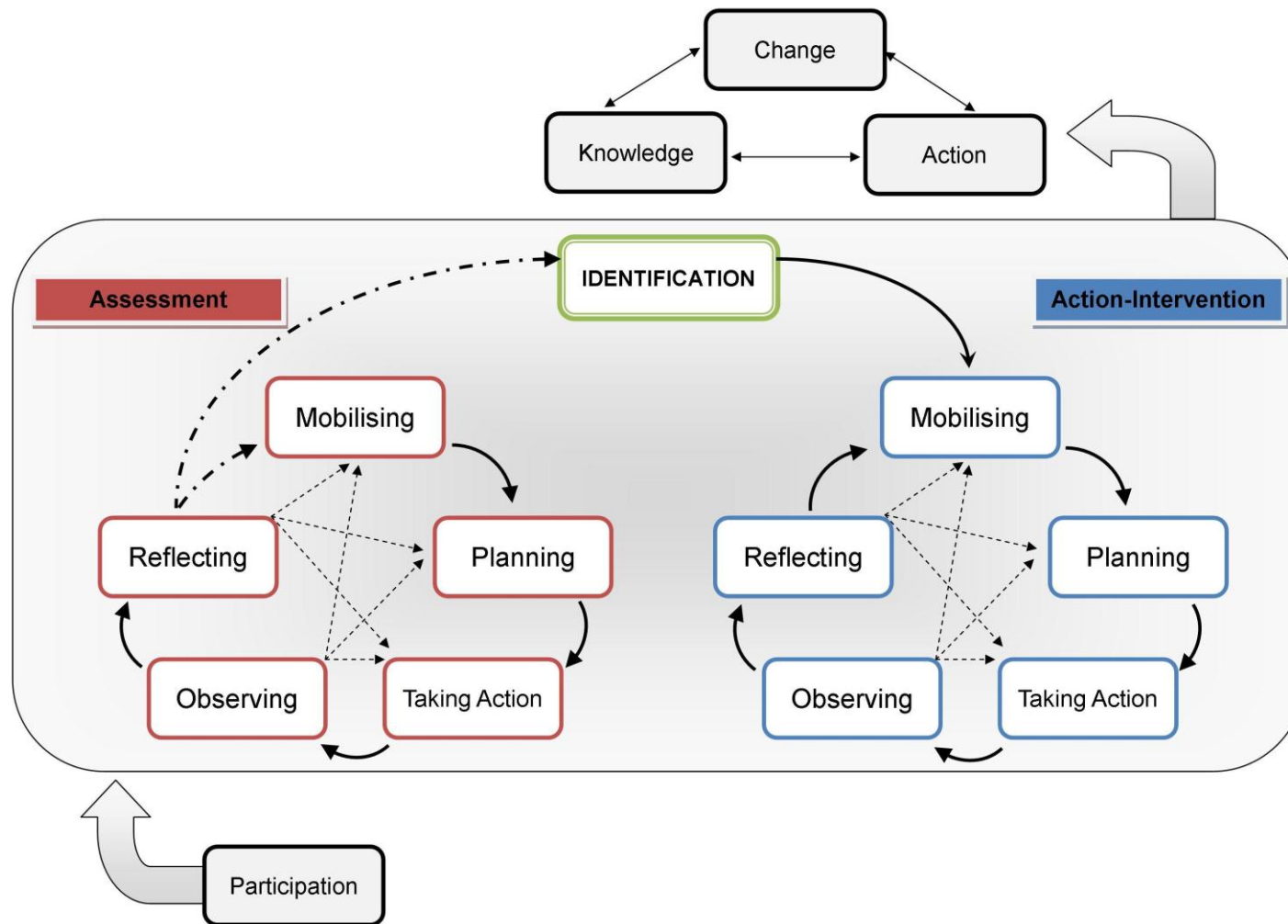
Figure 21. From Assessment to Action-Intervention: A practical approach to participatory action research.

9.2.1 The guiding PAR methodology and process

In the published literature, the ideology of PAR is often discussed rather than a description of what actually happens in the field (Rice & Ezzy, 1999, p. 178). PAR is a methodology and is context specific, meaning that participatory approaches to research with their own set of methods can be chosen and applied to the specific context of the study. It is possible to describe "what actually happens" during these participatory approaches overlaid into this framework rather than PAR itself. This PAR framework guides the researcher through the process of knowledge and action generation fostering constant reflection throughout the process.

According to the principles for implementing PAR in community research, "the problem originates in the community/organisation itself and is defined, analysed, and solved by the participants" (Balcazar et al., 2004, pp. 22-24). This reinforces the two main stages of the PAR framework: identifying the problem and addressing it with action. Amongst some of the benefits of this methodology is that the deliberative nature of PAR enables researchers and communities to understand and transform practices in which they participate and the situations in which they find themselves through critical and self-critical action and reflection. It should be noted that in recognition of the iterative nature of PAR, the entire process outlined in Figure 21 is intended to be repeated as many times as it takes to achieve desired results as mutually defined and agreed upon by the organisation and community. Further cycles will allow for evaluation of changes.

9.2.2 Framework structure

9.2.2.1 Stage 1, Assessment

In order to commence action to address an issue, situation or improve the well-being of communities, first a topic must be identified that may be initiated by either/both the community or the organisation/researcher/practitioner. It is recommended that the assessment stage be undertaken regardless of how the topic is identified. This stage provides an opportunity to further explore the complexities of the topic at hand, determine if the topic is a priority for the community, and promotes understanding in preparation for Stage 2.

In the revised framework, Stage 1 is labelled "Assessment". The phrase "health needs" was not used because a health needs assessment is only one approach to knowledge generation. Researchers need to be aware of the alternatives to needs assessment and apply an approach which suits the study context. If a needs assessment approach is taken, researchers should be mindful that it is not the role of the researcher to prescribe needs for the community, rather provide an assessment of community problems. The transition from problem to solution and needs identification should occur with communities and as a commencement point for action-intervention. This involves considerable exploration of the community identified problem and dialogue of whether the community wishes to work towards improving and resolving the problem. The commencement point of the first PAR self-reflective cycle is mobilising. Whilst mobilising is not an original feature on the PAR cycles the author has identified its importance as a commencement point for each cycle of the process. Without first mobilising research partners, participants and resources, the study or programme cannot commence.

Once mobilisation has been achieved, the study progresses to the planning and taking action phases. Observation and reflection occurs at all phases, as represented by the arrows linking all phases of the cycles. In reality, after mobilising, the activity at each phase of the cycle may not necessarily occur in order as the diagram suggests and it is possible the phases may overlap and occur simultaneously. Another point to note is the dotted arrows from the reflecting phase; one returning to mobilising and the other progressing to Identification: the link between the two stages. This is to remind researchers/practioners that assessment is a fluid stage and its repetition can be beneficial to continual knowledge generation. The dotted arrow to identification indicates that quality information was generated from the assessment stage, with which action-interventions can be initiated.

9.2.2.2 Identification

The process of confirming and prioritising results of the RPA with communities was found to be an important process in validating results of Stage 1. It served as an effective link between the two stages of the study and its importance in the knowledge to action process should be represented accordingly. "Identification"

breaks the two stages between cycles. This is given its own label to remind researchers to take time to return to participants of Stage 1, to confirm and prioritise results and share results with the communities. The results of this process will influence Stage 2 of the study. Dialogue generated during this process is necessary to explore problems and can often result in idea generation of what action could be taken to address the problems. This process validates researcher analysed results ensuring identified issues are locally defined and prioritised. Involving communities in this process is beneficial, as it supports collaboration and allows insights into how communities perceive their local problems.

In the applied frameworks in this study (Figure 19), this linking phase was labelled "Diagnosis". The change of title to "Identification" removes negative connotation with the word diagnosis that may imply the identification of the nature of a problem by examination of the symptoms. Not all assessments will identify problems needing such diagnosis. The label "Identification" was therefore felt to be better suited and could be a good stage to ask communities what strengths and assets they have to act and work towards change.

9.2.2.3   Stage 2, Action-Intervention

With community problems or assets identified (depending on the approach taken), Stage 2, Action-Intervention can commence. Action-*Intervention* rather than solely action was chosen as a label for this stage as "intervention" is terminology used in practice in the field and will appeal to practitioners as well as researchers. For the same reasons as Stage 1, Stage 2 commences with mobilising. It is then a continual process of mobilising, planning and taking action accompanied by reflecting and observing and is intended to be constantly repeated incorporating what was learned during each cycle into the next. In this case, CBPR was chosen as the most appropriate participatory approach to implement action. CBPR begins with a research topic of importance to the community – identified in Stage 1 and has been shown to be well suited to research aimed at reducing health disparities.

9.2.2.4   Inputs and outputs of the practical framework

9.2.2.4.1   Participation as a mandatory input

Whilst there are many expected inputs of PAR, a study without participation is not PAR; thus its importance is highlighted as a mandatory input to the process. PAR may start with small groups of collaborators but widens so that it gradually includes more and more of those involved and affected by the practices in question. Researcher-community partnership renders results more accessible, accountable, and relevant to people's lives (Israel et al., 1998). Through active engagement, individuals and communities may become more empowered and better equipped to make sustainable personal and social change (Wallerstein & Duran, 2003).

9.2.2.4.2   Inputs and outputs expected for the researcher

Researchers and practitioners are expected to display cultural awareness and sensitivity, equity, flexibility, transparency and openness throughout the study. They should also be prepared to exert an unknown amount of time (although it is acknowledged that this can be constrained by several limiting factors such as funding, timelines and contextual realities) and energy. Complexities in the field can bring about unexpected hurdles affecting time taken to conduct research. Expectations should be aligned with all major stakeholders including the communities. Most importantly, in the words of Wallerstein (1999) "Only through engaging in open dialogue about the inequities and hidden nature of power, can the relationship [between researchers and communities] become reciprocal and ultimately transformed" (p. 49)

9.2.2.4.3   Inputs and outputs expected for the community

Participation on the part of communities also requires a level of time and energy on their behalf. Again, stressing the importance of aligning expectations of the research, communities should have a good understanding of what is expected in the research and their own role in the PAR - as much as possible given the difficulties of effectively describing what a PAR study might involve in the outset. Communities should also be prepared to share local knowledge and understand the rewards and benefits for all stakeholders by doing so.

9.2.2.4.4 Knowledge, action and change as major outputs

Ideally, the goal of the completed cycles of PAR is change; however change is not the only expected output of this proposed practical approach to PAR. Figure 22, abstracted from Figure 21 represents the relationship between knowledge, action and change. All three elements can be an outcome of the entire PAR process however the main expected outcome of Stage 1 is to generate knowledge through the application of a chosen participatory approach (in this study, RPA). With this knowledge as a basis, the participatory approach to research applied in Stage 2 (in this study, CBPR) would work to transform this knowledge into action. Action, followed by change would be a specific expected output of Stage 2, action-intervention undertaken to address the community problems. Change would again inform knowledge and action.
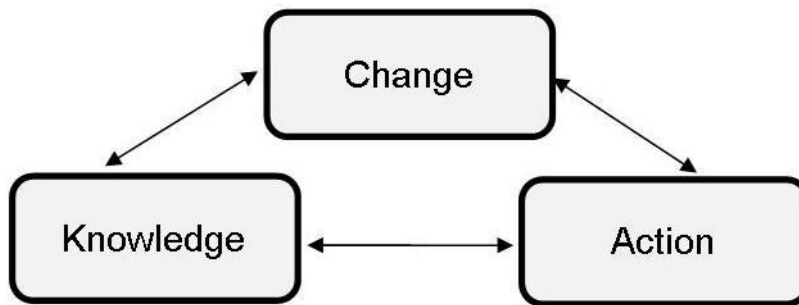
Figure 22. The knowledge, action, change relationship.

The relationship between the three elements flows in both directions and is reciprocal. Change informs action, which informs knowledge, continuing the cyclic relationship between the three elements.

9.2.2.4.5 Additional outputs

Apart from knowledge, action and change, the process can generate valuable information, awareness and partnerships. Increased capacity and development of the researcher may result from the learning process. Other benefits may include, joint reports, possibility for further funding, capacity building of in-country researchers, awareness of developing world limitations and a chance for communities to share their stories and voices. Reward, or benefit to the community can be expected from this PAR. This benefit should be balanced with those gains to the researcher/organisation and should also be balanced with the level of risk involved in

participating in the study. Joint ownership of the study as well as empowerment of communities should be fostered. Trust can be earned from communities and the process can build awareness amongst communities in addition to knowledge, action and change.

9.3   Factors affecting the transformation of knowledge to action

The iterative nature of the methodology employed in this study encouraged a reflective thought process which benefited the research, including this following discussion. Initially, the reasons why Stage 2: Action-Intervention was not able to complete a full cycle of the PAR were individually scrutinised. For example, the scope of the problems at hand was viewed as one possible reason why the PAR cycle was restricted. So too was the insufficient amount of time and budget; lack of support from village leaders; and the numerous difficulties of gaining meaningful participation amongst community members. Deeper reflection revealed that no singular element caused the challenges of transforming knowledge to action. By asking "what factors would have to change for this fault to no longer be a fault", it was clearer to see that what eventuated from this study is the result of a myriad of interrelated factors impacting the transformation of knowledge to action. The subsequent section will investigate these factors.

9.3.1   Reviewing the knowledge, action, change relationship

Stage 1 of this study generated knowledge of community problems, through the application of the RPA. With this knowledge as a basis, the participatory approach to research (CBPR) applied in Stage 2 would work to transform this knowledge into action. The process under investigation in this discussion is the bolded arrow on Figure 23 flowing from knowledge to action. Figure 23 also proposes that a number of factors categorised as environmental, community, organisational, and practitioner/researcher factors outside the selection of a participatory approach will affect the transfer of knowledge into action.
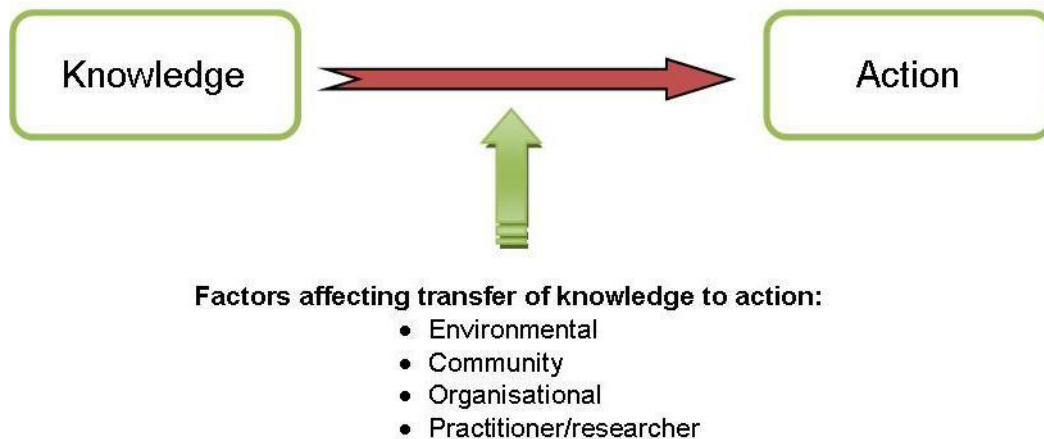
Figure 23. The knowledge to action process and factors affecting its transfer.

Each of these factors affecting the transformation of knowledge to action will subsequently be explored in more detail. It is suggested that when each of these factors is met, resulting action will be more likely. Investigating these factors prior to commencing an action-intervention using participatory approaches such as CBPR can add value to post-needs assessment feasibility studies such as that recommended by Annett and Rifkin (1995, p. 20).

9.3.2 Environmental factors

Absence of risk is a major factor to be met if knowledge is to be transformed into action with the participation of the community. It is a general principle of responsible research that "researchers must comply with ethical principles of integrity, respect for persons, justice and beneficence" (Australian Government, 2007). The root intention of beneficence in research was so that "persons are treated in an ethical manner not only by respecting their decisions and protecting them from harm, but also by making efforts to secure their well-being" (United States Government, 1978, p. 6). It is therefore a responsibility of the practitioner/researcher to assess the research environment and ensure that individuals and their communities are not put at risk by participating in a project to act on a problem in their community. Given that it is not easy to specify explicitly what involvement in the research will mean for the participant due to the nature of action research, which allows the project to evolve as the research progresses (Holkup et al., 2004, p. 166), a risk assessment should be undertaken in the field as a situation evolves. Childress (2006, p. 81) suggests to look beyond *distal benefits*: those resulting from the ultimate knowledge

308

gained and shared through publication to consider *proximal benefits*: those that the participants and their community, and the researcher and the institution, receive during the conduct of the work.

