

**THE ROLE OF ENVIRONMENTAL ACTION GROUPS IN
RAISING PUBLIC AWARENESS OF ENVIRONMENTAL
HAZARDS IN MEREWENT**

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Declaration

This dissertation represents original work by the author and has not been previously submitted in any form to any university. Where use has been made of the work of others, this has been duly acknowledged and referenced in the text.

Signed: Paula

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ABSTRACT

This dissertation, through the case study approach, investigates the role of environmental action groups in raising public awareness of environmental hazards in Merewent.

Merewent is a residential suburb that lies in the heart of the South Durban Basin adjacent to two oil refineries, a paper mill and other small industries. The sulphur –rich gases released by these refineries over the more than forty years have affected the health of the residents. Many today have respiratory ailments, with some of them developing related cancers.

With the emergence of environmental action groups in the area, the awareness of the problem has increased. This has resulted in pressure being applied by the community on the refineries to adopt less hazardous methods of refining crude oil. Most of the people who make up these action groups had limited knowledge of the environmental pollution. However, through their involvement in the activities of these groups, they learnt and became active participants in these organisations. Using science literacy, popular education and social learning theory as the underlying theoretical basis, this study investigates the learning that took place when people participated in social action.

LIST OF ACRONYMS

- SEA : Strategic Environmental Assessment
- SPEC : Settler's Primary Environmental Committee
- WDF : Wentworth Development Forum
- WHO : World Health Organisation CBO : Community based Organisation
- CHD : City Health Department
- CSIR : Council for Scientific and Industrial Research
- CONEPP : Consultative Process for the state of Environment in the Province
- EJNF : Environmental Justice Networking Forum
- MEAC : Merebank Environmental Action Committee
- MCC : Merebank Co-ordinating Committee
- MNC : Multi National Corporation
- MRA : Merebank Residents' Association
- NSM : New Social Movement
- SDCEA : South Durban Community Environmental Alliance

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INTRODUCTION

This is a study of social action by a community in its struggle to obtain relief from the debilitating effects of environmental pollution and degradation. This study arose out of

- my concern for the people of Merewent, a suburb in the South Durban Basin, who live in an environment where the air is burdened by the constant release of pollutants from the many industries in the area.
- my interest in the way people learn when they are part of a social action group.

Many Black communities today suffer the effects of environmental exploitation. With the advent of democracy in South Africa in 1994, the environmental laws have undergone change to include the human factor in environmental conservation. The National Environment Management Act of 1998 calls for the consultation and participation of communities in the management of their environment. This therefore means that communities need to be literate on environmental issues as it affects them, to engage with the competing ideas in the effective management of their environment. How then do communities attain a level of understanding so as to ensure that they receive the best for themselves? I would like to consider an example to illustrate the point:

A refinery in a residential suburb wishes to construct an underground pipeline to transport gas from an outside source to its plant. In terms of the environmental law, the refinery must hire an independent consultant to conduct a scoping study that explains the specifics of the project such as the materials to be used, the possible routes that the pipeline could take, as well as its impact on the community affected. In order that the refinery gets the go ahead to construct the pipeline, it needs to effectively address the concerns of the community.

The community on the other hand, needs to be fully aware of the issues around this project, for example, -

- Is the route proposed by the company the best one in terms of safety?
- What effect will such an installation have on their environment?
- How will such an installation be managed?
- Is the installation safe?
- What happens in a disaster?
- Are the materials to be used best suited for the project?

- Is the refinery committed to Best Practice in terms of environmental management?

Inherent in here are competing forces. The refinery is profit driven and as such wants the pipeline constructed quickly, with least cost and minimal maintenance responsibilities. Accordingly, they will not reveal all information on the project, especially risk factors. In fact they will try to convince the public of the usefulness of their proposal and entice them to go along.

The community on the other hand, needs to be aware of the risks involved, the benefits, the pitfalls etc. of the project before they respond. Anything less than this will see them being shortchanged and sitting with a lifelong potential hazard.

How then does a community attain a level of proficiency in order that they ensure that what is developed is in their best interests? It is my belief that the answer lies in the ability of the community to elicit information, disseminate it amongst themselves and master it. It is in this way only that they will be able to effectively challenge the profit driven proposals of industries to ensure sustainable development of their environment. Merewent is a community that has done just that. It has constantly challenged industries and government for environmental justice.

Being a campaigner for environmental justice in my hometown Chatsworth, just eight kilometres from Merewent, where we endure the hazards of a toxic landfill site and medical waste dump within one kilometre of our homes, I believe that there are many valuable lessons we could learn from the Merewent community which could help us in our struggle for a safer environment. In addition, I believe that unearthing the social learning in a community such as this will serve as motivation for other communities who experience similar environmental exploitation.

In introducing this study of the role of environmental action groups in raising public awareness of pollution in Merewent, I present in the first chapter, the rationale for this study, focusing on the empowering role of science literacy on society. Included here, is relevant literature from which this study is referenced.

A study such as this requires an appropriate methodological approach. Chapter Two outlines the method adopted in this study, and provides a justification thereof.

In order to contextualise this study for the specific purpose of making it meaningful, a socio-environmental profile of the area under investigation, namely Merewent, is presented in chapter Three. This chapter explores the historical and geographical perspectives of the area, and social perspectives of the community. The activities of the environmental groups in the context of this study are then presented.

Chapter Four focuses on the learning that occurred in the struggle for environmental justice by individuals, organisations and the community.

Finally, chapter Five presents the concluding remarks of this study.

CHAPTER ONE

RATIONALE AND LITERATURE REVIEW

A study such as this requires purpose as well research from which it can be referenced. This chapter presents the rationale, research focus and literature review.

1.1 Rationale for this study

At the turn of the twentieth century, with the invention of the television, motion picture and fast railroad travel the benefits of science and technology made profound impacts on society. Society had changed considerably. The rapid movement of people and information meant that the barriers of time and space were continually being eroded. Science and technology were seen to be at the forefront of an ever-changing society.

Today however, the number of negative examples of how science and technology have influenced society continues to grow. If one considers two major environmental disasters namely the gas explosion in Mexico City which claimed the lives of 500 slum dwellers and the gas leakage at the Union Carbide plant in Bhopal, India where more than 1000 men, women and children died an agonising death, doubts about the progressive influence of science on society prevail.

Environmental disasters such as these, which devastate large populations, pollute their life space and cause much poverty and hardship often bring with them large scale destruction of the natural resources and life support systems which ultimately pose a threat to life on Earth.

The society we live in is influenced by technology that draws on science and contributes to it. Technology tends to reshape society in sometimes-unprecedented ways. Science and technology are important internal sources of societal change and are responsible for the revolution in the structure of modern society (Fensham:1985).

Whilst it may be true that there can be a progression of the frontiers of science and technology in uncontrolled and often controversial ways, there is also the possibility that

science and technological advancement can be controlled through the sustained management of resources. Technologies are products of cultures, and it is these cultures in turn that sustains the technologies. Society therefore determines the direction it wishes science and technology to take.

Democratic societies of the world call on people to participate in the decision-making processes. The ability of individuals or groups to participate effectively in such processes is dependent to a large extent on how they interact with the information at hand. Naturally then, it will follow that responsible, well thought out decisions will be reached when one has applied one's mind in a careful and responsible manner. Where the issues are science and technology related, it calls for a scientifically literate citizenry (Miller 1983).

Science literacy involves having an understanding of basic scientific knowledge, the nature and processes of science, that is, how scientific knowledge is created, and the social and cultural implications of science. Scientifically literate people may never create any ideas pertaining to science, but they will be conversant with the ideas being considered (Agin 1974). Such people will appreciate the role of science in society, that science is not isolated from, but is inextricably linked to the society from which it arises. The scientifically literate person therefore is someone who

Is aware that science, mathematics and technology are interdependent human enterprises with strengths and limitations; understands key concepts and principles of science; is familiar with the natural world and recognises both its diversity and unity; and uses scientific ways of thinking for individual and social purposes. (A.A.A.S., 1989:4)

It follows from the above that effective participation in a science based society involves making decisions on issues that affect society from an informed standpoint, and being able to accept responsibility for the consequences of such decisions (Bingle & Gaskell 1994). Implied therein is an understanding of the impact of science on society.