Risk has multiple meanings and can be actual physical harm that will result by a participant's or community's participation; it can also be in the form of repercussions of not being able to fulfil daily duties as a result of investing time into participating in an action-intervention. Both these risks were experienced in this study. In an environment of entrenched inequalities and oppressive political situations, such as that of the study setting, the reality of risk is intensified, reinforcing the need to assess risk. The type of problem can also increase risk for participants such as the political nature of alcohol and pollution related problems in this study. The effectiveness of this assessment can be enhanced by involving participants in the process to gain a full understanding of what risk means to participants. Knowing the risks to participants prior to commencing a PAR will give the researcher a chance to reduce risk and give the study a better chance of transforming knowledge of community problems into action to address these problems.

9.3.3 Organisational factors

Most times, an organisation or educational body will initiate a PAR, but at times, the PAR is community-initiated. The following factors should be met regardless of whether the PAR is community or investigator-initiated. Few established guidelines enumerate the core competencies for organisations and individuals to successfully conduct CBPR (Faridi et al., 2007), however some core competencies are offered here. Capacity and resources are intrinsically linked. Without capacity, resources may be misguided and without resources, capacity is handicapped. Resources include both monetary and human manpower input to address issues raised in the needs assessment. As a prerequisite, the lead organisation or community body must have the ability and competence to work on the issues identified by a needs assessment. Trust of participants is another prerequisite as participating in PAR can potentially expose personal and community deficiencies and other sensitive information. For participants to engage in meaningful dialogue about information about such issues, they must be able to trust those they are sharing the information with.

9.3.4 Community factors

9.3.4.1 Engaged and motivated for change

The community must already be engaged with the agent of change. This may be the NGO or researcher. Participation cannot be expected if the people are disengaged or hesitant, as appeared to be the case sometimes during the conduct of the study. In a situation of chronic poverty and disempowerment the mere desire for change may be insufficient. This desire can often be triggered by urgent imperatives such as a catastrophic illness, or some other acute, destabilising event in their lives, or a chronic condition or situation that has built up to an unbearable level. Whilst people may be aware of the issues surrounding them and have desire for them to change, until a trigger of sorts increases the motivation levels to act on their issue, action-interventions may be difficult to bring about. Timing of an action-intervention is thus very important.

This factor then highlights the importance of timing of the PAR. Also related to timing, as experienced in this study is the time of year chosen to conduct the PAR. Rural communities, such as those in Gujarat State, India have numerous obligations that will override their ability to participate in an action-intervention. These include rice harvesting, religious ceremonies, and celebrations such as Diwali Festival. Time must be factored into studies for events such as these, as should the season at the time of the study. Conducting a study during monsoon season for example may present difficulties. Motivation to participate in activity may be reduced if priority of the problem is perceived as lower than personal, community and societal priorities.

9.3.4.2 Other cultural/ contextual factors

The varying cultural norms and contextual factors must be considered before the commencement of the study. In India for example, the necessity of gaining the approval and support of the Sarpanch and other persons of power within the villages delayed and hindered action in Saran and Amli Villages. The importance of having the support of village leaders and community elders is vital. There are many cultural norms that are practically unknown in developed countries (and also between cultural groups within a country) that need to be taken into consideration when working in

communities in developing countries. Ignoring or being ignorant to these could effectively stymie efforts at social change.

9.3.5   Factors relating to PAR practitioners

The final factors for discussion are those relating to the practitioner/researcher of PAR. Literature and the key informants interviewed in this study state that it takes a certain persona to work with communities to act for change. It requires motivation, devotion, persistence, positivity and a strong passion for social justice and addressing inequities. Power imbalances between the researcher and participant and the resulting effect are also well documented. Any PAR study must be flexible to the amount of time taken to see desired results. The practitioner must have this time commitment and not be bound by funding rounds, academic deadlines, etc. Time frames in this study were tight as the researcher was on an academic timeframe and scholarship that is only funded for a specific duration – however this was not accommodative to the nature of participatory research.

9.4   Recommendations

9.4.1   Recommendations to address the results of the rapid participatory appraisal

Ten recommendations were presented in Chapter 8 at the conclusion of the reflective critique of the RPA. These recommendations are also applicable to other participatory approaches to research that may be chosen and applied in Stage 1 of the PAR framework to assess health issues. In addition to these recommendations, a set of recommendation to address the health problems revealed in Stage 1 have been formulated. The results of the RPA showed health problems in the study area not dissimilar to the broader Indian population and global trends in low and middle income countries. Making recommendations to improve such large scale, wide spread entrenched problems presents a challenging task.

If sustainable solutions existed to solve the range of problems present in the study villages, many of the strategies would be in place already and development indicators would show substantial improvement. The reality is these are highly complex issues that require highly complex recommendations to be formed and effectively

implemented. Such recommendation that may effectively solve developing world issues extends beyond the scope of this thesis. The proposed recommendations offer a perspective based on observation of the local communities in the study setting, results of the rapid participatory appraisal and researcher interpretation of issues.

9.4.1.1 Environmental pollution

Environmental pollution in the study area is of major concern and requires strategies to address the claims from villages that pollution is causing adverse health effects for their populations. Further research is necessary to substantiate the anecdotal claims of adverse health problems in the villages with particular focus on Kolak Village and the waterways into which water is expelled. Lack of health records, and records spread over a number of private health practitioners from neighbouring towns will however make this difficult.

Independent research to determine the extent of the effect of industry on the local environment is required. This should involve river slurry sampling, particularly when water discolouration is observed, determining the cause of fish deaths in Kolak River, and testing the quality of drinking water from the village wells. The research must be carried out by a trusted and qualified environmental researcher who would provide both a technical and community report.

9.4.1.2 Alcohol related problems

Epidemiological and anthropological investigations into alcoholism in this region, as well as in the State of Gujarat would be beneficial. Also, an evaluation of the effectiveness of alcohol prohibition is required. It is evident that locally, in the study setting, alcohol related issues are wide spread. Given the fear for repercussion of being involved in any alcohol related intervention, community participation may be very difficult. Health promotion education regarding safe drinking and also illegal manufacturing is however required to avoid further detrimental health and social effects. If local communities were educated on what makes illegal brew poisonous, they may be deterred from consuming it and from using those ingredients that make the brew lethal.

9.4.1.3 Road traffic safety

A solution to the road traffic safety issue in Orward Village has already been passed. It must be ensured though that the anticipated overpass on the identified black spot is completed; and when installed, used effectively by the communities. Traffic safety education and raising awareness of the impact accidents have on family and quality of life may help encourage safer road safety choices of individuals and policy makers.

9.4.1.4 Health service provision, acceptability and accessibility and disparity in the study setting

Preference for private health care amongst lower socioeconomic groups in India has evolved from a public health care system that fails to meet the needs of the population. Infrastructure and human resources to meet the needs of an enormous and ever growing population are however insufficient; largely due to the low government expenditure on public health. This process though, of villagers utilising the service of village level private health practitioners that offer low cost services, whilst not preferable, appears to be working. Those people, however, who are at the lowest of the socioeconomic ladder, are at greatest disadvantage as they rely on free services provided by the government.

Programs, such as Chiranjeevi Yojana that harnesses the existing private sector and encourages it to provide delivery and emergency obstetric care at no cost to families living below the poverty line, should be continued and opportunities for expansion of services could be considered.

When these services fail to work, already disadvantaged people suffer disproportionately more. A system to target those most at need (which would involve the extremely challenging task of solving corruption issues within the BPL system) is required. A working identification system of people in severe poverty would help ensure those people who services were meant to provide for, receive them. This would ensure that programs, such as installation of toilets and the PDS reach intended recipients.

It is recommended that a needs assessment to be undertaken in the study setting on regular intervals, such as every few years to keep abreast of the changing health concerns of the communities. An approach suitable to the organisation undertaking the assessment should be considered with the ten recommendations provided in Chapter 8, p.279.

9.4.2 Recommendations to increase effectiveness of generating knowledge and transforming this knowledge into meaningful action

The recommendations in the following section aim to increase chances of effectively generating knowledge and transforming this knowledge into meaningful action with the participation of community. Given the interrelationship between knowledge, action and change as demonstrated in Figure 22, strengthening both knowledge and action will increase chances of creating change in communities.

9.4.2.1 Pre-research
9.4.2.1.1 Align research with expectations

Organisations and researchers must decide before they commence whether their capacity is aligned to what is expected of PAR. The demands of participatory approaches to research such as CBPR on both parties, not to mention the community, are intense and can result in problems when the capacity of the organisation does not match these demands. Expectations should also be shared with communities and also aligned with their expectations and desires of the research. The critical question to be asked is: Is this research desired in the community?

9.4.2.2 Throughout the research study
9.4.2.2.1 Decide on the level of community participation according to the study context

In a community that is unfamiliar with participatory approaches to action, less expectation on behalf of community participation may be required. Some communities may need to be eased into the concept, to get them ready for action and to take the lead. Their ability to participate should however never be underestimated.

As researchers and organisations, strong allies within the community must exist from commencement of a study and time should be taken to build these relationships.

9.4.2.2.2 *Apply the factors affecting transformation of knowledge to action checklist*

The factors affecting transformation of knowledge to action (shown in Figure 23, p. 308), and essentially the success or failure of an intervention (in terms of ability to influence positive change), are recommended to be applied as a checklist before commencing an action-intervention study, for example, before implementing CBPR. This checklist of whether requirements are met can be integrated into feasibility tests in addition to what is proposed, for example by Annett & Rifkin (1995, p. 20) at the conclusion of the RPA. This will give researchers an indication of factors requiring amendment to meet the set requirements, and given the current situation, the chances of transforming knowledge to action. Further research investigating the impact of these factors on action and change efforts is required; the findings could reveal important considerations for future efforts of PAR.

9.4.2.2.3 *Reflexivity, instinct, transparency and flexibility*

Flexibility and reflexivity is important; researchers need the ability to change the course of the research when required – as experienced in this study. This requires time and ethical review processes that foster this approach. Work in communities should not be dictated by a set procedure. We must be prepared to abandon our plans in favour of the main goal of the research – that is improving the wellbeing and lives of communities. Instinct and common sense of knowing what will and what will not benefit communities should guide research. If an approach is not working, we need to have the ability to recognise it. As practitioners in the field, our inevitable power imbalance should be recognised. "If we, as researchers/evaluators, are interested in activist-oriented research and community empowerment, then we need to understand our personal biographies of race, educational or social status, gender and other identities; how these characteristics inform our ability to speak and interpret the world and how they inform power dynamics within the research relationship itself" (Wallerstein, 1999, p. 49).

9.4.2.3 Post research

9.4.2.3.1 Evaluative measures

As revealed in the key informant interviews, change can potentially take a generation to achieve when cultural and social practices adversely affecting health are embedded in society. It is therefore recommended to evaluate a PAR on the main applied elements of the framework – as presented in the practical PAR framework in Figure 21. Participation, as a main input can be measured according to the context of the study; this should be evaluated alongside the level of output the two stages of the cycle achieves. Viewing knowledge, action and change as an interrelated reciprocal process, level of knowledge and action, being determinants of change would serve as a more suitable measure of PAR rather than the resulting change itself.

9.5 Significance of the study

9.5.1 To the community and CRD

This study has brought a number of benefits to the local communities and to the CRD. Involving the local communities and the CRD in the research process to identify problems of communities has helped strengthen the principle of equity and given a sense of empowerment to the community who had never before been asked about their village's needs. Acknowledging that change is difficult to measure, and it is difficult to determine a catalyst, RPA has the potential to encourage and facilitate change during and after the assessment process. Proximal benefits, those that accrue during (and because of) the investigator's presence as well as distal benefits related to the contribution to knowledge should be considered (Childress, 2006, p. 79). In Saran village for example, in the space of time between Stage 1 and Stage 2, toilet facilities, the lack of which was identified as a problem for the community, was installed. It is reasonable to speculate that the discussion of the problem may have helped instigate action.

Better awareness of the role of the CRD amongst village participants resulted from the PAR, as well as better access for local people to services offered by CRD. With detailed knowledge of the local area and community, the CRD can now develop and provide tailored need-based interventions. The research has contributed to capacity building of the local CRD team through their involvement in all stages of the

research; seeking their expert advice and piloting the interviewer's schedule, accompanying to villages for data collection and overall involvement in a formal research process.

9.5.2 To practitioners and to 'scientific knowledge'

This study has made a contribution to the knowledge base of international health and development praxis. The practical framework of PAR tested, amended and introduced in this chapter adopts elements from theory and practice. The practical framework proposed in this chapter guides researchers through the process. Concepts are simple and researchers are encouraged to apply participatory approaches to research relevant to the context of the study whilst utilising the PAR self reflective cycles. The introduced framework supports a translational research paradigm.

9.5.3 For the researcher

The learning experience gained working with tribal/indigenous communities in a complex and unique setting of tribalism, casteism and conflict with government-corporate complexes has been immense and cannot fully be described in a few short paragraphs. As an early career researcher, this challenging study has provided valuable knowledge, some of which are outlined below:

- Understanding the complexities of working with communities and the potential consequences of the researcher's role on people's lives.
- Even the best intentions could have the ability to negatively affect lives.
- Learning how to admit to researcher and research limitations and how these sometimes contribute more to understanding of the field than successful examples.
- Understanding that continual learning and reflecting in the field is required.
- Instilling a desire to do more in the PAR field and in development work

Exploring the contextual complexities experienced in this study as well as how identified problems correlate with the broader struggles of disadvantaged communities in LMICs around the world was a constant reminder about how far the reality was from the ideals of equality and how little is known about ways to improve health situations for the world's most vulnerable. At times this created a

disillusioning anxiety that efforts, although having the best intentions, may be fruitless. On the other hand however, walking away from this PhD with the attitude of knowing only a little rather than everything about PAR and how to improve wellbeing of communities only builds inspiration to learn and understand more. In reflection of one of the key informant interviews with a woman who has dedicated her life to one rural community in India: *it may take a lifetime to see change.* That change may never even be seen in this lifetime but every little effort made along the way will accumulate, more knowledge and action will be gained and it is only inevitable that we will get the formula right and meaningful change will eventually result.

9.6   Conclusion

The purpose of this research study commenced as a 'simple' application of an approach to rapid health needs assessment to fulfil a requirement of a grassroots organisation in Pardi Taluka, Valsad District of Gujarat State in India. Utilising the PAR methodology principles and cyclic framework, the study framework was designed and simplified, in terms of practicality, and tested in this study. The RPA approach applied in Stage 1 of the study was critiqued in Chapter 8 and results of the RPA were shown to correlate with trends occurring in the wider Indian population and in some LMICs. CBPR was undertaken in Stage 2 of the study to address these issues and the subsequent challenges that arose opened a new element to the study – a pursuit to gain further understanding of why these complications and challenges exist. Local key informants were interviewed and their voices and narratives highlighted contextual field contraints, realities and successes.

Readdressing the modified PAR framework post-study, minor changes were made which were presented in the final chapter of this thesis. This new framework evolves the existing PAR cycles into a practical approach that can be applied in academic as well as practice based research and community development work. It allows for flexibility and is not derived from a set of preconceived objectives. It allows researchers and their communities to select approaches to research that will match the expectations, capacities and context of the study setting. In the discussion of this new framework, an important finding is highlighted. Choice of participatory

approach to research, such as RPA and CBPR, are not the only considerations that influence whether action to address community problems will result in communities participating in taking action. Contextual factors related to the environment, community, researcher and organisation have the ability to impact efforts for action, and therefore change, despite the methodological strength of applied research approaches. However, further research to test this supposition and hypothesis is required; the findings could result in a shift in approach to community development that focuses more on developing and addressing the contextual factors in a study setting to increase chances of transforming knowledge to action, rather than perfecting applied methodologies and approaches to research. It is known that participatory action and community based research is difficult and has ethical and practical dilemmas that can effectively affect the success of well intended efforts. Thus there needs to be a focus on the ethical and practical dilemmas faced in the field, as well as research studies that have not been '*successful*'.

Finally, the PAR model offers hope to communities and practitioners that it is possible to build a better world through dialogue, knowledge generation and action. It is acknowledged that there are gaps in our knowledge but by respecting and listening to the voices of the marginalised we can learn together, set realistic goals and formulate plans that respect cultural safety. We need to include in the participatory model, the space and capacity to generate political will to empower voiceless communities. As practitioners and researchers we need to ask and reflect: "*Why didn't this study work? What are we doing wrong? Can we mobilise and empower marginalised communities to initiate change? What would be the result in rural India if the poor and marginalised set the development agenda incorporating cultural respect and community consultation?*" The uncertainty generated by these questions may lead to the cautious use of PAR and CBPR approaches. Answers to these questions may be more useful to future efforts in PAR and community development and can lead to the development of holistic and inclusive strategies that improve the health and well-being of those most in need.

References

Agarwal, B., Rao, S. L., Dreze, J., & Uberoi, P. (2000). *The family in public policy: fallacious assumptions and gender implications*. New Delhi: National Council of Applied Economic Research.

Alkire, S., Roche, J. M., Santos, M. E., & Seth, S. (2011). *Oxford poverty and human development initiative (OPHI): Country briefing, India*. Oxford: Oxford Department of International Development. Retrieved from OPHI: http://www.ophi.org.uk/wp-content/uploads/India.pdf?cda6c1

Alkire, S., & Santos, M. E. (2010). *Multidimensional poverty index*. Oxford: Department of International Development University of Oxford. Retrieved from Oxford Poverty and Human Development Initiative: http://www.ophi.org.uk/wp-content/uploads/OPHI-MPI-Brief.pdf

Anada-Sahitya-Prakashan. (n.d.). *A.S.P. travel Gujarat series: Discover Gujarat guide to Valsad District [map]*. Ahmedabad, India: Gujarat Offset Pvt. Ltd.

Annett, H., & Rifkin, S. (1995). *Guidelines for rapid participatory appraisals to assess community health needs. A focus on health improvements for low-income urban and rural areas*. Geneva: World Health Organisation, Division of Strengthening of Health Services Retrieved from http://whqlibdoc.who.int/hq/1995/WHO_SHS_DHS_95.8.pdf

Asian Development Bank. (2008). *Key indicators for Asia and the Pacific 2008 39th edition*. Manila: Asian Development Bank.

Asian Development Bank. (2009). *India's sanitation for all: how to make it happen*. Manila: Asian Development Bank.

Australian Government. (2007). *Australian code for the responsible conduct of research*. Retrieved from National Health and Medical Research Council, the Australian Research Council and Universities Australia: http://www.nhmrc.gov.au/_files_nhmrc/publications/attachments/r39.pdf.

Avis, M. (2005). Starting out. In I. Holloway (Ed.), *Qualitative research in health care.* (pp. 1-16). Berkshire, England: Open Univerity Press.

Babbie, E. R. (2001). *The practice of social research* (9th ed.). Belmont, CA: Wadsworth Thomson Learning.

Bacchetta, P. (2010). The (failed) production of Hindu nationalized space in Ahmedabad, Gujarat. *Gender, Place and Culture, 17*(5), 551-572. doi:10.1080/0966369X.2010.503102

Bacon, C., Mendez, E., & Brown, M. (2005). *Participatory action research and support for community development and conservation: examples from shade coffee landscapes in Nicaragua and El Salvador*. University of California: Santa Cruz. Retrieved from http://www.escholarship.org/uc/item/1qv2r5d8

Bahree, M. (2010). The forever war: inside India's Maoist conflict. *World Policy Journal, 27*(2), 83-89. doi:10.1162/wopj.2010.27.2.83

Balarajan, Y., Selvaraj, S., & Subramanian, S. V. (2011). Health care and equity in India. *The Lancet, 377*(9754), 505-515. doi:10.1016/S0140-6736(10)61894-6

Balcazar, F. E., Taylor, R. R., Kielhofner, G. W., Tamley, K., Benziger, T., Carlin, N., et al. (2004). Participatory action research: general principles and a study with a chronic health condition. In L. Jason, C. Keys, Y. Suarez-Balcazar, R. R. Taylor & M. I. Davis (Eds.), *Participatory community research : theories and methods in action.* (1st ed., pp. 17-35). Washington, DC: American Psychological Association.

Baru, R., Acharya, A., Acharya, S., Kumar, A. K. S., & Nagaraj, K. (2010). Inequities in access to health services in India: caste, class and region. *Economic & Political Weekly, 45*(38). Retrieved from http://environmentportal.in/files/Inequities%20in%20access%20to%20health%20services.pdf

Bauer, A., Hasan, R., Magsombol, R., & Wan, G. (2008). *The World Bank's new poverty data: implications for the Asian Development Bank*. Manila: Asian Development Bank. Retrieved from http://www.adb.org/Documents/Presentations/New-Poverty-Estimates/Poverty-Data-Implications.pdf

Baum, F., MacDougall, C., & Smith, D. (2006). Participatory action research. *Journal of Epidemiology and Community Health, 60*(10), 854. doi:10.1136/jech.2004.028662

Bender, D., Harbour, C., Thorp, J., & Morris, P. (2001). Tell me what you mean by ''Si'': perceptions of quality of prenatal care among immigrant Latina women. *Qualitative Health Research, 11*(6), 780-794. doi:10.1177/104973230101100607

Besley, T., Pande, R., & Rao, V. (2005). Participatory democracy in action: survey evidence from South India. *Journal of the European Economic Association, 3*(2-3), 648-657. doi:10.1162/jeea.2005.3.2-3.648

Bhasin, S. K. (2009). New poverty line and growth chart bring forth sharp inequalities in the Indian population. *Indian Journal of Community Medicine: Official Publication of Indian Association of Preventive & Social Medicine, 34*(3), 171-172. doi:10.4103/0970-0218.55266

Bhat, R., Mavalankar, D. V., Singh, P. V., & Singh, N. (2009). Maternal healthcare financing: Gujarat's Chiranjeevi Scheme and its beneficiaries. *Journal of Health, Population, and Nutrition, 27*(2), 249. Retrieved from http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2761781/pdf/jhpn0027-0249.pdf

Bhatt, H. (2011, 14 April). Dead fish found on banks of Kolak river. *The Times of India*. Retrieved from http://articles.timesofindia.indiatimes.com/2011-04-14/surat/29417044_1_dead-fish-solid-waste-polluted-water

Bhatt, H. (2011, 17 February). Closure notices to 46 units in Vapi, Sarigam in 2 months. *The Times of India*. Retrieved from http://timesofindia.indiatimes.com/city/surat/Closure-notices-to-46-units-in-Vapi-Sarigam-in-2-months/articleshow/7517759.cms

Bhatt, H. (2011, 30 March). Closure notices to 22 units in Vapi, Sarigam. *The Times of India*. Retrieved from http://timesofindia.indiatimes.com/city/surat/Closure-notices-to-22-units-in-Vapi-Sarigam/articleshow/7828465.cms

Birbili, M. (2000). Translating from one language to another. *Social Research Update, 31*. Retrieved from http://sru.soc.surrey.ac.uk/SRU31.html

Booth, T., & Booth, W. (2003). In the frame: Photovoice and mothers with learning difficulties. *Disability & Society, 18*(4), 431-442. doi:10.1080/0968759032000080986

Bradshaw, J. (1972). A taxonomy of social need. In G. McLachlan (Ed.), *Problems and progress in medical care: essays on current research.* London: Oxford University Press.

Bradshaw, J., & Finch, N. (2001). *Core Poverty*. Paper presented at the Centre for the Analysis of Social Exclusion LSE, London. http://www.bris.ac.uk/poverty/pse/conf_pap/lse01_jrb.pdf

Brown, C., Lloyd, S., & Murray, S. (2006). Using consecutive rapid participatory appraisal studies to assess, facilitate and evaluate health and social change in community settings. *BMC Public Health [NLM - MEDLINE], 6*, 68. doi:10.1186/1471-2458-6-68

Brown, L., & Tandon, R. (1983). Ideology and political economy in inquiry: action research and participatory research. *Journal of Applied Behavioral Science, 19*(3), 277-294. doi:10.1177/002188638301900306

BS Reporter. (2006, 9 October). Court slaps fine on Greenpeace *Business Standard*. Retrieved from http://www.business-standard.com/india/news/court-slaps-finegreenpeace/261041/

Buchanan, D. R., Miller, F. G., & Wallerstein, N. (2007). Ethical issues in community-based participatory research: Balancing rigorous research with community participation in community intervention studies. *Progress in Community Health Partnerships: Research, Education, and Action, 1*(2), 153-160. doi:10.1353/cpr.2007.0006

Cahill, C. (2007). Participatory data analysis In S. Kindon, R. Pain & M. Kesby (Eds.), *Participatory action research approaches and methods: Connecting people, participation and place.* (pp. 181-187). New York: Routledge.

Capgemini & Merrill Lynch Wealth Management. (2011). *World Wealth Report 2011*. Retrieved from http://www.ml.com/media/114235.pdf

Castleden, H., Garvin, T., & Nation, H. (2008). Modifying Photovoice for community-based participatory Indigenous research. *Social Science & Medicine, 66*(6), 1393-1405. doi:10.1016/j.socscimed.2007.11.030

CC-by-sa PlaneMad/Wikipedia (2008). Locator map of the state of Gujarat, India with district boundaries. In India Gujarat locator map.svg (Ed.),Vol. 927x1024 pixels: (Wikipedia, the free encyclopedia).

Center for Human Rights and Global Justice. (2007). *India hidden apartheid*. Retrieved from www.chrgj.org/docs/IndiaCERDShadowReport.pdf

Chambers, R. (1992). *Rapid appraisal: Rapid, relaxed and participatory.* Brighton, England: Institute for Development Studies. *Discussion paper No. 311*. Retrieved from http://community.eldis.org/.59b4ab37/Dp311.pdf

Chambers, R. (1994). The origins and practice of participatory rural appraisal. *World Development, 22*(7), 953-969. doi:10.1016/0305-750X(94)90141-4

Chatterjee, P. (2006). India's government aims to improve rural health. *The Lancet, 368*(9546), 1483-1484. doi:10.1016/S0140-6736(06)69620-7

Cheriyan, G. (2006). *Enforcing the Right to Food in India: Bottlenecks in Delivering the Expected Outcome*. Jaipur: United Nations University: The World Institute for Development Economics Research. Retrieved from http://www.wider.unu.edu/stc/repec/pdfs/rp2006/rp2006-132.pdf

Chesler, M. A. (1991). Participatory action research with self-help groups: An alternative paradigm for inquiry and action. *American Journal of Community Psychology, 19*(5), 757-768. doi:10.1007/BF00938043

Childress, H. (2006). The anthropologist and the crayons: Changing our focus from avoiding harm to doing good. *Journal of Empirical Research on Human Research Ethics, 1*(2), 79. doi:10.1525/jer.2006.1.2.79

Choudhry, U. K., Jandu, S., Mahal, J., Singh, R., Sohi-Pabla, H., & Mutta, B. (2002). Health promotion and participatory action research with South Asian women *Journal of Nursing Scholarship, 34*(1), 75-81. doi:10.1111/j.1547-5069.2002.00075.x

Clarke, J. (2010). Untouchability and the Indian nationalist movement. In M. Aktor & R. Deliège (Eds.), *From stigma to assertion: untouchability, Identity and Politics in early and modern India.* (pp. 97-118). Copenhagen: Museum Tusculanum Press, University of Copenhagen.

Cornwall, A., & Jewkes, R. (1995). What is participatory research? *Social science & medicine, 41*(12), 1667-1676. doi:10.1016/0277-9536(95)00127-S

CPCB told to set up monitoring mechanism. (2011, February 20). *The Times of India*. Retrieved from http://timesofindia.indiatimes.com/city/pune/CPCB-told-to-set-up-monitoring-mechanism/articleshow/7530336.cms

D'Souza, O. R. (2006). Panchayati Raj Institutions: participatory democracy or participants' democracy? Case study of Balekoppa Gram Panchayat in Shimoga District of Karnataka. Retrieved from http://ssrn.com/abstract=1809624

Daftary, D. (2010). Elected leaders, community and development: evidence on distribution and agency from a case in India. *The Journal of Development Studies, 46*(10), 1692-1707. Retrieved from 10.1080/00220388.2010.492867

Dandona, R., Kumar, G., Raj, T., & Dandona, L. (2006). Patterns of road traffic injuries in a vulnerable population in Hyderabad, India. *Injury Prevention, 12*(3), 183. doi:10.1136/ip.2005.010728

Dash, D. K. (2009, 17 August). India leads world in road deaths: WHO. *The Times of India*. Retrieved from http://articles.timesofindia.indiatimes.com/2009-08-17/india/28181973_1_road-accidents-road-fatalities-global-road-safety

de Koning, K., & Martin, M. (1996). *Participatory Research in Health*. London: Zed Books.

Denzin, N. K., & Lincoln, Y. S. (2000). *Handbook of Qualitative Research* (2nd ed.). London: Sage publications.

Doyal, L., & Gough, I. (1991). *A Theory of Human Need*. New York: Guilford Press

Dummer, T. J. B., & Cook, I. G. (2008). Health in China and India: a cross-country comparison in a context of rapid globalisation. *Social Science & Medicine, 67*(4), 590-605. doi:10.1016/j.socscimed.2008.04.019

Durning, A. (1989). People Power and Development. *Foreign Policy*(76), 66-82. Retrieved from http://www.jstor.org/stable/1148918

Edwards, M. (1989). The irrelevance of development studies. *Third World Quarterly, 11*(1), 116-135. doi:10.1080/01436598908420142

Effluent treatment plants raise stink: NGO. (2011, 4 May). *The Times of India*. Retrieved from http://timesofindia.indiatimes.com/city/ahmedabad/Effluent-treatment-plants-raise-stink-NGO/articleshow/8163475.cms

Fadem, P., Minkler, M., Perry, M., Blum, K., Moore, L., & Rogers, J. (2003). Ethical challenges in community based participatory research. In M. Minkler & N. Wallerstein (Eds.), *Community based participatory research for health.* (pp. 242-262). San Francisco: Jossey-Bass.

Faridi, Z., Grunbaum, J. A., Gray, B. S., Franks, A., & Simones, E. (2007). Community-based participatory research: Necessary next steps. *Preventing Chronic Disease. Public Health Research, Practice, and Policy, 4*(3), A70 -

A74. Retrieved from http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1955426/

Fernandez, B. (2010). Poor practices: contestations around 'below poverty line' status in India. *Third world quarterly, 31*(3), 415-430. doi:10.1080/01436597.2010.488473

Finlay, L. (2002). "Outing" the researcher: The provenance, process, and practice of reflexivity. *Qualitative Health Research, 12*(4), 531-545. doi:10.1177/104973202129120052

Flicker, S. (2008). Who benefits from community-based participatory research? A case study of the positive youth project. *Health Education and Behavior, 35*(1), 70-85. doi:10.1177/10901981052855927

Flicker, S., Travers, R., Guta, A., McDonald, S., & Meagher, A. (2007). Ethical dilemmas in community-based participatory research: Recommendations for institutional review boards. *Journal of Urban Health: Bulletin of the New York Academy of Medicine, 84*(4). doi:10.1007/s11524-007-9165-7

Foster-Fishman, P., Nowell, B., Deacon, Z., Nievar, A., & McCann, P. (2005). Using methods that matter: The impact of reflection, dialogue, and voice. *American Journal of Community Psychology, 36*(3-4), 275-291. doi:10.1007/s10464-005-8626-y

Freitas, K. (2008). *Essays on the institutions of caste and dowry*. Evanston, Illinois: ProQuest Information and Learning Company.

Freshwater, D. (2005). Action research for changing and improving practice In I. Holloway (Ed.), *Qualitative research in health care.* (pp. 210-228). Berkshire, England: Open Univerity Press.

Galvin, K. (2005). Navigating a qualitative course in programme evaluation. In I. Holloway (Ed.), *Qualitative research in health care.* (pp. 229-249). Berkshire, England: Open Univerity Press.

Gil, K. (2009). *A primary evaluation of service delivery under the National Rural Health Mission (NRHM): findings from a study in Andhra Pradesh, Uttar Pradesh, Bihar and Rajasthan*. Retrieved from http://environmentportal.in/files/wrkp_1_09.pdf

GoG: Department of Health and Family Welfare. (2002). *Population Policy*. Retrieved from http://www.gujhealth.gov.in/publications.

GoG: Department of Health and Family Welfare. (2005a). *State Health Mission: Gujarat.* Retrieved from http://gujhealth.gov.in/

GoG: Department of Health and Family Welfare. (2005b). *State programme implementation plan: Reproductive and Child Health (RCH) II.* Retrieved from http://www.mp.gov.in/health/nrhm/pip-rch-ii.pdf.

GoG: Department of Health and Family Welfare. (2009). *Health review 2007-2008*. Vital Statistics Division Commissionerate of Health, Medical Services, Medical Education and Research, Retrieved from http://www.gujhealth.gov.in/.

GoG: Department of Health and Family Welfare. (n.d.-a). *Gujarat State Report*. Retrieved from http://www.mohfw.nic.in/NRHM/Documents/Non_High_Focus_Reports/Gujarat_Report.pdf.

GoG: Department of Health and Family Welfare. (n.d.-b). *Health Sector reform Gujarat*. Retrieved from http://www.gujhealth.gov.in/images/pdf/down/health_sector_reform_gujarat.pdf.

GoG: Department of Health and Family Welfare. (n.d.-c). *State Health Education Bureau: School health program.* Retrieved from http://www.gujhealth.gov.in/health_programmes/state_edu/school_health.htm

GoG: Tribal Development Department. (n.d.). *Taluka at a Glance: Pardi*. Retrieved from http://www.vanbandhukalyanyojana.gujarat.gov.in/taluka%20profileFinal/Valsad/Pardi.pdf.