Science is a product of social forces. It has a social agenda that is determined by those who can mobilise scientific production (Shiva 1991). It reflects the interests and priorities of a particular class, gender or cultural interest. Yet, science is almost always presented as being socially and politically neutral. It offers technological solutions for social and political

problems, but at the same time, distances itself from the social and political problems it creates. “Science stays immune from social assessment and insulated from its own impacts” (Shiva 1991:21).

The Modern Reductionist method sees science as being value-free, objective and in accordance with the “scientific method”. What is omitted here is the conceptual framework from which such knowledge is derived. Science production is influenced by a set of values based on power and driven by commercial capitalism (Shiva 1991). Accordingly, it creates domination and inequality.

The application of science and technology to increase productivity and wealth ignores the inherent risks it produces. Such risks find expression as the life threats to plants, animals and human beings. Initially being seen as “latent side effects” (Beck 1992: 13) such risks become an “incidental problem in undesirable abundance” (ibid: 26) as productivity increases.

Many hazards created are not perceptible to the victims, for example dioxins released by incinerators, or the volatile organic compounds released by petroleum refineries. They may not even affect the victim but will have profound changes on their children. Such hazards require the “sense organs of science” in order to become visible (Beck 1992). The scientific community defines their perceived danger. Given the questionable objectivity of the experts and the strong driving force of consumer capitalism, these hazards “imperceptibly abandon the victims completely to the judgements, mistakes and controversies of experts while subjecting them to considerable stress” (Beck 1992:27).

In my view, the ignorance of communities on factors influencing environmental degradation leaves them open to exploitation. Driven by wealth creation, MNC’s invade the environment of people, and under the guise of job creation and community upliftment rape the life space of these communities, threatening human well being and the sustained survival of both the environment and people.

It is only when one understands the social and environmental implications of science and wealth creation in a science- based society that one will come to an understanding of the risks that the society is exposed to. The impact of science literacy on communities helps me

to make sense of environmental action in Merewent, a Black community in South Durban that exists in very close proximity to refineries and other industries.

Poor people, particularly people of colour live in polluted environments that have adversely affected their lives (Peek 2001). Asbestos poisoning in the Northern Cape, the location of toxic wastes in Aloys, Port Elizabeth where contaminated water seeps into people's homes, respiratory ailments due to air pollution of refineries in Secunda and South Durban are some of the local examples of the effect of environmental degradation on human health.

These people who are normally disenfranchised have long realised the detrimental effects of a contaminated biosphere on their lives. In South Africa, the organised campaigns by the laity for the restoration of the environment are well publicised. Whilst initial reactions of the affected people may have been "knee-jerk", subsequent actions were organised, informed and sustained. These campaigns, which were directed mainly at industries and government, involved the mass mobilisation of people. In order for these fights to achieve the desired aims, people had to ask critical questions. To this end, they had to engage in a meaningful way with the issues at hand. This demanded that they become literate on the technologies, environmental issues and the procedures that could be followed. This required learning of some kind.

The campaigns for environmental justice, almost always centres on working class people, most of who hold down full time jobs. How then do these people engage themselves so that they have a reasonable chance of ensuring that their children develop normally, have the same chances as other privileged children, without being plagued by ill health as a result of environmental pollution? One answer to this could come from collective action, whereby people with a common goal and concern come together, share ideas, resources, and work together to achieve their goals.

The collective action of the people in the rainforests of Terrania Creek (Foley 1991) illustrates that social learning and social action can achieve the desired goals. This study therefore looks at learning through social action by the environmental groups in the South Durban Basin.

1.2 Research focus

This research will attempt to document the activities of environmental groups in Merewent in raising public awareness of environmental hazards. This research is located in the realms of popular education and social learning theory. The following are the key issues to be addressed:

1. What are the educational intervention strategies and activities of the environmental groups which led to increased conscientisation and increased scientific knowledge of residents, noting that science literacy, in addition to having a knowledge of science, is about being aware of the social impact of that science and technology?
2. What were the processes that took place when residents proceeded from being learners to activists? How did people become active subjects who questioned and transformed the way the environment and society were perceived? This would focus on the ways through which knowledge generated among the social groups was internalised and thus led to residents becoming critical examiners of their experiences thereby questioning and interpreting their environment.

The investigation of the research questions will be pursued mainly through the perspectives of the leading activists within the environmental groups concerned.

As this is a study about learning as participation in social practice, it becomes necessary therefore to focus on popular education and social movements and thereafter to draw links between them.

1.3 Popular education

Civil democratic society is characterised by the free participation of its citizens in the decision-making processes of the country. The degree or extent of their participation varies from situation to situation. For example, at the National government level citizens play a representative role in decision making, but at the Local government level, they have a more direct say in the choices to be made. Accordingly, their role at this lowest tier of government is one of participation. Participation is viewed in a positive sense as a free exercise, and is seen as “forming a part of the decision making process for the attainment of desirable goals” (Rahnema 1992:116). In a well functioning democracy, this form of

participation should work well. Should any process hamper citizen voice or action, there will be gradual erosion of the fabric of democracy.

The marginalising of citizens from decision-making processes by social and political systems which impacts directly on them as members of society has damaging effects on their lives. They find themselves resigned to a state of poverty, exclusion and social deprivation. The people for whom such systems are intended to serve become frustrated and tend to vent their anger on each other in a variety of ways, instead of on the very systems which brought about such a state. If allowed to continue for lengthy periods of time, this can lead to the destruction of society. Should the society wish to resurrect itself, gain back control then current forms of education alone will be unable to remedy this undesirable situation. What is needed is political education (Thompson 1997)

Political education is education derived from the radical tradition where knowledge is equated to control. Knowledge is viewed and valued in terms of its ability to effect social and political change (Johnson 1988). In order for such changes to happen, the knowledge system in addition to making people aware of their present oppressive condition must enable them to find creative ways of freeing themselves of such oppression. Knowledge in this form is deemed “really useful knowledge” (Johnson 1988:23).

“Popular education, a form of radical education, finds itself located in the struggles of ordinary citizens in order to bring about social and political change. First appearing in workers socialist movements as self help independent activities in the late 18th century and early 19th century, popular education moved onto popularising science in the 20th century where it challenged the superstitious and irrational forms of thought in society which tended to suppress people and their development” (Steele 1999:101). Thus, beyond contributing to technology and economic power, science was taught within these movements so that people could come to a critical understanding of those societal values which threatened to stunt their development.

Popular education finds itself in the chasm that exists between the politics of the state and the politics of civil society. It is “located within the dialectic of popular culture of the state and the cultural politics of communities” (Martin 1999:1). Being overtly political and partisan, this form of education is about the struggles of ordinary citizens for freedom,

democracy and social change (Martin 1999). Whilst accepting the notion that education is never neutral in that it serves the interests of a particular group, this form of education is quite explicit about its political purpose and ideals. It focuses on knowledge beyond the vocational purpose, viewing it as the education people need in order to take more control over their lives as workers and citizens. It brings with it the educational aspect of social change, attempting to forge links between education and social action (Martin & Rahman 1999, Thompson 1997).

In contrast to formal schooling where learners are taught pre-determined concepts through a conventional, pre-arranged curriculum, popular education finds itself in an informal, dynamic setting. The curriculum of popular education is not pre-planned or determined by experts. Its content is derived from the “lived experiences and interests of people, and as such focuses on the interests of learners rather than the expertise of the teacher” (Martin 1999:4). The idea of lifelong learning is expanded to include learning for living, and as such, its focus is on learning from experience (Martin 1999, Crowther 1999).