GoI: Ministry of Finance. (2008). *Economic survey of India 2007-2008*. Retrieved from http://indiabudget.nic.in/es2007-08/chapt2008/chap103.pdf.

GoI: Ministry of Health and Family Welfare. (2000). *Major schemes and programmes.* Retrieved from http://mohfw.nic.in

GoI: Ministry of Health and Family Welfare. (2005a). *Financing and delivery of health care services in India: Background Papers of the National Commission on Macroeconomics and Health*. New Delhi: National Commission on Macroeconomics and Health Retrieved from http://www.who.int/macrohealth/action/Background%20Papers%20report.pdf.

GoI: Ministry of Health and Family Welfare. (2005b). *National rural health mission (2005-2012) Mission Document.* Retrieved from http://mohfw.nic.in/NRHM/Documents/Mission_Document.pdf

GoI: Ministry of Health and Family Welfare. (2005c). *National Rural Health Mission: Meeting people's health needs in rural areas. Framework for Implementation 2005-2012*. New Delhi: Government of India Retrieved from http://jknrhm.com/Guideline/Frame_Work.pdf.

GoI: Ministry of Health and Family Welfare. (2006). *National family health survey 2005-2006 Gujarat.* Retrieved from http://www.nfhsindia.org/NFHS-3%20Data/gujarat_state_report_for_website.pdf

GoI: Ministry of Health and Family Welfare. (2009). *Rural health care system in India*. Retrieved from http://mohfw.nic.in/NRHM/RHS_2009/RHC_System_Revised.pdf.

GoI: Ministry of Health and Family Welfare. (2010). *Meeting people's health needs in partnership with states: The journey so far.* New Delhi: Ministry of Health and Family Welfare, Retrieved from http://mohfw.nic.in/NRHM/Documents/5_Years_NRHM_Final.pdf.

GoI: Ministry of Health and Family Welfare. (n.d.). *Janani Suraksha Yojana Guidelines for implementation.* Retrieved from http://www.mohfw.nic.in/layout_09-06.pdf

Government of India. (1950). *Constitution of India.* Retrieved from http://india.gov.in/govt/constitutions_india.php

Government of India. (2001a). *Census of India 2001: Data highlights, the Scheduled Castes, Gujarat*. Delhi: Office of the Registrar General and Census Commissioner. Retrieved from http://censusindia.gov.in/Tables_Published/SCST/dh_sc_gujarat.pdf.

Government of India. (2001b). *Census of India 2001: Data highlights, the Scheduled Tribes, Gujarat*. Delhi: Office of the Registrar General and Census Commissioner. Retrieved from http://censusindia.gov.in/Tables_Published/SCST/dh_st_gujarat.pdf.

Government of India. (2001c). *Census of India 2001: District level data*. Delhi: Office of the Registrar General and Census Commissioner. Retrieved from http://censusindia.gov.in/.

Government of India. (2001d). *Census of India 2001: India at a glance, religious composition*. Delhi: Office of the Registrar General and Census Commissioner. Retrieved from http://www.censusindia.gov.in/Census_Data_2001/India_at_glance/religion.aspx.

Government of India. (2001e). *Census of India 2001: Scheduled Castes & Scheduled Tribes Population*. Delhi: Office of the Registrar General and Census Commissioner. Retrieved from http://censusindia.gov.in/Census_Data_2001/India_at_glance/scst.aspx.

Government of India. (2011a). *Census of India 2011: Provisional population totals*. (Paper 2, Volume 1 of 2011). New Delhi: Office of the Registrar General & Census Commissioner. Retrieved from http://www.censusindia.gov.in/2011-prov-results/paper2/prov_results_paper2_india.html.

Government of India. (2011b). *Census of India: Provisional population totals, Gujarat*. Delhi: Office of the Registrar General and Census Commissioner. Retrieved from http://www.censusindia.gov.in/2011-prov-results/paper2/data_files/Gujrat/5-fig-guj9.pdf.

Government of India. (n.d.-a). *India at a glance.* Retrieved from http://india.gov.in/knowindia/profile.php?id=2

Government of India. (n.d.-b). *Panchayati raj divas.* Retrieved from http://india.gov.in/allimpfrms/alldocs/3246.pdf

Government of the United Kingdom: Department for International Development. (2008). *Three faces of India: DFID India country plan 2008-2015.* New Delhi: Retrieved from www.dfid.gov.uk/pubs/files/india-cap.pdf.

Greater access to cell phones than toilets in India. (n.d.). Tokyo: United Nations University: Institute for Water Environment and Health. Retrieved from http://www.inweh.unu.edu/News/2010-04_UNU-INWEH_News-Release_Sanitation.pdf

Green, J., & Thorogood, N. (2009). *Qualitative methods for health research* (2nd ed.). London: Sage Publications.

Greenpeace. (1999, 1 July). *Press Release: Greenpeace shuts down polluting factory at Vapi, Gujarat.* Retrieved from http://www.greenpeace.org/india/en/news/greenpeace-shuts-down-pollutin/

Greenpeace. (2000, 19 October). *Press Release: Human Cost of World Bank Investment Exposed: Greenpeace Calls for Environmental Restoration and Clean Production.* Retrieved from http://archive.greenpeace.org/pressreleases/toxics/2000oct19.html

Gujarat Industrial Development Corporation. (2008). *About GIDC.* Retrieved from http://www.gidc.gov.in/About_us.html

Gujarat introduces death penalty for toxic alcohol. (2011, 6 December). *British Broadcasting Corporation.* Retrieved from http://www.bbc.co.uk/news/world-asia-india-16044845

Gururaj, G. (2008). Road traffic deaths, injuries and disabilities in India: current scenario. *National Medical Journal of India, 21*(1), 14. Retrieved from http://www.ncbi.nlm.nih.gov/m/pubmed/18472698/

Hall, B. (2005). In from the cold? Reflections on participatory research from 1970-2005. *Convergence, 38*(1), 5-24. Retrieved from http://www.proquest.com

Hall, J., & Taylor, R. (2003). Health for all beyond 2000: the demise of the Alma-Ata Declaration and primary health care in developing countries. *Medical Journal of Australia, 178*(1), 17-20. Retrieved from https://www.mja.com.au/journal/2003/178/1/health-all-beyond-2000-demise-alma-ata-declaration-and-primary-health-care

Halliday, A. (2011, 14 May). World Bank dumped plants 15 years ago. *The Indian Express Limited.* Retrieved from http://www.indianexpress.com/news/world-bank-dumped-plants-15-years-ago/790737/

Hansen, E. C. (2006). *Successful qualitative health research : a practical introduction*. Crows Nest, N.S.W.: Allen & Unwin.

Haragopal, G. (2002). Rights of Dalits: law and reality. *Journal of the National Human Rights Commission, 1*(133-159). Retrieved from http://nhrc.nic.in/Publications/NHRCJournal2002.pdf

Harris, J., & McCartor, A. (2011). *The world's worst toxic pollution problems*. New York City: Blacksmith Institute. Retrieved from http://www.worstpolluted.org/files/FileUpload/files/2011/Worlds-Worst-Toxic-Pollution-Problems-2011-Report.pdf

Hart, E., & Bond, M. (1995). *Action research for health and social care.* Buckingham: Open University Press. Retrieved from http://www.questia.com

Haworth, A., & Simpson, R. (2004). *Moonshine markets: issues in unrecorded alcohol beverage production and consumption*. New York: Brunner-Routledge.

Hergenrather, K., Rhodes, S., & Clark, G. (2006). Windows to work: exploring employment-seeking behaviors of persons with HIV/AIDS through Photovoice. *AIDS Education and Prevention, 18*(3), 243-258. doi:10.1521/aeap.2006.18.3.243

Hergenrather, K., Rhodes, S. D., & Bardoshi, G. (2009). Photovoice as community-based participatory research: a qualitative review. *American Journal of Health Behavior, 33*(6), 686 -698. doi:10.5993/AJHB.33.6.6

Herrenschmidta, O. (2009). The Indians' impossible civil code. *European Journal of Sociology, 50*(2), 309-347. doi:10.1017/S0003975609990154

Holkup, P. A., Tripp-Reimer, T., Salois, E. M., & Weinert, C. (2004). Community-based participatory research: An approach to intervention research with a Native American community. *Advances in Nursing Science, 27*(3), 162-175. Retrieved from http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2774214/

Horowitz, C. R., Robinson, M., & Seifer, S. (2009). Community-based participatory research: from the margin to the mainstream. *Circulation, 119*(19), 2633-2642. doi:10.1161/CIRCULATIONAHA.107.729863

Hurworth, R. (2004). Photo-interviewing. *Qualitative Research Journal, 4*(1), 73-79.

Illegal alcohol kills 30 in India. (2009, 14 September). *British Broadcasting Corporation*. Retrieved from http://news.bbc.co.uk/2/hi/8253865.stm

India toxic alcohol 'kills 17' in Andhra Pradesh. (2012, 2 January). *British Broadcasting Corporation*. Retrieved from http://www.bbc.co.uk/news/world-asia-india-16381538

India toxic alcohol kills 143 in West Bengal. (2011, 15 December). *British Broadcasting Corporation*. Retrieved from http://www.bbc.co.uk/news/world-asia-india-16174531

India toxic alcohol toll tops 100. (2009, July 10). *British Broadcasting Corporation*. Retrieved from http://news.bbc.co.uk/2/hi/8144023.stm

International Monetary Fund. (2011a). *World Economic Outlook Database, April: India.* Retrieved from http://www.imf.org/external/pubs

International Monetary Fund. (2011b). *World Economic Outlook Database, September: India.* Retrieved from http://www.imf.org/external/pubs/ft/weo/2011/02/

Israel, B., Parker, E. A., Rowe, Z., Salvatore, A., Minkler, M., Lopez, J., et al. (2005). Community-based participatory research: Lessons learned from the Centers for Children's Environmental Health and Disease Prevention Research. *Environmental Health Perspectives, 113*(10), 1463-1471. doi:10.1289/ehp.7675

Israel, B., Schulz, A. J., Parker, E. A., & Becker, A. B. (1998). Review of community-based research: Assessing partnership approaches to improve public health. *Annual Review of Public Health, 19*, 173-202. doi:10.1146/annurev.publhealth.19.1.173

Israel, B., Schulz, A. J., Parker, E. A., & Becker, A. B. (2001). Community-based participatory research: Policy recommendations for promoting a partnership approach in health research. *Education for Health, 14*(2), 182-197. doi:10.1080/13576280110051055

Israel, B., Schulz, A. J., Parker, E. A., Becker, A. B., Allen III, A. J., & Guzman, J. R. (2003). Critical issues in developing and following community based participatory research principles. In M. Minkler & N. Wallerstein (Eds.), *Community based participatory research for health.* (pp. 53-76). San Francisco: Jossey-Bass.

Iyengar, S., & Dholakia, R. H. (2011). *Access of the rural poor to primary healthcare in India*. Ahmedabad. Retrieved from http://www.iimahd.ernet.in/assets/snippets/workingpaperpdf/3937368102011-05-03.pdf

Iyer, L., Mani, A., Mishra, P., & Topalova, P. (2009). *Political representation and crime: evidence from India's Panchayati Raj*. Retrieved from http://www.virginia.edu/economics/Workshops/Spring2010/International/iyer.pdf

Jacob, K. (2010). Alcohol and public health policies in India. *The National Medical Journal of India, 23*(4), 224. Retrieved from http://www.nmji.in/archives/Volume-23/Issue-4/PDF-volume-23-issue-4/Medicine-and-Society-2.pdf

Jacob, M. (2006). *Changes in the wage gap of gender and caste groups in India.* Economics Theses and Dissertations. Digital Repository at the University of Maryland, Baltimore.

Johnson, K. (2005). Globalisation at the crossroads of tradition and modernity in rural India. *Sociological bulletin, 54*(1), 40-58. Retrieved from http://cat.inist.fr/?aModele=afficheN&cpsidt=16672313

Jones, E. (2001). The courtesy bias in South East Asian surveys. In M. Bulmer & D. P. Warwick (Eds.), *Social research in developing countries: Surveys and censuses in the Third World.* (pp. 253-260). London: Routledge.

Kanani, S. (2008). Strengthening IEC activities of government health centres and ICDS anganwadis for better impact on reduction of undernutrition in Gujarat. *Network for Nutrition Awareness and Advocacy supported by GOG Department of Health and Family Welfare.* Retrieved from http://www.aarogyabaroda.com/pdf/NETNAA-IEC-Report.pdf

Karmaliani, R., McFarlane, J., Asad, N., Madhani, F., Hirani, S., Shehzad, S., Zaidi, A. (2009). Applying community-based participatory research methods to improve maternal and child health in Karachi, Pakistan. *Nursing Outlook, 57*(4), 204-209. doi:10.1016/j.outlook.2009.01.003

Kemmis, S., & McTaggart, R. (2008). Participatory action research: communicative action and the public sphere. In N. K. Denzin & Y. S. Lincoln (Eds.), *Strategies of Qualitative Inquiry.* (3rd ed., pp. 271-330). Los Angeles, California: Sage Publications.

Kenny, S. (2007a). Community needs studies and evaluation. In S. Kenny (Ed.), *Developing Communities for the Future.* (pp. 338-344). Melbourne: Thomson Learning.

Kenny, S. (2007b). The concept of community. In S. Kenny (Ed.), *Developing communities for the future.* (3rd ed., pp. 40-48). Melbourne: Thomson Learning.

Kethineni, S., & Humiston, G. D. (2010). Dalits, the "oppressed people" of India: How are their social, economic, and human rights addressed? *War Crimes, Genocide, & Crimes against Humanity, 4*, 99-140. Retrieved from http://www.aa.psu.edu/journals/war-crimes/articles/V4/v4n1a3.pdf

Kettner, P. M., Moroney, R., & Martin, L. L. (1999). Needs assessment, theoretical considerations. In P. M. Kettner, R. Moroney & L. L. Martin (Eds.), *Designing and managing programs: an effectiveness-based approach.* (pp. 33-48). California: Sage Publications.

Khanlou, N., & Peter, E. (2005). Participatory action research: considerations for ethical review. *Social Science & Medicine, 60*, 2333-2340. doi:10.1016/j.socscimed.2004.10.004

Kindon, S., Pain, R., & Kesby, M. (2007). Participatory action research: origins, approaches and methods In S. Kindon, R. Pain & M. Kesby (Eds.), *Participatory action research approaches and methods: Connecting people, participation and place.* (pp. 9-18). New York: Routledge.

Kitzinger, J. (2006). Focus groups In C. Pope & N. Mays (Eds.), *Qualitative research in health care.* (pp. 21-31). Singapore: Blackwell Publishing.

Koplan, J., Bond, T., Merson, M., Reddy, K., Rodriguez, M., Sewankambo, N., et al. (2009). Towards a common definition of global health. *Lancet, 373*, 1993-1995. doi:10.1016/S0140-6736(09)60332-9

Kretzmann, J. P., & McKnight, J. L. (1993). *Building communities from the inside out: a path toward finding and mobilizing a community's assets*. Evanston, IL: Institute for Policy Research, Northwestern University.

Kumar, A. K. S., Chen, L. C., Choudhury, M., Ganju, S., Mahajan, V., Sinha, A., et al. (2011). India: Towards universal health coverage 6: Financing health care for all: challenges and opportunities. *The Lancet, Series*. doi:10.1016/S0140-6736(10)61884-3

Kumar, C. (2011). Public-private dichotomy in utilization of health care services in India. *Consilience: The Journal of Sustainable Development, 5*(1), 25-52. Retrieved from http://journals.cdrs.columbia.edu/consilience/index.php/consilience

Kurian, N. J. (2007). Widening economic & social disparities: Implications for India. *Indian Journal of Medical Research, 126*(4), 374-380. Retrieved from http://www.icmr.nic.in/ijmr/2007/october/1014.pdf

Labunska, I., Stephenson, A., Brigden, K., Santillo, D., Stringer, R., Johnston, P. A., et al. (1999). *Toxic Hotspots: A Greenpeace Investigation of Gujarat Industrial Estates; Organic and heavy metal contaminants in samples taken at three industrial estates in Gujarat, India*. Exeter, United Kingdom: Greenpeace Research Laboratories. Retrieved from http://archive.greenpeace.org/toxics/toxfreeasia/gujaratrpt.pdf

LeClerc, C., Wells, D., Craig, D., & Wilson, J. (2002). Falling short of the mark: tales of life after hospital discharge. *Clinical Nursing Research, 11*(3), 242-263. doi:10.1177/10573802011003002

Lewin, K. (1946). Action research and minority problems. *Journal of social issues, 2*(4), 34-46. doi:10.1111/j.1540-4560.1946.tb02295.x

Lilja, N., & Bellon, M. (2008). Some common questions about participatory research: a review of the literature. *Development in Practice, 18*(4), 479-488. doi:10.1080/09614520802181210

Loeffler, T. A. (2004). A photo elicitation study of the meanings of outdoor adventure experiences. *Journal of Leisure Research, 36*(4), 536-556. Retrieved from http://proquest.umi.com.dbgw.lis.curtin.edu.au

Lykes, M. B., Terre Blanche, M., & Hamber, B. (2003). Narrating survival and change in Guatemala and South Africa: The politics of representation and a liberatory community psychology. *American Journal of Community Psychology, 31*(1-2), 79-90. doi:10.1023/A:1023074620506

Macfarlane, S., Jacobs, M., & Kaaya, E. E. (2008). In the name of global health: trends in academic institutions. *Journal of Public Health Policy, 29*(4), 383-401. doi:10.1057/jphp.2008.25

Macfarlane, S., Racelis, M., & Muli-Muslime, F. (2000). Public health in developing countries. *The Lancet, 356*(9232), 841-846. doi:10.1016/S0140-6736(00)02664-7

Mahal, A. (2000). What works in alcohol policy? Evidence from rural India. *Economic and Political Weekly*, 3959-3968.