The knowledge embodied in popular education has to serve practical ends. That is, its purpose is to free people from their troubles. Such knowledge is referred to as really useful knowledge which is “knowledge calculated to make you free” (Johnson 1988: 23). It is derived from the radical tradition, where in addition to challenging the ‘liberalism of the middle classes’, it was “counter-hegemonic, threatening to construct a whole alternative social order” (Johnson 1988:18). This is achieved by challenging the inequality and oppression people suffer.

In becoming really useful knowledge, its practicality is dependent upon the social standing and political purpose of a particular group. Accordingly, what is deemed useful for one group may be seen as being of no use for another. This does not mean that the knowledge has no worth. Johnson qualifies this point by asserting that all knowledge that does not liberate is not useless, but is a diversion – a false consciousness, and as such one needs to be aware of that. This knowledge which is the product of human action and intervention is the only knowledge that matters. You could not be taught, but you can learn. All other forms of knowledge serve as resources (Johnson 1988)

Given that the knowledge forms play an important role in popular education, critical thinking is seen as central to this form of education since it “embodies processes where assumptions taken for granted as inevitable are challenged” (Thompson 1997:145). Current forms of knowledge as well as generally accepted practices are contested to determine their validity and usefulness. Depending on its ability to positively enhance the quality of peoples’ lives, such knowledge may be classified as being either useful or oppressive.

The view that the lived experiences of individuals are what drive the curriculum of popular education should not be seen as an exclusion of theory in this form of education. Thompson (1997) sees theory as playing a valuable role whereby the real life experiences form the basis for theory generation. When lived experiences are linked to relevant knowledge it leads to the formulation of theories that become grounded in experiences of the people. This juxtaposing of theory with other similar experiences of people leads to the development of a “critical mass, which leads to collective forms of social action for political change” (Thompson 1997:146). In Thompson’s view, the absence of theory reveals a lack of reflection and as such this will fail to address the issue of how power and ideologies operate to maintain the status quo and as such oppression.

Popular education as a form of emancipatory education finds expression in the social movements of the world. It is at these sites where the oppressive nature of a society is challenged with a view to liberating its citizens. Accordingly,

“in engaging with social movements therefore, popular education seeks to make educative elements of peoples collective experiences, i.e. what they learn in the process of social and political action, more systematically educational” (Martin 1999:7).

1.4 Social movements and learning

In surveying the literature on social movements and its impact on learning and social change, a social theory of learning will be presented, and then social movements as sites of learning will be explored.

A social movement, in its simplest sense, as applied to a society, is a gathering of people. It is usually informal at first, later becoming organised as the people within begin interacting with themselves and the oppressive other. It is not really a physical, tangible thing but is an

abstraction from reality (Garner 1996). By their very nature, social movements are oppositional, located outside the corridors of organised power and striving for social change (Milbrath 1989, Holford 1995, Martin 1999, Garner 1996). This is applicable to the situation in Merewent, where the environmental activists exist as groups of oppressed people united in the fight against a common injustice, namely the exploitation and degradation of the environment by industries.

In order to understand the role of social movements as agents of social change, it becomes necessary to explore learning from a social perspective. In this section, a social theory of learning will be presented, and then social movements as sites of learning will be explored.

1.4.1 Social theory of learning

In viewing social movements as “sites of interactions between adversaries with conflicting models over a shared cultural field” (Welton 1993:153), it would imply that people have the ability to develop and alter their views and perceptions of the cultural field. By implication therefore, learning can occur within such movements.

A social theory of learning views learning as social participation, whereby people through their active involvement in issues affecting their community generate meanings for themselves and the community (Wenger 1998, Kilgore 1999). When members of a group engage themselves in a process of knowledge and resource sharing, and the debating of contentious issues, they come to a better understanding of those situations that impact negatively on their lives.

Traditional theories of learning view learning as taking place through the interaction of the individual with stimuli. Constructivism for example, views the learner as being central to the learning process (Driver 1988). According to this theory, learners actively generate their own meanings of reality in terms of their background, abilities and attitudes and experiences. The meanings that learners generate, although idiosyncratic, do not differ drastically from those held by the wider scientific community. This theory is built on the research style and methodology of Piaget where attention is given to the responses of individual learners to carefully constructed events and situations (Millar 1989). In social learning by contrast, the group as a learning system is emphasised.

In attempting to conceptualise learning through social action, Wenger (1998) positions the individual as a social being who has the ability to perform tasks through the interaction with others in the community. The individual generates meanings as well as an identity for him/herself thereby making this process an integral part of one's life.

The role of an individual within the various organs of society is variable. In some organisations the person may have a pivotal role, whilst in others their contributions may be of a peripheral nature. This multifarious role of individuals within structures of society develops them in a personal way as well as in the way they interact with their environment (Wenger 1998).

In learning in a group, the group is viewed as a learning system. The learners and educators bring to the learning situation their own social values. Thus each participant "has different socio-culturally developed understandings to contribute to the collective learning process" (Kilgore 1999: 198). The learning is characterised by a contestation of ideas and intense debate. Thus, the collective identity may comprise different yet contradictory definitions. It therefore follows that whilst the individuals may remain in control of their actions, they may at the same time, act in unison with others in the group (Kilgore 1999).

Kilgore (1999) proposes a model of collective learning to examine how people study and learn in social communities. According to this model, the group is seen as a constructor of knowledge, with its vision of social justice motivating its actions. Learning is seen as a social participation, with people being actively involved in the issues of the community. Through their interaction with each other, they come to a better understanding of issues within the community thereby generating points of view within that community. In addition to observing how meanings are developed within a group, Kilgore sees this model as explaining how groups interact with each other in their communities.

In studying the role of groups in the meaning making process, this theory places emphasis on conflict as a contestation of points of view. With learning in social movements involving a wide diversity of people, there is bound to be conflict. Conflicts may arise in the group due to the large amounts of information that the group has to deal with. Kilgore sees conflict as a symbolic challenge rather than a material one, and claims that it is not about a reaction to a crisis, but rather about individuals developing themselves.

Kilgore sees conflict as being necessary for cognitive development to take place, since members do not only stand in opposition to each other, but also produce meaning in the conflict through the clarification of ones own ideas. Given its potential to developing the individual, conflict is seen as being crucial to social learning (Kilgore 1999)

This view finds favour with Wildemeersch, Jansen, Vandenabeele & Jans (1998) who see the conflictual nature of groups as needing to be maximised in order to encourage learning. They stress that the tensions within the group should not be ignored but rather dealt with.

In their model of social learning, Wildemeersch et al (1998) see social learning as representing a high form of learning and teaching where solutions have to be found for unforeseen problems. Whilst also acknowledging the centrality and capability of the group in this form of learning, they see current models of learning as being deficient in attempting to explain how learning occurs in a group.

Wildemeersch et al. (1998) view social learning as occurring on four axes, namely, action by members of the group, reflection upon their actions, communication within the group and outside, and co-operation amongst members. Interwoven within these four axes are issues of creativity, power and social responsibility.

In trying to strike a balance between these four axes, the role players need to be creative. Such a balance however varies from group to group. This is viewed as important since Wildemeersch et al. (1998) view social learning as a form of planning to develop creative answers to given challenges.

From the above models of social learning, the group is seen to play an important role in meaning formulation. People come together, share ideas and develop a perspective that shapes the identity of the group. This then leads to the development of the individual. However, Matthias Finger (1989) adopts a different a stance on the development of the individual within the group.

Moving away from the widely held view that the individual develops through the development of the group, Finger (1989) sees the development of the individual as occurring

before that of the group. He bases his view on his assumptions for the emergence of New Social Movements (NSM), claiming that they developed as a result of a “crisis with modernity” (Finger 1989:18). The individual learns and develops and this then impacts upon the group, leading to further development.