Manzo, L. C., & Brightbill, N. (2007). Toward a participatory ethics. In S. Kindon, R. Pain & M. Kesby (Eds.), *Participatory action research approaches and methods: connecting people, participation and place.* (pp. 33-40). London: Routledge.

Marincowitz, G. J. O. (2003). How to use participatory action research in primary care. *Family Practice, 20*(5), 595-600. doi:10.1093/fampra/cmg518

Marshall, P. A. (2006). Informed consent in international health research. *Journal of Empirical Research on Human Research Ethics 1*(1), 25-42. doi:10.1525/jer.2006.1.1.25

Marshall, P. A. (2007) Ethical challenges in study design and informed consent for health research in resource-poor settings. *Special Topics in Social, Economic and Behavioural (SEB) Research report series; No. 5* (SPECIAL TOPICS No.5 ed.): World Health Organisation.

Mathie, A., & Cunningham, G. (2003). From clients to citizens: asset-based community development as a strategy for community-driven development. *Development in Practice, 13*(5), 474-486. doi:10.1080/0961452032000125857

Mavalankar, D. V., Vora, K. S., Ramani, K., Raman, P., Sharma, B., & Upadhyaya, M. (2009). Maternal health in Gujarat, India: a case study. *Journal of Health, Population, and Nutrition, 27*(2), 235. doi:10.3329/jhpn.v27i2.3366

Mays, N., & Pope, C. (2006). Quality in qualitative health research. In C. Pope & N. Mays (Eds.), *Qualitative research in health care.* (pp. 82-101). Singapore: Blackwell Publishing.

Mazumdar, P. G., & Gupta, K. (2007). Indian system of medicine and women's health: A clients' perspective. *Journal of Biosocial Science, 39*, 819–841. doi:10.1017/S0021932007002106

McDermont, R. F. (2008). From Hinduism to Christianity, from India to New York: bondage and exodus experiences in the lives of Indian Dalit Christians in the diaspora. . In J. A. Jacobsen & S. J. Raj (Eds.), *South Asian Christian diaspora: invisible diaspora in Europe and North America.* (pp. 223-248). London: Ashgate Publishing.

McKnight, J. L., & Kretzmann, J. P. (2005). Mapping community capacity. In M. Minkler (Ed.), *Community organizing and community building for health.* (pp. 158-172). New Brunswick: Rutgers University Press.

Merson, M. H., Black, R. E., & Mills, A. (Eds.). (2006). *International public health: diseases, programs, systems, and policies* (2nd ed.) Sudbury, Mass.: Jones and Bartlett Publishers.

Methyl alcohol kills 118 in 'dry' Indian region. (1976, 6 July). *Telegraph Herald*. Retrieved from http://news.google.com/

Meyer, J. (2006). Action research. In C. Pope & N. Mays (Eds.), *Qualitative research in health care.* (3rd ed., pp. 121-131). Singapore: Blackwell Publishing.

Mikkelsen, B. (1995). *Methods for development work and research*. London: Sage Publications.

Miles, M. B., Huberman, A. M., & (1994). *Qualitative data analysis: An expanded sourcebook,* (2nd ed.). Beverly Hills: Sage Publications.

Minkler, M. (2004). Ethical challenges for the "outside" researcher in community based participatory research. *Health Education and Behavior, 31*(6), 684-697. doi:10.1177/1090198104269566

Minkler, M. (2005). Community based research partnerships: Challenges and opportunities. *Journal of Urban Health: Bulletin of the New York Academy of Medicine, 82*(2), Sup ii3-ii12. doi:doi: 10.1093/jurban/jti034

Minkler, M. (2010). Linking science and policy through community-based participatory research to study and address health disparities. *American Journal of Public Health, 100*(S1), S81-S87. doi:10.2105/AJPH.2009.165720

Minkler, M., & Wallerstein, N. (2003a). Introduction to community based participatory research. In M. Minkler & N. Wallerstein (Eds.), *Community Based Participatory Research for Health.* (pp. 3-26.). San Francisco: Jossey-Bass.

Minkler, M., & Wallerstein, N. (Eds.). (2003b). *Community based participatory research for health* San Francisco: Jossey-Bass.

Mohan, D. (2004). *The road ahead: Traffic injuries and fatalities in India*. Delhi: Transportation Research and Injury Prevention Programme; Indian Institute of Technology. Retrieved from http://tripp.iitd.ernet.in/publications/paper/safety/road_ahead.pdf

Mohan, D., Tsimhoni, O., Sivak, M., & Flannagan, M. J. (2009). *Road safety in India: challenges and opportunities*. Ann Arbor: University of Michigan Transportation Research Institute. Retrieved from http://tripp.iitd.ernet.in/DM_UMTRI-2009-1[1].o.pdf

Mohindra, K., & Labonté, R. (2010). A systematic review of population health interventions and Scheduled Tribes in India. *BMC Public Health, 10*(1), 438. doi:10.1186/1471-2458-10-438

Mohindra, K., Narayana, D., & Haddad, S. (2011). Towards ethically sound participatory research with marginalised populations: experiences from India. *Development in Practice, 21*(8), 1168-1175. doi:10.1080/09614524.2011.590890

Morgan, L. (2001). Community participation in health: perpetual allure, persistant challenge. *Health Policy and Planning, 16*(3), 221-230. doi:10.1093/heapol/16.3.221

Munshi, K., & Rosenzweig, M. (2006). Traditional institutions meet the modern world: Caste, gender, and schooling choice in a globalizing economy. *The American Economic Review*, 1225-1252. doi:10.1257/aer.96.4.1225

Murray, S. (1995). Practice based health needs assessment: Use of four methods in a small neighbourhood. *British Medical Journal, 310*(6992), 1443. doi:10.1136/bmj.310.6992.1443

Murray, S. (1999). Experiences with "rapid appraisal" in primary care: involving the public in assessing health needs, orientating staff, and educating medical students. *British Medical Journal 138*, 440-444. doi:10.1136/bmj.318.7181.440

Murray, S., Tapson, J., Turnbull, L., McCallum, J., & Little, A. (1994). Listening to local voices: Adapting rapid appraisal to assess health and social needs in general practice. *British Medical Journal, 308*(6930), 698-700. doi:10.1136/bmj.308.6930.698

Naidu, M. (2005). A Multiculturalism and secessionism in the Federation of India and Canada. *Peace Research: The Canadian Journal of Peace Studies, 37*(1)

Narayan, S. (2011). *Why India is losing Its war on hunger*. Oxfam. Retrieved from http://www.rrojasdatabank.info/indiahunger2011.pdf

Nyden, P. (2003). Academic incentives for faculty participation in community-based participatory research. *Journal of General Internal Medicine, 18*(7), 576-585. doi:10.1046/j.1525-1497.2003.20350.x

Oakley, P., Bichmann, W., & Rifkin, S. (1999). Developing a methodology. In H. M. Kahssay & P. Oakley (Eds.), *Community involvement in health development: a review of the concept and practice* (pp. 114-144). Geneva: World Health Organisation.

Olshansky, E., Sacco, D., Braxter, B., Dodge, P., Hughes, E., Ondeck, M., et al. (2005). Participatory action research to understand and reduce health disparities. *Nursing Outlook, 53*(3), 121-126. doi:10.1016/j.outlook.2005.03.002

OneWorld Foundation India. (2011). *Sickle cell anaemia control programme, Gujarat. Documentation of best practice.* Retrieved from http://indiagovernance.gov.in/download.php?filename=files/SCA_Final.pdf

Ong, B. N., & Humphris, G. (1994). Prioritizing needs with communities: rapid appraisal methodologies in health. In J. Popay & G. Williams (Eds.), *Researching the people's health.* (pp. 58-82). London: Routledge.

Ong, B. N., Humphris, G., Annett, H., & Rifkin, S. (1991). Rapid appraisal in an urban setting, an example from the developed world. *Social Science and Medicine, 32*, 909-915. doi:10.1016/0277-9536(91)90246-9

Padel, F., & Das, S. (2010). Cultural genocide and the rhetoric of sustainable mining in East India. *Contemporary South Asia, 18*(3), 333-341. doi:10.1080/09584935.2010.503871

Parry, J., & Wright, J. (2003). Community participation in health impact assessments: Intuitively appealing but practically difficult. *Bulletin of the World Health Organization 81*(6), 338. Retrieved from http://whqlibdoc.who.int/bulletin/2003/Vol81-No6/bulletin_2003_81(6)_388.pdf

Parsai, G. (2010, September 24). Now Planning Commission thinks there is confusion over poverty line. *The Hindu*. Retrieved from http://www.thehindu.com/news/national/article2480099.ece

Patel, S., Nellore, M. R. R., Sadhu, H. G., Kulkarni, P. K., Patel, B. D., & Parikh, F. J. (2008). Effects of industrial pollution on respiratory morbidity among female residents of India. *Archives of Environmental & Occupational Health, 63*(2), 87-92. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/18628080

Pepall, E., Earnest, J., & James, R. (2007). Understanding community perceptions of health and social needs in a rural Balinese village: results of a rapid participatory appraisal. *Health Promotion International, 22*(1), 44. doi:10.1093/heapro/dal042

Percy-Smith, J. (1996). The needs debate. In J. Percy-Smith (Ed.), *Needs Assessment in Public Policy.* (pp. 5-8). Philadelphia: Open University Press.

Peters, D. H., Garg, A., Bloom, G., Walker, D. G., Brieger, W. R., & Hafizur Rahman, M. (2008). Poverty and access to health care in developing countries. *Annals of the New York Academy of Sciences, 1136*(1), 161-171. doi:10.1196/annals.1425.011

Pitchforth, E., & van Teijlingen, E. (2005). International public health research involving interpreters: a case study from Bangladesh. *BMC Public Health, 5*(71). doi:10.1186/1471-2458-5-71

Poisonous Drink Toll now 237. (1981, 10 July). *The Age*. Retrieved from http://news.google.com/

Poonacha, V. (2008). *Towards an integrated model of higher education*. Mumbai, India: Research Centre for Women's Studies, SNDT Women's University.

Pope, C., Ziebland, S., & Mays, N. (2006). Analysing Qualitative Data. In C. Pope & N. Mays (Eds.), *Qualitative research in health care.* (pp. 63-81). Singapore: Blackwell Publishing.

Prasad, R. (2009). Alcohol use on the rise in India. *The Lancet, 373*(9657), 17-18. doi:10.1016/S0140-6736(08)61939-X

Preece, J. (2006). Participatory rural appraisal: Lessons for countries in the North? *International Journal of Action Research, 2*(2), 198-221. Retrieved from http://www.gla.ac.uk

Radley, A., Hodgetts, D., & Cullen, A. (2005). Visualizing homelessness: a study in photography and estrangement. *Journal of Community & Applied Social Psychology, 15*, 273-295. doi:10.1002/casp.825

Rahman, L. (2009). *Alcohol prohibition and addictive consumption in India*. London: Leverhulme Centre for Research on Globalisation and Economic Policy: University of Nottingham. Retrieved from http://dspace.cigilibrary.org/jspui/bitstream/123456789/13422/1/Alcohol%20 Prohibition%20and%20Addictive%20Consumption%20in%20India.pdf?1

Rai, S. M. (2007). Deliberative democracy and the politics of redistribution: the case of the Indian Panchayats. *hypatia, 22*(4), 64-80. doi:10.1111/j.1527-2001.2007.tb01320.x

Ram, F., Mohanty, S., & Ram, U. (2009). Understanding the distribution of BPL cards: All-India and selected states. *Economic and Political Weekly, 44*(7), 66-71. Retrieved from http://www.indiaenvironmentportal.org.in/files/Understanding%20the%20Dis tribution%20of%20BPLPL%20Cards.pdf

Rao, M. G., & Choudhury, M. (2012). *Health care financing reforms in India. Working Paper No: 2012-100*. National Institute of Public Finance and Policy. Retrieved from http://www.nipfp.org.in/newweb/sites/default/files/wp_2012_100.pdf

Reddy, B. S., & Snehalatha, M. (2011). Sanitation and personal hygiene. *Indian Journal of Gender Studies, 18*(3), 381-404. doi:10.1177/097152151101800305

Rice, P. L., & Ezzy, D. (1999). *Qualitative research methods : a health focus*. Melbourne: Oxford University Press.

Rifkin, S. (1996a). Paradigms lost: Toward a new understanding of community participation in health programs. *Acta Tropica, 61*(2), 79-92. doi:10.1016/0001-706X(95)00105-N

Rifkin, S. (1996b). Rapid rural appraisal: Its use and value for health planners and managers. *Public Administration 74*(3), 509-526. doi:10.1111/j.1467-9299.1996.tb00882.x

Rifkin, S., G Lewando-Hundtand, G., & Draper, A. K. (2000). Participatory Approaches in Health Promotion and Health Planning: A Literature Review. Retrieved from http://www.uel.ac.uk/ihhd/programmes/documents/reviewcd.pdf

Rifkin, S., Muller, F., & Bichmann, W. (1988). Primary health care: on measuring participation. *Social Science & Medicine, 26*(9), 931. doi:10.1016/0277-9536(88)90413-3

Rifkin, S., & Walt, G. (1986). Why health improves: defining the issues concerning 'comprehensive primary health care' and 'selective primary health care'. *Social Science and Medicine, 23*(6), 559-566. doi:10.1016/0277-9536(86)90149-8

Sami, L. (2010). Micro finance in India. *The Business Review, Cambridge, 15*(1), 269-275. Retrieved from http://www.jaabc.com/brcv15n1preview.html

Sana, A. (1993). The caste system in India and its consequences. *International Journal of Sociology and Social Policy, 13*(3/4), 1-76. doi:10.1108/eb013170

Sarvalingam, A., & Sivakumar, M. (2009). *Poverty and health in India: A comparative study about pre-reform and post-reform periods*. Munich Personal RePEc Archive. Retrieved from http://mpra.ub.uni-muenchen.de/17816/1/MPRA_paper_17816.pdf

Satpathy, S. K., & Venkatesh, S. (2006). Human resources for health in India's National Rural Health Mission: Dimension and challenges. *Regional Health Forum, 10*(1), 29-37. Retrieved from http://www.searo.who.int/LinkFiles/Regional_Health_Forum_Volume_10_No_1_03-Human_Resources_for_Health_in_Indias_National.pdf

Schaffer, M. A. (2009). A virtue ethics guide to best practices for community-based participatory research. *Progress in Community Health Partnerships: Research, Education, and Action, 3*(1), 83-90. Retrieved from http://muse.jhu.edu.dbgw.lis.curtin.edu.au

Sengupta, A., & Nundy, S. (2005). The private health sector in India. *BMJ, 331*(7526), 1157. doi:10.1136/bmj.331.7526.1157

Sharma, A. (2005). Dr. BR Ambedkar on the Aryan invasion and the emergence of the caste system in India. *Journal of the American Academy of Religion, 73*(3), 843-870. doi:10.1093/jaarel/lfi081

Sharma, B. D. (2002). Rights of Tribals. *Journal of the National Human Rights Commission, 1*, 103. Retrieved from http://nhrc.nic.in/Publications/NHRCJournal2002.pdf

Sharma, R. (2000). News roundup: Greenpeace action on life threatening poisons in Gujarat. *British Medical Journal, 321*(1040). doi:10.1136/bmj.321.7268.1040/b

Singh, A., Mavalankar, D., Desai, A., Patel, S., & Shah, P. (n.d.). Human resources for comprehensive EmOC: an Innovative partnership with the private sector to provide delivery care to the poor. Retrieved from http://www.gujhealth.gov.in/

Singh, H. (2008). The real world of caste in India. *The Journal of Peasant Studies, 35*(1), 119-132. doi:10.1080/03066150801983352

Smith, B. J., Tang, K. C., & Nutbeam, D. (2006). WHO Health Promotion Glossary: new terms *Oxford University Press*. Retrieved from Advanced online publication. doi:10.1093/heapro/dal033

Stoeker, R. (2003). Are academics irrelevant? Approaches and roles for scholars in community-based participatory research. In M. Minkler & N. Wallerstein (Eds.), *Community based participatory research for health.* (pp. 98-112). San Francisco: Jossey-Bass.

Subramanian, S., Ackerson, L. K., Subramanyam, M., & Sivaramakrishnan, K. (2008). Health inequalities in India: the axes of stratification. *Brown Journal of World Affairs, 14*(2), 127. Retrieved from http://harvardschoolofpublichealth.com/faculty/sv-subramanian/files/bjwa2008_14_2_127_139.pdf

Suryanarayana, M. (2008). Agflation and the PDS: some issues. *Indira Gandhi Institute of Development Research, Mumbai Working Papers*. Retrieved from http://oii.igidr.ac.in:8080/dspace/bitstream/2275/197/1/WP-2008-009.pdf

Susman, G. I., & Evered, R. D. (1978). An assessment of the scientific merits of action research. *Administrative Science Quarterly, 23*, 582-603. doi:10.2307/2392581

Taylor, C. (2005). Interviewing. In I. Holloway (Ed.), *Qualitative research in health care.* (pp. 39-55). Berkshire, England: Open Univerity Press.

The Blacksmith Institute. (2006). *The World's Worst Polluted Places: The Top 10*. New York City: The Blacksmith Institute. Retrieved from http://www.blacksmithinstitute.org/top10/10worst2.pdf

The Blacksmith Institute. (2007, updated 2009). *The World's Worst Polluted Places: The Top 10 of the Dirty Thirty*. New York City: The Blacksmith Institute. Retrieved from http://www.worstpolluted.org/

The World Bank. (2008). New data show 1.4 billion live on less than $1.25 a day, but progress against poverty remains strong. Retrieved from http://www.worldbank.org.in/WBSITE/EXTERNAL/COUNTRIES/SOUTHASIAEXT/INDIAEXTN/0,,contentMDK:21880805~pagePK:141137~piPK:141127~theSitePK:295584,00.html

The World Bank. (2011). *World Development Indicators 2011*. Retrieved from http://data.worldbank.org/data-catalog/world-development-indicators

Thomas, P. M. (2006, 11 October). Greenpeace fails to substantiate charges, asked to pay Rs 50 lakh. *The Economic Times: The Times of India*. Retrieved from http://articles.economictimes.indiatimes.com/2006-10-11/news/27433929_1_greenpeace-activists-greenpeace-india-vapi

Twelvetrees, A. (2008). Planning for effective community work. In A. Twelvetrees (Ed.), *Community Work.* (pp. 19-43). Basingstoke: Palgrave Macmillan.

Two more Sarigam units issued closure notices. (2011, 11 May). *The Times of India*. Retrieved from http://timesofindia.indiatimes.com/city/surat/Two-more-Sarigam-units-issued-closure-notices/articleshow/8251676.cms

UNDP. (2011a). *The Human Development concept.* Retrieved from http://hdr.undp.org/en/humandev/

UNDP. (2011b). *Human Development Report 2011: Sustainability and Equity: A Better Future for All*. Retrieved from http://hdr.undp.org/en/media/HDR_2011_EN_Complete.pdf

UNDP. (2011c). *Multidimensional Poverty Index (MPI).* Retrieved from http://hdr.undp.org/en/statistics/mpi/

UNDP. (2011d). *Multidimensional Poverty Index: Table 5*. Retrieved from http://hdr.undp.org/en/media/HDR_2011_EN_Table5.pdf

UNFPA. (2011). *State of the World Population 2011*. Retrieved from foweb.unfpa.org/SWP2011/reports/EN-SWOP2011-FINAL.pdf

UNICEF. (2009). *'Chiranjeevi Yojana' (Plan for a long life): Public-private partnership to reduce maternal deaths in Gujarat, India.* Retrieved from http://www.unicef.org/devpro/46000_47108.html

United States Government. (1978). *The Belmont Report: Ethical principles and guidelines for the protection of human subjects of research*. Washington D.C.: Retrieved from http://videocast.nih.gov/pdf/ohrp_belmont_report.pdf.

Von Grebmer, K., Ruel, M. T., Menon, P., Nestorova, B., Olofinbiyi, T., Fritschel, H., et al. (2010). *2010 Global Hunger Index: The challenge of hunger: Focus*

on the crisis of child undernutrition: International Food Policy Research Institute.

Walker, K. L. M. (2008). Neoliberalism on the ground in rural India: predatory growth, agrarian crisis, internal colonization, and the intensification of class struggle. *The Journal of Peasant Studies, 35*(4), 557-620. doi:10.1080/03066150802681963

Walker, S. H., Ouellette, V., & Ridde, V. (2006). How can PhD research contribute to the global health research agenda? *Development in Practice, 16*(6), 617-622. doi:10.1080/09614520600958330

Wallerstein, N. (1999). Power between evaluator and community: research relationships within New Mexico's healthier communities. *Social Science & Medicine, 49*(1), 39-53. doi:10.1016/S0277-9536(99)00073-8

Wallerstein, N., & Duran, B. (2003). The conceptual, historical, and practice roots of community based participatory research and related participatory traditions. In M. Minkler & N. Wallerstein (Eds.), *Community Based Participatory Research for Health.* (pp. 27-52). San Francisco: Jossey-Bass.

Wallerstein, N., & Duran, B. (2006). Using community-based participatory research to address health disparities. *Health Promotion Practice, 7*(3), 312-323. doi:10.1177/1524839906289376

Wallerstein, N., & Duran, B. (2010). Community-based participatory research contributions to intervention research: The intersection of science and practice to improve health equity. *American Journal of Public Health, 100*(S1), S40-S45. doi:10.2105/AJPH.2009.184036

Walsh, B. (2007, 7 September). The World's Most Polluted Places. *Time Magazine*. Retrieved from http://www.time.com/time/specials/2007/article/0,28804,1661031_1661028_1661019,00.html

Wang, C., & Burris, M. A. (1997). Photovoice: Concept, methodology, and use for participatory needs assessment. *Health Education and Behavior, 24*(3), 369-387. doi:10.1177/109019819702400309

Wang, C., Burris, M. A., & Ping, X. Y. (1996). Chinese village women as visual anthropologists: A participatory approach to reaching policymakers. *Social Science & Medicine, 42*(10), 1391-1140. doi:10.1016/0277-9536(95)00287-1

Wang, C., Morrel-Samuels, S., Hutchison, P. M., Bell, L., & Pestronk, R. M. (2004). Flint Photovoice: Community Building Among Youths, Adults, and Policymakers. *American Journal of Public Health, 94*(6), 911-913. doi:10.2105/AJPH.94.6.911

Wang, C., & Redwood-Jones, Y. A. (2001). Photovoice ethics: Perspectives from Flint Photovoice. *Health Education and Behavior, 28* (5), 560-572. doi:10.1177/109019810102800504

Westby, C., Hwa-Froelich, D. . (2003). Considerations in participatory action research when working cross-culturally. *Folia Phoniatrica et Logopaedica, 55*(6), 300-305. doi:10.1159/000073253

Wheezing at Vapi. (2000, 20 October). *The Times of India*. Retrieved from [Copy of clipping in possession of author]

WHO. (1948). *Preamble to the Constitution of the World Health Organization*. Paper presented at the International Health Conference, New York.

WHO. (1973). *Organizational study on methods of promoting the development of basic health services* (206). Official Records of the World Health Organization.

WHO. (1978). *Final report of the International Conference on Primary Health Care (Alma-Ata Declaration)* (ICPRIMARY HEALTH CARE/ALA/72.10). Geneva.

WHO. (2000). *Reproductive health during conflict and displacement. A guide for programme managers.* Retrieved from http://www.who.int/maternal_child_adolescent/documents/924159263x/en/index.html

WHO. (2002) Community participaton in local health and sustainable development. Approaches and techniques. *Eurpoean Sustainable Development and Health Series*: World Health Organisation Regional Office for Europe.

WHO. (2006a). *WHO Country Cooperation Strategy at a Glance: India.* Retrieved from http://www.who.int/countryfocus/cooperation_strategy/ccsbrief_ind_en.pdf

WHO. (2006b). *WHO Country Cooperation Strategy. India 2006-2011.* Retrieved from http://www.searo.who.int/LinkFiles/WHO_Country_Cooperation_Strategy_-_India_Annexespart3.pdf

WHO. (2008). *India: National Health System Profile.* Retrieved from http://www.searo.who.int/LinkFiles/India_CHP_india.pdf

WHO. (2009). *Global Status Report on Road Safety: Time for Action*. Geneva: WHO Department of Violence and Injury Prevention. Retrieved from http://whqlibdoc.who.int/publications/2009/9789241563840_eng.pdf

WHO. (2011a). *India: Health profile.* Retrieved from http://www.who.int/gho/countries/ind.pdf

WHO. (2011b). *World Health Statistics 2011*. Geneva: W. Press. Retrieved from http://www.who.int/gho/publications/world_health_statistics/EN_WHS2011_Full.pdf

WHO. (2012a). *Health Impact Assessment (HIA): the determinants of health.* Retrieved from http://www.who.int/hia/evidence/doh/en/

WHO. (2012b). *Health topics: poverty.* Retrieved from http://www.who.int/topics/poverty/en/

WHO. (2012, 12 January). India records one year without polio cases. Retrieved from http://www.who.int/mediacentre/news/releases/2012/polio_20120113/en/index.html

WHO. (n.d.-a). *10 Facts on Global Road Safety.* Retrieved from http://www.who.int/features/factfiles/roadsafety/facts/en/index.html

WHO. (n.d.-b). *Intimate partner violence and alcohol fact sheet.* Retrieved from http://www.who.int/violence_injury_prevention/violence/world_report/factsheets/ft_intimate.pdf

Winslow, C. E. A. (1920). The untilled fields of public health. *Science, 51*(1306), 23. doi:10.1126/science.51.1306.23

Woelk, G. (1992). Cultural and structural influences in the creation of and participation in community health programs. *Social Science & Medicine, 35*(4), 419-424. doi:10.1016/0277-9536(92)90334-M

Wright, J., & Walley, J. (1998). Health needs assessment: Assessing health needs in developing countries. *British Medical Journal 316* (7147), 1819-1823. doi:10.1136/bmj.316.7147.1819

Yesudian, C. (2007). Poverty alleviation programmes in India: A social audit. Indian *Journal of Medical Research, 126*(4), 364-373. Retrieved from http://icmr.nic.in/ijmr/2007/october/1013.pdf

Appendices

Appendix A   Stage 1, rapid participatory appraisal interviewer's schedule

<center>***</center>

<center>

PARDI TALUKA, GUJARAT STATE, INDIA
Stage One: Rapid Participatory Appraisal

</center>

- Interviewers Schedule for semi-structured interviews with Key Informants –

Date of Interview: _____   Location: _____
Interviewer: _____   Team: _____

……………………………………………………………………………………………

<center>**Respondent Details**</center>

First Name: _____   Surname: _____
Occupation: _____   Position: _____
Place of residence: _____
Age: _____   Male/Female: _____   Caste: _____

……………………………………………………………………………………………

Introduction Question

- *How long have you been staying/ working in this area?*

A: Community Composition

1. *Can you describe the kinds of people who live in the area? (Including lingual, religion, cultural and caste groups)*
2. *What activities are people performing to follow their religion?*

B: Community organisation and structure

1. *Do you know of what kind of help is available for the residents of this village? (E.g. non government organisations, charities, women's groups etc)*
2. *Who in the community do the services help the most?*
3. *Can you think of any other services that would be helpful to people in the area?*

C: Community Capacities

1. *Who are the local people who take <u>initiative</u> in solving local problems?*
2. *Can you describe the communities in this area and which community you belong to?*
3. *Does your community come together to help people? Are they good at it?*

D: The physical environment

1. *Are there any particular problems with living in the area?*
2. *How would you describe the condition of housing in the village? How many people typically live in one dwelling? Do people own their homes?*
3. *Do people have access to clean water?*
4. *From where do people get water?*
5. *Does the drinking water ever make people sick?*

6. *How do excreta (waste matter such as urine or faeces) get disposed of?*

7. *Are there any plans to introduce improved methods? Are the plans likely to be implemented and how soon?*
8. *How does household and community rubbish get disposed of?*
9. *Does transport or access present you with any problems?*
10. *How safe do you feel in the neighbourhood e.g. walking outside after dark, or being home alone? If not, why?*
11. *Are you aware of any health problems caused by the environmental in the area?(E.g. from heavy rains, pollution, rubbish dumps etc)*

E: The socio-economic environment
1. *Can you describe the level of education of people in this village? (Male/Female)*
2. *Are there any opportunities for people to further their education?*
3. *What kind of ways do people earn <u>cash</u> income?*
4. *Are you aware of a lot of people who find it hard to manage financially?*
5. *Do children in this village work? Do they attend school? (Girls/boys?)*
6. *Is alcohol consumed in your area? If so, what effect does it have on society and family?*
7. *Do you know if violence/crime is an issue in the village?*

F: Disease and disability
1. *What kinds of things do you think affect the health of people living in this village?*
2. *What do you think are the worst health problems in the area?*
   o *Have these changed over the last few years?*

3. *Do you know if any of the following are problems?*
   o *malnutrition/ poor nutrition*
   o *communicable disease (E.g. measles, sexually transmitted diseases, respiratory infection, diarrhoea etc)*
   o *trauma (E.g. from road traffic accidents, work accidents, violence, accidents in the home, suicide etc)*
   o *women's health (E.g. pregnancy issues, child birth problems etc)*
   o *chronic and degenerative disease (E.g. heart disease, stroke, diabetes, arthritis etc)*
4. *Have these changed over the last few years?*
5. *Are there many people with a physical, learning or mental disability living in this area?*
   o *Has this changed over the last few years?*

G: Health and environmental services
1. *Are you aware of these services locally? How many of each is present in the area and what is their frequency?*
   o *PHC/CHC or subcentres*
   o *General Practitioners(Doctors)*
   o *Nurses*
   o *Health Workers*
   o *Traditional healers*
   o *Any other health services? (Physiotherapist, Physiatrist, Counsellors, Dentist, Dermatologist, Homeopath)*
   o *Where do women and children get their health services from?*
2. *What is the first method of health care for villagers?*

3. *What is the best thing about each of the services and what could be better?*
4. *Do government hospitals (PHC, CHC, civic hospital) charge any fee (for service or medicine, injections etc?*
5. *Are these services accessible from your village? How far are they?*
6. *What do you think of the services of the nearest government hospital (PHC, CHC, Subcentre, Civil hospital)?*
7. *Have you noticed any recent changes in these services?*
8. *How would you like to see them improved?*
9. *Are pathology services, x-ray and sonagraph services available from where you get health treatment?*
10. *Are indoor patient facilities available in the PHC/CHC in your areas?*
11. *What proportion of people would you say use the services of the traditional healer?*
12. *Broadly, what are the traditional healers' beliefs?*

H: Social services and Education services
1. *Are you aware of these services locally?*
     o Nursery/ Baldwadi (2yrs +) and Crèche/Ghodiaghar (3mth +)
     o Primary Schools
     o Secondary School
     o University/ Colleges
     o Community Hall, what activities take place there?
     o Day/Evening Classes
     o Youth group (Yuvajuth)
     o Self Help Groups
     o Religious Activity
     o Any other services?
2. *Could these services be improved? If so, how?*
3. *Which current social services are needed by most people in the area?*
4. *What else would you like in the area?*
5. *How do you think it could be done?*

I: Health policy
1. *Are you aware of government Health and Social Policy? Can you describe it?*

Miscellaneous
1. *If you could wave a magic wand what changes would you like to make in the area?*

Appendix B   Stage 1, rapid participatory appraisal information sheet

***

"Assessing community health needs, and developing and implementing a community health intervention in Pardi taluka, India"

INFORMATION SHEET

Nature and purpose of the project
Hello, my name is Clancy Read, from Curtin University, Western Australia. I am working in collaboration with SNDT University, Mumbai to conduct a health needs assessment of the communities in Pardi Taluka. In stage one, over the course of 6 weeks, myself, a local coordinator and a small local team will be speaking with a number of people in the villages of Pardi taluka to gain an understanding of health problems in the region. From the results of the needs assessment, priority health problems will be identified and inform stage 2, the development and implementation of a community health intervention in consultation with the community. The proposed intervention will aim to improve the health and wellbeing of the community.

What the project will involve
We would be most grateful if you could spare the time to assist in this project. This would involve participating in an interview with our research team and answering a range of questions that will assist us to understand the health status and needs of the community. Once all interviews have been completed and health needs have been identified, we will then return to you and other participants to review and prioritise each of the needs. In stage 2 of the project a health intervention will be developed and implemented based on those prioritised needs. To make the intervention responsive to your needs, it is necessary to conduct interviews with key community members such as yourself to gain an understanding of your perspective. Your thoughts and personal experiences will help us develop a health intervention that is relevant for you and other community members.