Individual development is stressed over group development. In separating education from politics, Finger sees the aim of education therefore to bring about the personal transformation of the individual which will then lead to social and cultural transformation. The individual is seen to be at the centre of such transformation. In addition to bringing about a change in the way of living, adult education will be judged on its ability to transform individual thinking (Finger 1989).

Social movements are formed in response to “systemic generated deprivation which affects very fundamental levels of physical, personal and social existence” (Welton 1993:156). The threat to the natural and social existence provides the basis on which the social actors work out their practical strategies. Using this as a basis, Welton (1993) challenges Finger’s assumptions, claiming that NSM’s have arisen out of a crisis in welfare-state capitalism, and are interpreted “primarily as defenses of the threatened life-world and ecosystem” (Welton 1993:152). He sees NSM as people who have selected and transformed certain modern values. The development of the individual cannot be separated from that of the group, and that in the struggle for the betterment of their lives, workers were able to develop themselves. Thus, it is in pursuance of group objectives that individuals develop.

The social construction of knowledge sees individuals as bringing to the learning situation their own perceptions of reality. Through cognitive development by interacting with others in the learning situation, learners develop a common shared meaning of reality. This, in my view, sees the individual as being immersed in society and developing within it. The individual thus cannot be isolated from the society in which he/she finds him/herself.

Society not only provides the material resources and stimuli for learning, but it also constitutes the human element in the learning process. Finger (1989) has the view that the individual develops independently of the group, but upon learning, engages with the group. One of the aims of this study is to investigate whether he is indeed correct, or whether learning occurs through the active interaction of learners with each other in a group and

amongst groups. How is the development of the individual determined by the group and vice versa? Is all development dependent, in part, on the interaction of groups with each other?

The separation of education from politics in the education of the individual is a rather sanitised position of how teaching and learning takes place. I view learning and teaching as a political act, and take as true Paulo Freire's notion that the purpose of education is to either domesticate or liberate you (Shor 1993). That is, it can enable you to break free from your state of oppression or get you to accept it. The politics of education plays itself out in the nature of the teacher-learner relationship, topics chosen for the syllabus as well as those that are left out, and also in the process through which content is chosen- through consultation or unilateral imposition.

The above explanations of learning in social movements makes the assumption that the need for learning within a group of people has been established, in addition to them being goal focused towards a point of commonality. This however does not allude to a more fundamental question, that of what it is that drives people to act, or what drives them to change? Factors which act against these drives must therefore constitute barriers to learning within social movements.

1.4.2 Barriers to social learning.

Learning in social movements is not without its problems. In this section, I will attempt to identify the factors that tend to hamper learning in a group, starting with the belief system that individuals hold and proceeding onto the dynamics within the group. This will help identify impediments to learning, if it does occur, in my case study.

In studying the learning within social movements, and the purpose of social movements as agents of social change, one makes fundamental assumptions about the readiness of people of a community to become part of a social movement. Implied therein is the notion that all like-minded who view a situation as unacceptable react immediately and with equal vigour. Furthermore it might be assumed that all members of a society view a situation as intolerable. In reality it might not be as simple as that.

People over the years have become socialised into particular belief systems. There has been to a large extent, an unchallenged acceptance of certain norms and values. Naturally then, people who hold such beliefs and values possess an emotional attachment to them, even though unbeknown to them, such a belief system has led to them being exploited. The status of women in religious practices is a good example. If one accepts the explicit purpose of social movements as organs of society which attempt to subvert the status quo, it becomes that much more difficult to mobilise people to see the issue in reverse. Therein lies the problem. People will not readily accept that which is contrary to their belief and therefore will not change their current ways of perceiving, thinking and behaving in society (Milbrath 1989). This has profound relevance to the study of the people of Merewent

Merewent is a township composed of Indian and Coloured people. Most people here worked in the refineries and the paper mill. People viewed their employment and family life with a passion and worked very loyally. To most of them, the need to provide for their family superceded all other needs. Accordingly, it might have been difficult for them to understand the exploitation of their environment by the refineries, preferring to see the refineries only as a means of livelihood. Thus, their involvement in action directed at refineries to reduce pollution levels could be viewed as a threat to their source of income.

Other barriers to social learning include the following:

1. An issue within society not being seen as their problem. People may identify with the issue on an intellectual level and since it does not “gnaw at their gut”, they may at best, operate at the level of intellectual sympathisers. (Milbrath 1989:357). Such issues are usually environmental. Milbrath believes that such a situation arises because people lack a deep understanding of the situation.

The struggles of the people of Easthall, Glasgow serves as an appropriate example to illustrate this point. In their fight to get better housing for the residents of Easthall, Helen Martin and Cathy McCormack found that the authorities at the local Council acknowledged the decline in health of the residents. There was a high risk of asthma, heart disease and cancer. Glasgow had the highest premature death rates in the world. The authorities refused to see the health problems as being due to the poor insulation of the homes, instead attributing it to the poor diet and lack of exercise of the residents (Martin & McCormack 1999).

Merewent shares a similar problem. Even though the community was rather active in the campaign against apartheid, when it came to the pollution issue, many residents did not participate with equal vigour. This was left to the people most affected by the toxic gas release, namely those who lived in the same street as that of the refinery. The residents adopted a fatalistic attitude towards the pollution problem, believing that one could not take on the White companies who had a national interest and expect to succeed.

The lack of vigorous participation by the community of Merewent today can be attributed to the movement of people out of the area. As the young people of yesteryear grew up and became educated, most sought employment outside of the South Durban Basin. In an attempt to escape the pollution, most moved out of Merewent. This meant that people who now moved into the area are not too familiar with the struggles of the community and as such will not participate with sustained vigour.

2. Lack of expertise or training or even time to perceive the enormity of a problem may result in people not wanting to become involved in the social actions directed at it.
3. The negative messages of environmental groups. These movements generally spread a message of gloom and have an aura of negativity about their work (Milbrath 1989). Given that their message is typically one of some kind of failure or tragedy, for example a toxic spill or pollution, and that it usually involves trying to stop someone from doing something, like- emitting a pollutant, Milbrath (1989) contends that environmentalists are trying hard to overcome such negative connotations of their messages by proposing constructive alternatives to current practices. This will be shown later in the work of the environmental groups of Merewent.

Given the above impediments, the issue at hand is how does a social movement attempt to effect learning? Society will not take cognisance of the social movements as long as everything is working well (Milbrath 1989). Given the fact that there will be no amendment of current behavioural patterns and/or beliefs, Milbrath suggest a slow accelerated unfolding of unfortunate events to shock people into reality.

Drawing on the works of physical and biological scientists, Milbrath suggests “creative evolution” (Milbrath 1989:369) as a method through which social learning can occur.

Systems in nature are evolutionary and not closed. When a sufficient amount of disequilibrium occurs within a system, the system opens up to an inflow of energy leading to random behaviour and a high level of irritability within. The system now interacts with the environment due to increased levels of entropy in it. The system adjusts itself to establish a new equilibrium. Systems in society behave in much the same way.

Factors, which upset the normal functioning of society, will impinge on the equilibrium of the society. Social buffers such as tolerance will contain this agitation. However, when the turbulence heightens people's sensitivity to the point where they start looking for new ideas, a critical time is reached for a paradigm shift in society. The society can no longer contain the discomfort (Milbrath 1989). At this point, the limits of time and space do not matter. The society seeks ways of reducing the discomfort. By undergoing a change of thought, abandoning old ways of doing things and adopting new ones, the society attempts to re-establish equilibrium. This is an organic process.