Benefits of the program for you and the community
By being involved in the research process, both researchers and community members will gain an understanding of community health problems. Community members will also be involved in the decision making and development process to improve their health and wellbeing. This strong emphasis on collaboration aims to produce positive outcomes for the communities of Pardi taluka.

Voluntary Participation and Withdrawal from the Study
Your participation in this study is by invitation and is entirely voluntary. You may withdraw at any time without discrimination or prejudice. All information is treated as confidential and no names or other details that might identify you will be used in any publication arising from the research. If you withdraw, all information you have provided will be destroyed. In order to give your consent to take part, it is important that you understand the purpose of this program and what is involved. You will also have the opportunity to view the transcript of your interview and comment on how your interview content is used.

THANK YOU VERY MUCH

Clancy Read
Research Associate and PhD
Student,
Centre for International Health
Division of Health Sciences
Curtin University of Technology
Perth, Western Australia
Ph: +61 8 9266 1382
clancyread@hotmail.com

Dr. Jaya Earnest
(Co-chief Investigator)
Senior Lecturer,
Centre for International Health
Division of Health Sciences
Curtin University of Technology
Perth, Western Australia
Ph: +61 8 9266 4151
J.Earnest@curtin.edu.au

Dr Veena R Poonacha
(Co-chief Investigator)
Director, Research Center for Women's
Studies &
Hon. Director, Center for Rural Development in
SNDT Women's University
Mumbai, India
+91 22 26604001
veena_poonacha@yahoo.co.uk

If you have any concerns about this project please contact:

The Secretary of the Human Research Ethics Committee
Curtin University of Technology
Phone: +61 8 9266 2784
email: hrec@curtin.edu.au

Appendix C   Stage 1, rapid participatory appraisal consent form

***

"Assessing community health needs, and developing and implementing a community health intervention in Pardi taluka, India"

CONSENT FROM FOR INTERVIEW PARTICIPANTS

I have read the information sheet about this project and I am happy to assist by taking part in an interview.

I am helping voluntarily and I understand that neither I nor my organisation are being paid or given any gifts of any sort for my help.

I understand that I can stop answering the interview questions at any time.

I am helping with the project on the understanding that, my answers will be kept confidential and my name will not be associated with my answers.

I am happy for the researcher to use my answers to the interview questions in reports and publications as long my wishes regarding confidentiality (*below*) are followed.

I am happy for this Interview to be recorded.   Please tick   YES ☐   NO ☐

Signed ………………………….

Print Name…………………

Date……/………/……

Witness…………………………….   Print Name………………………….

***

12 STEPS OF PHOTOVOICE
Kolak Village, Pardi Taluka, Gujarat India

1. **Community Mobilization and Problem Definition**
   Organise a community forum. Present the results of the with the community. Generate discussion surrounding the problem to discuss questions such as: What is the problem? Why is it a problem in our community? Do we want to change it? What can be done about it? Define an appropriate research question. Present the Photovoice concept to the community.
   *PAR and data collection: record discussion and participant numbers; Observe participant interest; Reflect results with co-researcher.

2. **Participant recruitment**
   Receive expressions of interest to be involved in the project. Ensure the time commitment is explained and a range of participants will be involved as per the selection criteria. Depending on the number of participants interested, snowballing and purposive sampling may need to take place by researchers.
   *PAR and data collection: Observe participant reaction, concerns etc; Reflect results with co-researcher.

3. **Photovoice training**
   Meet with recruited participants. Explain the study's stages, aims and objectives. Discuss how the photographs may be used, i.e. that they will be used to inform policy makers. A good way of helping the community understand the weight of photographs is to show famous photos that elicit feeling and tell a story. Obtain informed consent. This is to be obtained by the project staff from participants, and outlines the participants' rights and responsibilities.
   *FORM - Consent form 1: Rights and Responsibilities of the participant to be signed
   *PAR and data collection: Record participant retention; observe participant reactions; Reflect results with co-researcher.

4. **Discussion of Ethics with participants**
   This is an important stage in the Photovoice process and should not be overlooked (See ethics section for more information). Topics to be discussed with participants may include: taking photographs in a non-secured environment, taking photographs of others without permission, and how to minimize the risks.
   * FORM - Consent form 2: Ethical Understanding to be signed
   * FORM - Consent form 3: Acknowledgement and release to be signed by the participants themselves for use by researchers
   * TOOL 1 - Ethics Discussion Guide
   *PAR and data collection: Record participant retention; observe participant reactions; Reflect results with co-researcher.

5. **Camera distribution and camera use training**

Be sure to take an initial picture of the participant to avoid confusion of whose photos are from whom. Avoid influencing or defining the types of themes that may emerge. If participants lack ideas about what they can shoot, give several optional approaches in the form of open-ended questions - such as, "What makes you angry about this problem? How does this problem affect your everyday life?"- that might fuel their imagination. These questions could be seen as a type of influence, but they did not specify a theme, such as child safety or violence.
Give instruction on camera use. Keep these basic, i.e. point and shoot, back to the light etc.
* TOOL 2- Training Guide: How to use the cameras
*PAR and data collection: Record participant retention; observe participant reactions; Reflect results with co-researcher.

6. **Taking of photographs**
Participants are given a timeframe to take photographs and return cameras to researchers for developing. Brochure or information sheets about the project can be developed for interested community members. After developing photos, code backs of photos with participant number.
*PAR and data collection: Record participant retention; observe participant reactions; Reflect results with co-researcher.
*TOOL 3 - Brochures/Information sheets

7. **Individual [SELECTING] of Photographs**
Help participants choose the photographs that most accurately reflect the community's problem and tell their story. Be sure not to influence decision. Interviewing should take place immediately following a participant's return of the camera to facilitate memory retention. Captions can be written for each photo or stories can be written and later shared amongst the group (stage 8).
*PAR and data collection: Record discussions; Record participant retention; observe participant reactions; Reflect results with co-researcher.

8. **Group [CONCEPTUALIZATION] of photographs through stories**
In groups, facilitate discussion regarding the individually selected photos. Generate discussion regarding the meaning of photographs. SHOWED, VOICE or PHOTO mnemonic methods can be used to aid the process:
SHOWED = What do you **S**ee here? **W**hat is really happening? How does it relate to **O**ur lives? **W**hy does this problem or strength exist? What can we **D**o about it? (Wang & Redwood-Jones, 2001, p. 562)
    VOICE = **V**oicing **O**ur **I**ndividual and **C**ollective **E**xperience
PHOTO = "Describe your **P**icture." "What is **H**appening in your picture?" "Why did you take a picture **O**f this?" "What does this picture **T**ell us about your life?" "How can this picture provide **O**pportunities for us to improve life?"
*PAR and data collection: Record discussions; record participant retention; observe participant reactions; Reflect results with co-researcher.

9. **Group and researcher [CODIFICATION] of themes**
Identify those issues, themes or theories that emerge from the selected photographs. For impact, consider using slides to show photos. Consent, employed only after all the photographs have been developed and discussed,

should be obtained to indicate that the photographer gives permission for pictures to be published or used to promote the project's goals.

The researcher also conducts a thematic content analysis (of discussion) taking into consideration the input by the participants.

* FORM - Consent form 4: Publishing and Public Release to be signed by participants giving permission to publish and release photos taken by them.

*PAR and data collection: Record discussions; record participant retention; observe participant reactions; Reflect results with co-researcher.

10. Identification of influential advocates and policy makers
By participants and researchers
   *PAR and data collection: Record discussions

11. Presentation of Photovoice Final Product
Exhibit participant photo-based themes to the community and celebrate the project results. Present the report to community first, then policy makers/advocates. Ideally, results will be presented to policy makers/ advocates with community representatives.

12. Evaluation
Evaluate the program through short interviews with participants regarding the process. Report on any change occurring as a result of the project. Also report on any intangible change such as feelings of competency etc. These can be questions added to the short evaluation sheet.

Appendix E   Stage 2, Photovoice information sheet

***

Information Sheet: Photovoice project in Kolak Village

Hello, our names are Clancy Read from Curtin University, Western Australia and Suman Bali, Coordinator, Health Project from the Centre for Rural Development, Udwada. We are undertaking a collaborative project that addresses a health related problem in your village. In February this year, we conducted a needs assessment of your village by interviewing key informants from your village. Key health problems were identified and later prioritized by the key informants. Now, with participation of community members, we are developing and implementing an intervention that addresses the highest priority problem. That problem is environmental pollution in Kolak Village, and specifically, the affect this has on the lives of village people.

Nature and purpose of the project

The main goal of this intervention is: *To contribute towards a healthier living environment for the people of Kolak Village.* To achieve this goal, 12 people from your village will be invited to participate in Photovoice. Photovoice involves local people using photography and dialogue to document the elements of a problem and present this information to key decision makers, or those with influence with the aim of advocating for change. The aims and objectives of Photovoice include:

Aims	Objectives
1. To empower individuals to take control of their lives and become actively engaged in helping themselves	• Through participation in the project and in decision making, build confidence and self belief of community members
2. To enable community members to explore the problem of environmental pollution, in order to understand the problem and reflect on how it affects their lives	• Participation of 12 community members in photography and dialogue • Individual and group dialogue about the photographs taken and how they represent the components of the problem
3. To raise awareness amongst the public that people of Kolak want to be heard and want meaningful change for a healthier living environment	• Hold an event to exhibit the photographs taken by the participants • Invite the media to attend any event held exhibiting the photographs
4. To enable people of Kolak Village to lobby key decision makers, or those with influence through their photographs for meaningful change	• Provide community members with the means to communicate, through photography and dialogue • Develop a tangible outcome representing the voices of community members that can be presented to decision makers, or those with influence in collaboration with community members

What the project will involve

This project has a number of stages which will require commitment from participants. The project will commence after Diwali and conclude by early December. Effort will be made to arrange suitable meeting times and locations for participants.

The stages include:

1. An information session to explain the project and ethical considerations associated with taking photographs in the village, as well as camera distribution and training (Duration of 4 hours)
2. Taking of photographs that explain *in your eyes* how the pollution is affecting your life and why it is a problem (In your own time, timeframe of 1 week)

3. An individual interview with the project coordinators to discuss your photographs (Duration of approximately 1 hour at a time convenient to you)
4. A group interview to discuss the photographs (Duration of 3 hours)
5. Presentation of the final exhibition and celebration (Duration to be confirmed)
6. Short individual interview to evaluate the project (30 minutes)

What the photographs and your commentary will be used for

The photographs that you take and any commentary of those photos will be used to create an exhibition that can be presented to key decision makers, or those with influence, to demonstrate how environmental pollution impacts on the lives of people in Kolak village. The goal is to influence authorities to make positive change in a timely manner. The photographs may also be later published by the project coordinators in reports and publications.

Appendix F   Stage 2, key informant interviews consent forms

✳✳✳

"Exploring, through in-depth interviews the experiences of local experts in the field who are working towards social development/ change"
~Valsad District, Gujarat State, India~

CONSENT FORM FOR INTERVIEW PARTICIPANTS

I have been explained the purpose of this interview and I am happy to assist by taking part in an interview.

I am helping voluntarily and I understand that neither I nor my organisation are being paid or given any gifts of any sort for my help.

I understand that I can stop answering the interview questions at any time.

I am helping with the project on the understanding that my answers will be kept confidential and my name or any demographic information will not be associated with my answers given in the interview.

I am happy for the researcher to use my answers to the interview questions in reports and publications as long my wishes regarding confidentiality are followed.

I am happy for this Interview to be recorded.   Please tick   YES ☐   NO ☐

Signed ………………………….

Print Name…………………

Date……/………/……

Witness…………………………….   Print Name………………………….

Appendix G   Stage 2, key informant interviews interviewer's schedule

<div align="center">

***

DEMOGRAPHIC INFORMATION

</div>

Please note: This information will not be linked to your name or any answers you provide throughout the interview.

Interview code *(to be completed by the interviewer):* _____

1. **Age**: _____

2. **Gender**: _____

3. **Is your native place the same as your location of work?**
   Yes   ☐
   No   ☐
   If No, were you born (please tick the appropriate box):
   In another village of the same Taluka   ☐
   In another Taluka of the same District   ☐
   In the same State, but a different District   ☐
   In another State   ☐
   I was not born in India   ☐

4. **Do you reside in the area you conduct your work?**
   Yes   ☐
   No   ☐
   If No, please indicate the distance to your home (please tick the appropriate box): Within 10kms   ☐
   Within 20kms   ☐
   Within 100km   ☐
   Further than 100kms   ☐

5. **What Category(ies) best describes what your current work involves**
   (please tick appropriate category(ies):
   Public health   ☐   Women's rights   ☐
   Charity   ☐   Education   ☐
   Social Development   ☐   Rural Development   ☐
   Child Development   ☐   Tribal Development ☐
   Family welfare   ☐
   Other (Please specify): _____

6. **What are the main source(s) of funding for your work?** *(please tick the box)*:
   Self funded   ☐   Donations   ☐
   Government funded   ☐   Non-government funded   ☐
   Other (please specify): _____

7. **Education/Qualifications** *(please tick highest level achieved)*:
   Up to/below 11th standard   ☐   High School Certificate   ☐

| Bachelor | ☐ | Postgraduate | ☐ |
| Masters | ☐ | PhD | ☐ |

Other (please specify): _____

Field of study: _____ _____

SEMI-STRUCTURED INTERVIEWER'S SCHEDULE

1. What motivated you to work for the society?

2. When did you start working for the society?

3. Are you working as an individual in this capacity or are you working in a group/organisation?

4. Can you describe your area of work?

5. What sort of re-occurring issues do you see in the communities you are working with?

6. Who are your beneficiaries? Why do you want to work for this group of people?

7. When you *initially* commenced working for these beneficiaries, how was your acceptability?

8. Were there any barriers/ ill experiences to your work?

9. Can you provide us with some examples of resistance/unwillingness from the community to work towards change?

10. After experiencing these barriers, what motivated you to continue working for this cause?

11. Can you provide us with some positive experiences, or 'success stories' from working in the community?

12. Can you tell us something about the people you help and assist (their community composition, capacity to work together, motivation for change, desire to improve their situations etc)?

13. Do you see change in the community with which you work (from the effect of your work)?

14. Finally, what is your advice for those who are just starting to and willing to work for social development?

Appendix H Evidence of past activity in Kolak Village to address pollution

- Letter from local community groups of Daman and Kolak along with GreenPeace to the District Magestrate requesting action to be taken on local pollution issues (17 October 2000)

To: The District Magistrate
Valsad District
Valsad

17 October, 2000

Respected Sir:

Subject: Pollution by Common Effluent Treatment Plant (CETP), Vapi GIDC

Time and again, the matter of pollution by industries in Vapi GIDC has been brought to the notice of authorities. Much of the pollution is blatant and in violation of the law. In 1999, Greenpeace released the results of its scientific investigation of pollution by the Vapi Common Effluent Treatment Plant. The report exposed the poisons in the treated wastewater discharged by the Vapi CETP into the Damanganga River.

The study confirmed that the treated wastewater contains a range of poisons, including life-threatening chlorinated chemicals such as chlorobenzenes and poly chlorinated biphenyls. The wastewater also contained dangerous levels of toxic metals, such as lead, cadmium, chromium and mercury. Mercury is the dreaded poison metal that caused the Minamata disaster, where a large population succumbed to food poisoning after consuming mercury-contaminated fish from a polluted bay in Japan.

The Vapi CETP continues to discharge poisonous wastewater, and the authorities continue to ignore the pollution. The pollution is already causing significant damage to the health of downstream communities, and to the livelihoods of the fisherfolk and farmers.

Industries in the Vapi GIDC have also led to the destruction of the Kolak river by discharging their polluted wastewater through the Bhilkhadi

Through this letter, we – the representatives of Greenpeace, and the villages of Daman and Kolak – appeal to you to take action immediately against the polluting industries, and against the Vapi CETP. We're tired of seeing our protests against the pollution ignored by the authorities.

We await a quick response from you.

Sincerely,

Devjibhai Tandel, Ex-MP
Daman + Div

Ganpatbhai Tandel
Kolak
MACCHI MAHAJAN PANCH

Nityanand Jayaraman
Greenpeace
PO BOX 3166, LODI ROAD
NEW DELHI - 110003

DALPATBHAI D. DAMANIA
LEADING SOCIAL WORKER,
FISHING COMMUNITY,
NANI DAMAN

KANTIBHAI MAKRANI, CHAIRMAN
MATSYA UDYOG AND
AGRICULTURAL SAHAKARL
MANDALI
KOLAK

Ami 25TA
PARYAVARAN
SWRAKSHA SAMITI
VADODARA

(D. J. SHAH)
Jain Social Group
Daman

- Letter from GreenPeace to the CEO of the Vapi Town Common Efluent Treatment Plant (October 19 2000)

To:
The Chief Executive Officer
Vapi Common Effluent Treatment Plant
Vapi, Distt. Valsad
Gujarat   19 October, 2000

Dear Sir:

Despite efforts made by Greenpeace to alert your company, the Pollution Control Board and the District Magistrate to the toxic pollutants present in treated effluent discharged from the Vapi Common Effluent Treatment Plant, no efforts have been made to resolve these serious environmental concerns. Please be informed that Greenpeace has gathered at the CETP today with local communities affected by the pollution to peacefully protest the ongoing environmental damage to the region.