Information is communicated over far and wide through what Milbrath calls "morphogenetic fields" (p374), which guide like-minded people to come together. The evolution of systems in society, as in nature does not occur in a haphazard way. It is co-ordinate and in accordance with the laws of nature. "Evolution is not a blind chance, but the unfolding of order and complexity that is a creative learning process" (Milbrath 1989:370).

Even though impediments to social learning are present, it is important to note that natural tendencies are present within societies to overcome them and make social learning a powerful tool in popular struggles.

The literature review presented an expose' of the concepts popular education, social movements and social learning. In understanding these concepts, it is important to understand the role that they play in the struggles of ordinary people.

The most important feature of popular education is its natural link to the popular movements. If the purpose of popular education is to help oppressed people to take action then the most effective way to do this is by engaging with the people, by working with the peoples' organisations.

Social movements, on the other hand, cannot operate in vacuum. They need a basis from which their purpose could be enunciated. Popular education forms this educative element for these popular movements.

Popular education and social movements need to exist in tandem, and it might be fair to say that they share a symbiotic relationship with each other.

Having presented here the theoretical basis for this study, I consider it necessary to now identify the research method that will be adopted to answer the research questions. Chapter two presents the research methodology.

CHAPTER TWO

RESEARCH METHODOLOGY

This chapter is concerned with the description; analysis and justification of the procedures employed to achieve the aims of this study.

In exploring issues impacting on learning as a social participation, it was felt that this research should involve environmental groups, schools, civic organisations and residents. It is for this reason, amongst others, that the qualitative research rather than quantitative was chosen.

2.1 Methodological approach

As this study focuses on personal experiences and perceptions of people, the qualitative approach was used as “qualitative” implies a direct concern with experience as it is “lived”, “felt” or “undergone” (Sherman & Webb 1988:7).

This research is primarily concerned with an attempt to conduct research into human experience that is not reduced to statistics, and where the richness and complexity of such experience is retained and respected. It was therefore decided to concentrate on a qualitative approach as this includes understanding experience as nearly as possible as its participants feel it or live it (Sherman & Webb: 1988)

Qualitative research is advantageous in that it has the natural setting as the direct source of data. The data is collected on the premises and supplemented by an understanding that is gained by being on location. Qualitative researchers go to a particular setting under study because they are concerned with context. They assume that the setting in which it occurs significantly influences human behaviour (Sherman & Webb 1988).

Quantitative research on the other hand, is a highly structured approach to research with a structured hypothesis and experimental referents. It is generally experimental in nature and is seen as “that approach to research in the social sciences that is more highly formalised as well as more explicitly controlled... and which in terms of methods used, is relatively close

to the physical sciences” (Mouton & Marais 1990:155). It therefore follows that reliability in this approach is viewed in terms of the reproducibility of results.

Qualitative research however sees reliability

as a fit between what they record as data and what actually occurs in the setting under study, rather than literal constancy across different observations.

(Bogdan & Biklen 1992:48)

Qualitative research was chosen over quantitative research since:

1. Qualitative research is descriptive in that the data is collected in the form of words or pictures rather than numbers. The written results of the research contain quotations from the data to illustrate and substantiate the presentation (Sherman & Webb: 1988).
2. Qualitative researchers are concerned with the process rather than simply outcomes or products.
3. Qualitative researchers tend to analyse their data inductively. That is, they do not search out data or evidence to prove or disprove hypotheses they hold before entering a study. Instead the ideas or theories are built as the particulars are gathered or grouped together.
4. Meaning is of essential concern to the qualitative approach in that researchers who use this approach are interested in the ways different people make sense of their lives. Qualitative researchers make sure that they catch perspectives accurately. The process of doing qualitative research reflects a kind of dialogue or interplay between researchers and their subjects since researchers do not approach their subjects neutrally.
5. Qualitative research is scientific since it involves the rigorous and systematic empirical enquiry that is data based.

Qualitative research is not without its weaknesses. One of the key criticisms of qualitative research is that of validity and reliability. The effect of opinions, prejudices and biases of

the researcher on the data is seen as a major drawback of qualitative research. Researchers may, in the course of a study, become part of the study. They may possess certain personal views of issues in their study and may allow this to influence the response of their subjects. Qualitative researchers are concerned with the effect their own subjectivity has on the data they produce (Bogdan & Biklen 1992). What qualitative researchers attempt to do, is to objectively study the subjective states of their subjects.

The primary goal of the researcher is to add to knowledge, not to pass a judgement on a setting. Questions or questionnaires reflect the interest of those who construct them. Qualitative researchers try to acknowledge and take into account their own biases as a method of dealing with them.

The presence of the researcher can change the behaviour of people she/he is trying to study. To overcome this, qualitative researchers try to interact with their subjects in a natural, unobtrusive and non-threatening manner. Since qualitative researchers are interested in how people think and act in their own settings, they attempt to “blend into the woodwork” so that activities that occur in their presence do not differ significantly from those that occur in their absence (Bogdan & Biklen 1992: 47). It is only in this manner that they can capture what is important in the minds of the subjects themselves.

As this is a study that focuses on the actions of environmental groups in Merewent, the case study approach was deemed suitable because:

“Unlike the experimenter who manipulates variables to determine their causal significance or surveyor who asks standardised questions of large, representative samples of individuals, the case study researcher typically observes the characteristics of an individual unit- a child, a clique, a class, a school or a community. The purpose of such observation is to probe deeply and to analyse intensively the multifarious phenomena that constitutes the life cycle of the unit with a view to establishing generalisation about the wider population to which that unit belongs”. (Cohen & Manion 1984:99)

From the many research tools available for qualitative study, I chose the interview as being most suitable for this study and present a justification for this choice.

2.2 The research tool

2.2.1 The case study

The case study as a research tool was deemed appropriate for this study as ...

...interpretative, subjective dimensions of educational phenomena are best explained by case study methods

(Cohen & Manion 1984:99)

Social action is a complex activity that must be studied within the context of time and location where it occurs. The South Durban Basin is a large area with nine environmental groups engaged in years of struggle with authorities and industries. It is difficult within the constraints of time for this study to conduct an investigation of all groups in order to arrive at a meaningful understanding of their work. Hence the case study approach enables me to study, in great detail, a small section of the Basin whilst at the same time allowing me to make realistic generalisations for the South Durban Basin.

With 80% of South Africa's fuel being refined here, the Durban South Basin has become one of the most polluted places in the country. This has led to numerous confrontations between the environmental groups and the refineries. Due to the high degree of conflict between the environmental groups and industries in the South Durban Basin, sustainable development of the area was not possible. In an effort to develop the area as part of the LA21 Agenda, the Metro Council identified the South Durban Basin as an environmental hot spot in the Metro area in that it required immediate attention.

The LA21 is part of a worldwide Agenda 21 programme, which seeks to achieve sustainable development on a global level. That is, development that meets the needs of the present without compromising the capacity of future generations to meet their needs. Hence, the commissioning of the SEA which had as its objective to improve the quality of life of all residents by determining the causes of environmental degradation and proposing sustainable development strategy that will allow these problems to be minimised and managed.

2.2.2 The interview

According to Kelly (1969), who is quoted in Cohen & Manion (1985:291), the research interview is....

.... A two person conversation initiated by the interviewer for the specific purpose of obtaining research -relevant information and focused by him on content specified by research objectives of systematic description, prediction or explanation.

The present study used the interview as the main data gathering technique because the nature of the data to be gathered in this study lends itself ideally to this interviewing technique.

Many types of information can be secured only through face to face contacts with people especially data relating to.... opinions and attitudes

(Good 1966:288).

Owing to the fact that respondents may sometimes be reluctant to state their honest opinion if a questionnaire was presented to them, the interview was chosen since it is likely to allow the respondents the opportunity to discuss their opinions and feelings in a more informal manner

In an interview people are usually more willing to talk than to write. Once the interviewer gains rapport or establishes a friendly, secure relationship with the subject, certain types of confidential information may be obtained that an individual may otherwise be reluctant to reveal

(Kahn 1986:49).

Thus if the interviewer manages to establish a good relationship with the interviewee, it will assist in the latter expressing personal opinions which he may hesitate to do when confronted by a questionnaire (Sherman & Webb 1988).

The interview also allows for greater flexibility in questioning, which is often essential, if the researcher is going to gain real insight into the interviewee's responses

Perhaps its principal advantage is its adaptability. The well-trained interviewer can make full use of the responses of the subject to alter the interview situation

(Borg 1981:86)

According to Kahn,

... the interview whilst asking specific questions, allows the respondents to clarify /expand his/her responses, hence making data more complete and richer.

(Kahn 1986:90)

Since this is a study in the human paradigm involving people who work within communities, contact with the interviewees allows for a more reassuring atmosphere in which they could respond. Furthermore, since respondents are required to draw on their own experiences, which may vary from group to group, the interview helps to delve deeper into what they say at the point where it is said. This ensures that vital information is not lost.

Interviews are however not without problems. The time needed to interview, transcribe and analyse is great, and makes interviewing an arduous task. In addition, a researcher cannot study large samples of the population. This then leads to questions regarding the reliability of the data and the findings of the study. That is, will two researchers studying the same setting independently come up with the same findings? Are such findings generalizable?

Qualitative researchers are not concerned with the question of whether their findings are generalizable, but rather with the question of to which other settings and subjects they are generalizable (Kahn 1986).

Interviewer-respondent differences may pose an acute problem as the content of an interview moves from questions of object fact to areas of attitudes, beliefs and feelings. The closer respondents get to personally meaningful material, the more difficult it will be for them to communicate honestly and appropriately. They will be highly sensitive to any hint that they are being judged, found wanting or "put down" by the interviewer. They may even read judgements into the interviewer's comments when in fact none was intended. The interviewer in turn, must be exceedingly careful not to make, or appear to make, such judgements

Although the tendency to make evaluations is common in almost all interchange of language, it is very heightened in those situations where feelings and emotions are deeply involved.

(Kahn 1986:89)

Having identified the interview as the most appropriate research tool, I chose the semi-structured interview over the structured and unstructured interview.

2.2.2.1 The semi-structured interview

Due to the nature and setting of this research, the qualitative approach using the semi-structured interviewing technique was seen as being most appropriate in enabling the researcher to obtain a more accurate picture of learning in social action.

The semi-structured interview was chosen over the structured interview as it grants both the interviewer and interviewee greater flexibility and freedom. Furthermore, the semi-structured interview allows the interviewer to maintain a degree of focus that is not possible with the unstructured interview.

A major advantage of the semi-structured interview is its adaptability. The way in which a response is made, for example, tone of voice, facial expression, hesitation, can provide information that a written response would otherwise conceal.

The flexibility of the semi-structured interview allows the interviewer the opportunity to observe the interviewee and the total situation in which he/she is responding. Questions can be repeated, or their meanings explained in cases where they are not fully understood by the respondent. The interviewer however retains control throughout the whole process. There is a set of questions to be answered, but they are not in prescribed order, and it is the interviewers' issues that matter (Sherman & Webb 1988).

The various environmental groups in the South Durban Basin engaged in different forms of environmental action. The semi-structured interviewing approach enabled me to be flexible when probing the various activities of these groups whilst at the same time allowing me to keep focused on the aim of this study.

One-to-one interviews will be conducted with environmental leaders in Merewent.

2.3 The population

This is a study that focuses on the role of environmental groups within communities in raising awareness of pollution. Environmental groups within the South Durban Basin formed the population of this study.

The South Durban Basin is one of the most polluted areas in South Africa. Significant gains were made by the environmental groups in getting the refineries to reduce their pollution levels. It therefore follows that these groups were highly active and focused in their activities. They therefore formed a useful population from which this study could be referenced.

2.4 The sample

The South Durban Basin is a very large geographical area approximately 30 kilometres along the coastline and 5 kilometres inwards. It extends from the Point in the north to Amanzimtoti in south. There are nine environmental groups based in this region. I chose to confine this study to Merewent as I am quite familiar with the area and this I felt would facilitate data collection. However more importantly, I am aware that the community has been actively involved in environmental struggles for many years. As such, there is a richness of data that could be explored for the good use by other communities experiencing similar environmental exploitation.

The environmental groups that formed the sample for this study, were chosen on the basis that they had to be located in Merewent, as well as their willingness to participate in this study. The following four organisations formed the sample for this study:

South Durban Community Environmental Alliance (SDCEA)

Wentworth Development Forum (WDF)

Merebank Environmental Action Committee (MEAC)

Settlers Primary Environmental Committee (SPEC)

I interviewed the chairpersons of the following organisations:

WDF	Des D'Sa
SPEC	Lawrence Vartharajulu
MEAC	Rajah Naidoo

Owing to the fact that Des D'Sa is also the chairperson of SDCEA, I chose to interview Michelle Simon, the Project Co-ordinator of SDCEA, to gain relevant information on this organisation.

Interviews were arranged at the convenience of the respondents, both in terms of time and venue. Semi-structured interviews, which focused on the following aspects were conducted:

- History of the organisation
- Its activities
- Its involvement in environmental issues
- Its involvement of the community in environmental issues
- How learning happened and how knowledge was constructed

These interviews were recorded on tape and then transcribed. Where responses were unclear or inadequate, or additional information required, follow up telephonic interviews were conducted with the respondents.

The data was then analysed in terms of:

- The research questions of this study, and
- The theory of Social Movements and Popular Education.

Having identified the research approach to take in this study, the interviews probing the activities of environmental groups were conducted.

In order to position this research in its proper context, it becomes necessary to explore the area where these environmental groups locate themselves. Chapter three therefore presents a socio-environmental profile of Merewent.

CHAPTER THREE

MEREWENT: A SOCIO-ENVIRONMENTAL PROFILE

This chapter aims to provide the contextual basis for this study. A profile of the area under study, namely Merewent, will be presented first. Thereafter key moments in the struggle for environmental justice will be explored. Finally, environmental groups that formed the basis of this study will be introduced.

3.1 Merewent: A socio-environmental profile

Due to the lack of documentation on the history of Merebank and Wentworth, I consulted local civic leaders to obtain information. This socio-environmental profile of Merewent is based on discussions I had with the following persons:

- Mr Satish Juggernath, a political activist and resident of Merebank for more than 40 years.
- Mr Des D'Sa, a community activist and resident of Wentworth for the past 35 years.

Merewent, a residential suburb located in the South Durban Basin, is composed of two areas, namely Merebank and Wentworth. It is bordered on the south side by the Umlaas Canal, and on the north by the township, Austerville. It opens into the coastline at Treasure Beach on its eastern border whilst being delineated by the Southern Freeway in the opposite direction. Merebank houses are predominantly Indians whilst Wentworth has mostly Coloureds living there.

3.1.1 The history of Merebank

In the 1890's to early 1900's, Indians moved into Merebank to work at the sugar mill near the Umlaas Canal. The Indians in the area existed in pockets, but with a defined character and culture. For example, there was a clan that owned the laundry service and another who had horse stables.

In the 1940's, with the starting of a refinery there was a mass movement of Indians from places as far as Verulam in the north coast of Natal to Esperanza in the south into the area. Gradually as the place became industrialised, the population grew. Industries and

government then began relocating people within the area to make way for further industrial expansion. This raised the ire of the residents who then formed the Merebank Co-ordinating Council (MCC) in 1946 to protest against these relocations and increased industrialisation of the area. This marked the first of many battles the community of Merebank waged against government and industry. The MCC went to court and challenged the government on this issue. A partial victory was scored in that certain areas of Merebank were declared residential with others being zoned for industrial development. Thus in Merebank today there is the presence of heavy industries and houses within breathing distance of each other.