Greenpeace intends to engage in non-violent direct action to prevent further pollution and environmental degradation. We urge you to accept responsibility for the harm caused by your plant and to work with Greenpeace to find solutions to prevent further pollution.

In 1999, Greenpeace conducted a comprehensive analysis of the "treated" wastewater discharged by the Vapi Common Effluent Treatment Plant. The results and interpretation of the same are contained in the report enclosed. In sum, the scientific analyses confirmed what the villagers living downstream of the CETP outfall in Damanganga have been complaining about for four years – that the CETP was the most prominent source of pollution in the Damanganga.

The report confirmed the presence of several toxic chemicals, listed below. Many more compounds were isolated, although they couldn't be reliably identified.

Organohalogen Compounds
Chlorobenzenes, Hexachlorobenzene, Chlorinated Benzeneamines, Chlorinated Pyridine derivatives

Polycyclic Aromatic Hydrocarbons
Naphthalene and its derivatives

Other Aromatics
Diphenyl Ether

Metals
Cadmium, Chromium, Copper, Lead, Manganese, Mercury, Nickel and Zinc.

The treated wastewater discharged from the CETP was found to contain high levels of cadmium, and detectable levels of chromium, copper, lead, manganese, mercury, nickel and zinc. It is also possible that were it to be sampled, the sludge at the bottom of the settling tank would be very heavily contaminated, as many of the metals will simply partition out of the water phase and into the sludges.

Additional samples were collected of treated wastewater and sediment from beneath the CETP outfall in October 2000. The results are attached (See columns titled E1 (effluent) and S1 (sediment)).

As is clear from the new analyses, the wastewater from the CETP continues to violate even the most basic parameters of COD, colour and dissolved oxygen. The latter (DO) was Nil. More disturbingly, the wastewater had detectable levels of Chromium and Copper.

The sediment had elevated levels of toxic metals, including Cadmium, Chromium, Copper, Lead and Mercury.

From the analyses, and the complaints of fisherfolk who live further downstream about declining fish stock and fish of compromised quality, it is clear that the CETP is a significant source of pollution of the River Damanganga.

The CETP is clearly incapable of dealing with heavy metals, volatile compounds and many of the most dangerous organohalogen compounds. The metals detected in the wastewater and the sediment are toxic and have a very direct impact on the health of the river and the fish.

Currently, only the very basic parameters are monitored. While these are important indicators, adherence to these parameters do not guarantee safe wastewater. In this case, even the basic parameters are violated.

CETPs are clearly out of their depth in dealing with the complexity of industrial pollution in the Vapi GIDC. The continued discharge of the combined pollution by 600 industries by the Vapi CETP does not bode well for the environment or the people dependent on it. In fact, we feel CETPs are a barrier to Clean Production.

Our demands to you are very clear and doable:
   1. Acknowledge that CETPs do not deal with metals, volatile compounds and persistent organic compounds, including organochlorines.

2. Agree to publish the results of wastewater and sludge analyses for an extended list of parameters listed below.

Using your information, we'd be able to work on plans to identify the sources of the priority pollutants and put in place a system that will reduce, with the aim of elimination, the discharge into the environment of these chemicals. At least as importantly, we see the assertion of the public's right to know as fundamental to the ability to maintain a clean and healthy environment.

Sincerely,

Nityanand Jayaraman
Greenpeace
PO Box 3166, Lodi Road
New Delhi 110 003
Telfax: 011 4310651

Cc: The District Magistrate, Valsad, Gujarat

- News paper clipping from October 10, 2000 showing the staged sit-in protest of Greenpeace activists against the common effluent treatment plant in Vapi.

WHEEZING AT VAPI: A Greenpeace activist chains himself to one of the valves discharging poisonous waste water at the common effluent treatment plant on the banks of the Damanganga river in the Vapi Industrial Estate in Gujarat on Thursday. The environmental group, which was protesting against polluting industries, had earlier highlighted the area in south Gujarat's industrial corridor as a 'global toxic hotspot'.

DEVJIBHAI J. TANDEL
EX- MEMBER OF PARLIAMENT
(LOK SABHA)
DAMAN & DIU-U.T

No.DMN/Ex-MP/00-01/053

16th December, 2000

To,

Respected Shri Lal Krishna Advaniji,
The Honourable Union Minister of Home Affairs,
The Government of India,
N E W   D E L H I

Camp At: SILVASSA - (UT of Dadra & Nagar Haveli)

Sub: REQUEST FOR IMMEDIATE AND EFFECTIVE STEPS TO STOP POLLUTION IN SOUTH GUJARAT RIVERS of DAMANGANGA, KOLAK, PAR AND ALSO SARIGAM AREAS.

Respected sir,

We, the undersigned, most humbly and respectfully beg to place the following facts for your kind consideration and immediate action in the matter.

The pollution of air, water and earth is the acute burning problem in the Valsad District and U.T. of Daman since long. Inspite of repeated efforts from all angles, which is an acute public problem, is not solved at all and therefore, we take this opportunity to have your intervention and even to spare some time to take personal visits at least of two or three spots so as to arrive at the decision without any delay.

Sir, you are representing Gujarat in the Parliament and holding key post of Honourable Home Minister, of which, we are very proud.

We have made all our efforts for seeking remedy from the Government of Gujarat, Central Government, Pollution Boards and even politicians. We utterly failed in all our efforts and therefore,

....2

GOVJIBHAI J. TANDEL
EX-MEMEER OF PARLIAMENT
(LOK SABHA)
DAMAN & DIU (U.T.)

OFFICE B-16/7 DHARMESH APARTMENT
TIN BATTI, NANI DAMAN-396 210.
✆ (02638) (O) 55481.
RESI   EKTA APARTMENT , SARVODAYA SOCIETY
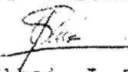TIN BATTI, NANI DAMAN-396 210.
✆ (02638) (R) 54599

:: 2 ::

as your honour is visiting this area, we request to verify our facts so that you can come to decision yourself.

The Air Pollution affected the health of poor adivasis, the Water Pollution destroyed the only profession of the fishermen of South Gujarat and earth pollution (soil) affected the agriculturists who have become bankrupt because of the agriculture produce like grains and fruits is affected seriously because of all sorts of pollution in this area.

The pollution of all aspects is because of the hazardous industri-als units allowed to run in the area of G I D C Vapi, GIDC Sarigar and Valsad. There are no water treament effluent plants which is the precondition for an industry. The Vapi GIDC Common Effluent Treatment Plant is just a formality as the colour and conditions of the water of rivers Damanganga, Kolak, Kalai, Par and Auranga which are all in the escorts of South Gujarat.

We would like to invite your kind attention towards the fact that in a small village like Kolak about 80 persons died of C A N C E R and in the opinion of the Doctor, this is because of pollution in the river water.

We, thereore humbly urge and request Your Honour to spare at least one hour to have the personal apparent verification of our grievances so that Your Honour can do justice to our long time pending unbearable grievances.

....3

364

DEVJIBHAI J. TANDEL
Ex-MEMBER OF PARLIAMENT
(LOK SABHA)
DAMAN & DIU (U.T.)

OFFICE : B-216/7, DHARMESH APARTMENT ",
TIN BATTI, NANI DAMAN-396 210.
✆ : (02638) (O) 55481.
RESI. : " EKTA APARTMENT ", SARVODAYA SOCIETY.
TIN BATTI, NANI DAMAN-396 210.
✆ : (02638) (R) 54599.

:: 3 ::

Recently, with the help and co-operation from Green Peace Inter-
-national, we had submitted letters to the concerned authorities
of Gujarat Government on the above matter and xerox copies of
the same are annexed herewith for your ready reference and doing
the needful at the earliest.

Kindly spare some $ time and inform us accordingly so thatwecan
remain present at that time.

Thanking you sir, we reamin

Yours faithfully,

(Devjibhai J Tandel)
Ex-Member of Parliament,
Daman and Diu(UT); DAMAN

બુધ્ધવાર, તા.૨૮ ઓકટોબર, ૨૦૦૯

(તસ્વીર: રફીક કાનુગા, કીમ)

શહેર-જિલ્લામાં ઘાતકી હત્યાનો સીલસીલો યથાવત

ઓલપાડ: અણીતાના માથા ફરેલા બુટલેગરે સરપંચ પિતા-પુત્રને જાહેરમાં રહેંસી નાંખ્યા!

(ગુજરાતમિત્રના પ્રતિનિધિ તરફથી)

સુરત-કીમ, મંગળવાર: ઓલપાડ તાલુકાના અણીતા ગામના સરપંચ અને તેના પુત્ર પર આજે સવારે ગામના જ બુટલેગરે કુહાડી જેવા તિક્ષ્ણ હથિયાર વડે હુમલો કરી સરપંચની હત્યા કરી દીધાનો બનાવ બનતા સમગ્ર પંથકમાં ચકચાર મચી જવા પામ્યો હતો. રાત્રે થયેલા ઝઘડાની અદાવતમાં આજે સવારે પિતા પુત્ર કીમ જતા હતા ત્યારે બુટલેગર સુરેશ રાઠોડે હુમલો કર્યો હતો. આ હુમલામાં ઇજા પામેલા પુત્ર રાજેશને સારવાર અર્થે સુરત નવી સિવિલ હોસ્પિટલમાં ખસેડવામાં આવ્યો હતો. જ્યાં સારવાર દરમિયાન તેનું પણ મોત નિપજ્યું હતું.

હત્યાના નિર્ધાર સાથે રાત્રે જ કુહાડો લઈને નીકળી પડેલો સુરેશ રાઠોડ સવારે પિતા-પુત્ર સોમા રાઠોડ અને રાજેશને રસ્તામાં આંતરીને તૂટી પડયો

પિતા-પુત્રની હત્યા કર્યા બાદ લોહી નીતરતા કુહાડા સાથે સુરેશ પોલીસમાં હાજર થઈ ગયો

મરનાર દારૂના ધંધામાં હેરાનગતી કરતા હતા તથા બેંકમાં સાક્ષી તરીકે ખોટું નામ લખાવ્યું હોવાનો આક્ષેપ

366

Figure 1: Press Report, Gujarat Mitra (Surat Edition)
28th October 2009

Incidents of Cruel Murders in Town and District in Tact

Olpad: Highheaded Bootlegger of Aneeta, murders Sarpanch and son in public (By Gujarat Mitra Correspondent)

Surat – Kim – Tuesday

One bootlegger of Village Aneeta, Taluka Olpad attacked the Sarpanch and his son early this morning with a sharp axe which resulted in the murder of the Sarpanch and has created havoc in the region. Due to the rivalry of last night's quarrel, bootlegger Suresh Rathod attacked the father-son duo early morning while they were going to Kim. The injured son was taken to Surat Civil Hospital. He died during the treatment.

The information collected from the police and the incident night says that the Sarpanch, Somabhai Gomanbhai Rathod of Village Aneeta, Taluka Olpad (55 years) staying in Halpativas, who is also president of Halpati Seva staying near Suresh Mangabhai Rathod's (31 years) house. Suresh Manga is in the business of local liquor. Somabhai and Suresh the hot-headed bootlegger used to have frequent fights which increased a lot during the last two days resulting in acute anger between the

two families. Yesterday night the two had a hot argument between them due to which Suresh had made up his mind to finish (kill) the Sarpanch. He left home that night along with a sharp axe and hid himself near Thaktithan on State Highway.

In the morning around 7 o'clock Sarpanch Somabhai (55 years) and his son Rajesh (30 years) left for Kim on their motorbike and were stopped by Suresh near Muktidhan where he was already waiting for them to come. He attacked both of them again and again with the axe resulting in head injuries to Rajesh. He started bleeding and fell down. Suresh had gone crazy so he cut the nerves of both the hands of Somabhai resulting in death on the spot. After committing the murder Suresh went straight to the police station along with the blooded axe. He confessed to killing the Sarpanch. Police rushed to the spot of the incident where Rajesh was lying injured. He was taken to Civil Hospital Surat for the treatment but he could not survive.

Olpad police have started investigation in this matter whereas leaders to the Congress are shocked by the killing of Sarpanch and his son.

INSERT: After killing father-son Suresh surrendered in police station along with axe dripping with blood.

Kim- 27- After killing Suresh Rathod surrended himself into the police station where he stated that Sarpanch Somabhai had applied for a bank loan from HDFC Bank where in the application he had mentioned his (Suresh's) name as witness without taking his consent.

When people from the bank visited for investigation he came to know about this, causing the quarrel between the two. Thereafter, Sarpanch started creating troubles for his alcohol business creating troublesome relations between the two families. Two days ago a big fight had taken place amongst them due to which he took the extreme step.

Figure 2: **Sarpanch Somabhai Rathod was killed before he could reach the police station.**

Kim – 27 – An application to date written on the Gram Panchayat letterhead to complain against the alcohol business was found in the pocket of the deceased Sarpanch Somabhai Rathod of Aneeta who was killed near Kim. This mentioned Suresh Mangabhai Rathod of Halpativas is involved in the business of alcohol at a very large scale. People outside the village also visit to buy it. He is doing this business day and night. At night in drunken condition he enters into other's houses with bad intentions. Last night he had fights with two tribal Halpaties and took away their money and mobile.

This letter was addressed to police constable so it is believed that he was going to make a police complaint.

Appendix J   Summary of news articles, alcohol manufacturing related violence

A selection of articles relating to pollution in Valsad District includes those released in:

- 2006, when Greenpeace activists received fines for their activism in Vapi in 2000 (BS Reporter, 2006, 9 October; Thomas, 2006, 11 October);

- 2011, when the Gujarat Pollution Control Board (GPCB) issued multiple closure notices of industrial units in Vapi for not following the norms of water and air pollution, not complying with the pollution control action plan drawn up and "for dumping illegal hazardous solid waste" (Bhatt, 2011, 17 February, 2011, 30 March; "Two more Sarigam units issued closure notices," 2011, 11 May);

- and when the CPCB was ordered to develop a monitoring mechanism to monitor implementation of action plans to mitigate pollution in 13 critically polluted industrial clusters in India, including Vapi ("CPCB told to set up monitoring mechanism," 2011, February 20);

- Also in 2011, with reports of 21 of 26 CETPs in Gujarat not functioning as per the standards laid down by the CPCB ("Effluent treatment plants raise stink: NGO," 2011, 4 May); and

- when the Gujarat High Court considered the shut down of the Final Effluent Treatment Plant (FETP) about 15 years after the World Bank funded CETPs were found to be ineffective and 11 years after Greenpeace's staged activism against CETPs (Halliday, 2011, 14 May).

Appendix K   Permission to reproduce copyrighted material

57046 Form to request permission to reproduce or reprint WHO copyrighted material

29/09/2010

Dear Ms Clancy Read

Thank you for your enquiry. On behalf of the World Health Organization, we are pleased to grant you permission to reproduce the following WHO item/s, as indicated in your message below:

Page 10: Blocks for an information pyramid for use in assessing community health needs.

Please note that this permission is granted under the following terms:

- WHO material should not be reproduced for use in association with commercial nor promotional activities. WHO does not endorse any specific company nor products.
- The WHO Logo/Emblem should not be reproduced, unless it appears on an original WHO publication or unless a specific permission is given by WHO for it's use.
- Please ensure that the original WHO source is appropriately acknowledged, with bibliographic reference/s and/or Web URL (site/s) if appropriate. ¨

Please provide me an original copy of your publication for our records, showing where/how WHO material appears and how it is referenced on your product.

Thank you for your interest in WHO publications and best regards.

Ms Dolores Campanario
WHO Press (Permissions Management, Translation and Reprint Rights)
Knowledge Management and Sharing
WORLD HEALTH ORGANIZATION
20, avenue Appia, CH-1211 Geneva 27, Switzerland
Tel.: 0041 22 7912483 or Fax.: 0041 22 7914857
e-mail: campanariod@who.int or permissions@who.int

- For permission to reproduce Parts of texts/Tables/Figures/Pages/Chapters/WHO Logo/Posters/Images or other WHO Materials/Publications: http://www.who.int/about/licensing/copyright_form/en/index.html
- To Request Translations or Complete WHO publication reprint rights contract: http://www.who.int/about/licensing/translation_form/en/index.html
- Licensing and copyrights: http://www.who.int/about/licensing/en/
- WHO RSS news feeds http://www.who.int/about/licensing/rss/en/index.html