In June/July 1958, the first housing scheme in Merebank was built by the city council. Over 3000 houses were developed. People began occupying these homes in 1959. The 1960's saw the establishment of Mondi, a paper manufacturing industry in Merebank. In addition to employing the locals, Mondi also provided them with houses.

Merebank was now a settled but rapidly expanding community. The Merebank Ratepayers Association (MRA), as it was then known was formed in this time. Merebank was a vibrant community with a high level of social commitment. It challenged the government on its apartheid policies, as well as industries on their environmental exploitation of the area. It is widely regarded as the forerunner of the apartheid struggle amongst Indians in South Africa. Many anti apartheid political leaders such as Dr Vijay Ramluckan, Satish Juggernath and Emmanuel Isaacs emerged from this area.

Merebank today has a population of 45000 with a mix of poor and middle class people. A part of the area has sub-economic flats whilst at other parts, most homes have been transformed into spacious dwellings. The community has socio-economic problems like unemployment and poverty.

3.1.2 The history of Wentworth

Wentworth, a township adjacent to Merebank, existed as an army barracks in the 1940's and 1950's. Indian market gardeners and some informal settlements inhabited it. With the industrialisation of the area, there was a need for skilled workers. This led to government relocating Coloured people from Sydenham, Cato Manor, Clairwood, Durban and Transkei into the area.

The people of Wentworth worked at the Toyota Motor Assemblies plant, Dunlop, the shipbuilding yard as well as the refinery. Many were skilled artisans.

During the 1970's, gangsterism was rife in the area. Unemployment and the lack of community infrastructure contributed to the problem. The community rallied within itself and got the city council to improve infrastructure. Footpaths where gangsters operated from were converted into roads. Streetlighting was improved. There was an increased police presence in the area. As a result of the combined efforts of church organisations, youth movements and the sporting clubs the problem was slowly reduced.

Wentworth today has a population of 65000 people. There are two high and three primary schools. The township has a municipal swimming pool as well as a football field.

With Wentworth lying adjacent to the oil refinery, it is no surprise that there is a high incidence of respiratory ailments amongst residents today. With most residents ailing, the unemployment rate is around 57%. In addition, the area has its social problems like AIDS and petty crime.

3.2 The environmental struggle: Key moments thus far

Apartheid planning policies have resulted in a mix of heavy industrial and dense residential site in the South Durban Basin. Merebank, Wentworth, Austerville and Bluff are residential areas located in the heart of the Basin. Situated in the middle of these townships are two huge oil refineries and a paper mill together with a number of other industries and an airport located along the periphery.

Over the years, the refineries in the area refined crude oil to produce fuel. There has been a large amount of gas emissions in the atmosphere with sulphur dioxide (SO₂) being the most prevalent pollutant. This has resulted in a large number of residents suffering from respiratory and other related ailments. The communities organised themselves and fought the industries. Through many years of struggle, the communities of the South Durban Basin achieved the following:

1. An acknowledgement by the industries that they are producing unacceptably large amounts of pollution

2. An undertaking by industries to reduce their emissions through the adoption of environmentally safer technologies.

A recent advertorial by one of the refineries in a local newspaper (The Mercury 31/10/2001) indicates that the pollution levels are decreasing. The environmental groups on the other hand believe that this is not the case, claiming that the companies who conduct the environmental pollution audits are commissioned by industries and as such will produce reports in favour of the industries. Whilst the environmental groups might dispute the actual levels of pollution, one issue remains central: The communities of the South Durban Basin forced the huge multinational corporations in their area to revisit their procedures and work towards adopting environmentally friendly technologies. A case in point being the recent proposal by one refinery to switch over from burning heavy fuel oil to using methane rich gas as source of energy at an initial cost in excess of R43 million. The refinery claims that this will reduce SO₂ emissions by 98%.

It is my belief that companies, as large as these, which contribute in a major way to South Africa's economy, by producing a vital commodity namely fuel as well as providing employment, will not readily accede to the demands of a community unless these people have been strategic and persistent in their efforts to get these MNC's to take them seriously. The focus of this study therefore is to find out how the people organised themselves to work for a better environment.

3.3 Environmental groups in Merewent

In presenting the work of each environmental group in Merewent within the context of this study, I shall first present a brief history of each organisation. Thereafter, the organisational structure and activities of the group will be presented individually. Finally, its activities as it relates to pollution will be discussed.

3.3.1 Wentworth Development Forum (WDF)

The WDF is a representative forum of all community-based organisations in Wentworth. It was formed in 1994 through the amalgamation of the civic organisations in this area. Civic organisations dissolved and formed area committees.

Streets in Wentworth are clustered into cells with each cell electing its own area committee. The area committees are not autonomous; they operate under the auspices of the WDF- Article 7.9 of the constitution of the WDF, under powers and functions of the Executive Council spells this out “To establish or close down area committees in any area”. Area committees meet at least once every three months. Members of the area committees serve on the WDF.

The membership of the WDF is not restricted to the area committees. Any other community-based organisation (CBO) in Wentworth is eligible to join. They must however apply to the WDF and submit an audited financial statement.

3.3.1.1 Structures within the WDF

The WDF comprises an Executive Council (EXCO) and a Council. The office bearers in the organisation are Chairperson; Deputy Chairperson; Treasurer; Assistant Treasurer; Secretary; Assistant Secretary; Project Co-ordinator. The project co-ordinator is a paid full time employee of the organisation.

EXCO is made up of the office bearers and eight members from the council. EXCO has executive powers vested in it. The council consists of members from the area committees as well as two representatives from each CBO that is affiliated to the WDF.

Council meetings are held every month, with EXCO meetings being held whenever necessary. The organisation holds an Annual General Meeting at which office bearers are elected.

3.3.1.2 Activities of the WDF

Since its inception, the WDF has focused on the following:

- Skills development and job creation. It facilitated workshops on skills development and the creation of SMME's in the area. In addition, it acted as a conduit for the registration of labour required by the refinery (ENGEN) during its shutdown operations.
- Housing. WDF engaged with the authorities to secure adequate housing for residents. For example, it obtained the transfer of the rental scheme homes to ownership as well as

the provision of new homes for people. It has also acted on behalf of residents on matters of rental disputes with the Durban City Council.

- Labour disputes with employers, mainly ENGEN.
- Environmental issues. These focused mainly on the pollution by the refineries and other industries.

In all its activities, the WDF has always maintained a strong community involvement. Public meetings are a frequent occurrence as part of their activities. This is even spelt out in its constitution, where provision is made for the creation of Community Forums where the mandates of the organisation are tested.

3.3.1.3 Role of the WDF in the environment

Initially, all civic structures in Wentworth focused on the “green element” of environmental conservation, namely the planting of trees, anti-litter campaigns and keeping the area clean. To this end, they work at the removal of dumping sites in the area as well as improving the aesthetic aspect of the environment.

In 1994, the ENGEN refinery invited the WDF to a “Care Committee” meeting. The function of this committee was to be that of an environmental monitor. However, at that meeting the WDF realised that:

- People were present in their individual capacity, and as such did not have a mandated position. Decisions they took emanated from a personal standpoint and as such did not represent those of the community or any organisation.
- ENGEN wanted this committee to legitimise their activities
“We were simply going to be informed about what was going to happen, and all we had to do was agree” (Des D’Sa.)

This did not meet with the satisfaction of the WDF who then linked up with NGO’s and academics involved in environmental issues. The WDF now began to make demands on ENGEN to reduce the pollution. This started the study of the environment, with the “brown element”, or the human factor being brought into focus.

Pollution awareness was initially at the organisational level of the WDF. Membership attended workshops and meetings to enlighten themselves on pollution as it affected them. However, incidents within the community served as catalysts to increased public awareness of the pollution in the South Durban Basin. The most significant are discussed below:

- The first involvement of the WDF with its community around pollution began in 1995 when ENGEN refused to install filters and scrubbers to the new extensions of the plant. These are safety equipment which the company felt were unnecessary and beyond the budget. The WDF found this unacceptable. It mobilised the community who then marched onto President Nelson Mandela when he arrived to officially open the new plant. This march led to the President granting the community a hearing on their concerns, and facilitating the formation of a steering committee to address these concerns. The steering committee consisted of representatives from government, industries and civil society.
- The commissioning by the Durban Metropolitan Council to conduct a Strategic Environmental Assessment (SEA) of the area in 1996 to seek ways of sustainable development of the Basin. The CSIR was commissioned to conduct the SEA.
- A third incident of note that increased public awareness of pollution was the dumping of “LINDANE”, a white solid used in the petroleum recovery process, on the playing fields of Wentworth in 1995. Children playing in these grounds ate this substance and became very ill. This prompted the WDF to conduct a survey of pollution-related illnesses amongst the residents. The survey revealed that at least 5000 people out of a possible 65000 had asthma. In addition to serving to create public awareness, this event spurred individuals within the WDF to learn more about pollution.

In attempting to popularise the impacts of pollution on the environment and human life, the WDF engaged in publicity campaigns with residents. In addition to holding meetings for that purpose, the WDF used other platforms to mobilise people. For example, whenever there was a labour or housing dispute, public meetings and/or protest marches were organised, and included in the agenda was the issue of the environment.

3.3.2 Settler's Primary Environmental Committee (SPEC)

SPEC is an environmental group composed of teachers from the Settlers Primary School in Merebank. Staff members who found the pollution problem unbearable at the school formed it in 1999.

Settlers Primary School is located in a valley in the middle of two refineries and a paper mill. In such a position, the school is highly prone to the effects of air pollution from these three major industries. Air quality reports from the Air Monitoring station at the school showed that on fourteen days during the month of September 2000, the air pollution exceeded the WHO guidelines.

The high levels of pollution over the years have adversely affected the learners at the school. This prompted the members of staff to constantly log all instances when pollution levels became unbearable, and report same to the offending industry as well as the City Health Department (CHD) (APPENDIX: C). The constant logging of complaints with the industries, led to the refineries admitting that there was a problem at the school. The school was then offered a platform to voice their concerns.

A meeting was held at the school where representatives from industry, the CHD, politicians, doctors from the area, environmental groups as well as representatives from the school were present. Lawrence, a member of staff, presented the school's case. Arising out of this meeting, and largely as a result of Lawrence's forceful presentation,

“industries were shaken and realised that this is a serious problem” (Lawrence)
This led to the formation of the Settlers Primary Air Quality Committee, whose task was to monitor the pollutants that learners were exposed to.

SPEC has been the brainchild of Lawrence, a staff member at the school who felt that industry needed to be held accountable for their activities, in this case, the pollution of the environment. Prior to the formation of SPEC, staff members would take it upon themselves to independently register complaints of air pollution with the offending industry. However as time progressed, it became logistically difficult for staff members to log calls with the offending industry, attend meetings on this issue as well as ensure that teaching took place.

In order to ensure that their concerns were effectively addressed, the teachers decided to organise themselves. Thus SPEC was formed.

SPEC at present comprises six staff members. They have a chairperson, secretary and treasurer. They have meetings whenever required.

3.3.2.1 Activities of SPEC

The committee has worked co-operatively with environmental NGO's, the University of Natal Medical School, and the Merebank Residents' Association. They aim to represent the environmental interests of learners and the local community. Accordingly, it sees as its tasks, the following:

- Register complaints of air pollution with industries and the City Health Department
- Represent the school at monitoring committee meetings
- Represent the school on the environmental forum at SDCEA
- Teach children about pollution
- Interact with parents.

SPEC, through its interaction with the Medical school, CHD and SDCEA, has been able to secure the following:

- a. The installation of a pollution-monitoring caravan on the school premises by the City Health Department. The purpose of this is to monitor wind currents, types and concentrations of pollutants released into the atmosphere.
- b. An epidemiological study undertaken jointly by the Universities of Natal and Michigan to determine the impact of environmental pollution on the lung capacity of teachers and learners at the school.

3.3.3 South Durban Community Environmental Alliance (SDCEA)

Wentworth environmental activist Bobby Peek formed SDCEA in 1997. The work of the Merebank Residents Association (MRA) who pioneered the struggle against industries and government for a cleaner environment since the 1950's and the Environmental Justice Networking Forum (EJNF) inspired Peek.

SDCEA is an umbrella body that co-ordinates the efforts of Community Based Organisations (CBO's) in striving for environmental justice in the South Durban Basin. The driving motivation behind SDCEA being

“to strengthen the community action to mobilise and form an umbrella body that will be so powerful that industry can't shut you up and government can't not deliver”
(Michelle)

3.3.3.1 Organisational structure of SDCEA

SDCEA is composed of affiliate organisations from the Bluff, South Durban, Point, Merebank, Wentworth, Isipingo, Umlazi and Clairwood. In addition, individuals- volunteer activists and environmental experts also serve on this organisation.

A management board, elected at the AGM, which meets twice per month, manages SDCEA. Regular meetings are held with affiliates to caucus on issues.

SDCEA is governed by a constitution.

The chairperson of SDCEA is Mr. Des D'Sa, with Ms. Michelle Simon as its Project Co-ordinator. The interview was conducted with Michelle and Des.

3.3.3.2 Activities of SDCEA

In attempting to popularise the impact of environmental degradation on people in the South Durban Basin, SDCEA worked directly with the communities as well as with CBO's in the Basin.

Initially, when SDCEA was formed, volunteers knocked on doors of CBO's in the area and addressed their meetings. The CBO's included churches, clinics, ratepayer organisations and sporting clubs. In addition to raising awareness of pollution, these meetings also made people aware of the purpose of SDCEA.

At the popular level, SDCEA has been instrumental in arranging protest marches, public meetings and “toxic tours” to highlight the hazards of the pollution in the Basin. The most recent protest marches were:

1. March to co-incide with Earth Day 2001: People from South Durban marched through the streets of Durban in protest against the high levels of pollution in the Basin
2. A march to the AECI complex in Umbogintwini. Learners and teachers from schools in Isipingo were mobilised to protest against the release of toxic gases by SASOL POLYMERS that resulted in many children being hospitalised.

Mass meetings were held to inform the public on developments in SDCEA's deliberations with authorities. For example, mass meetings were held through out the Basin in response to the SEA when it was found that the concerns of the residents were being sidelined.

On an international and national level, SDCEA has conducted more than fifty "toxic tours" of the Basin for environmentalists. These were excursions of the Basin to familiarise people with the pollution in this area. The most recent being hosted to co-incide with the Anti-Racism Conference held in Durban in September 2001.

SDCEA was frequently called upon to address school assemblies in addition to interacting with teachers and governing bodies at schools.

At the representative level, SDCEA represented the concerns of its membership in deliberations with industries and authorities, for example,

- the SEA conducted by the CSIR,
- representing SPEC at Air Quality Monitoring Committee meetings,
- meeting with refineries on the gas pipeline issue in 2001,
- meeting with the paper mill on the mill's proposal to incinerate sludge in 2001.

SDCEA stresses a strong community involvement on its part, insisting on going to the community to reaffirm its mandate. It believes its strength lies in doing that:

"SDCEA would never have been such a strong organisation if there hadn't been a transfer of knowledge from the knowledgeable people of SDCEA to the people. SDCEA would never have obtained a mandate or even existed at that level"
(Michelle).

In addition to public meetings, workshops and school visits, the presence of a good media profile that publicises the pollution hazards helps SDCEA conscientise the people. Michelle rates the media as a more effective means of communication than pamphlets

“People are seeing it and hearing it and hence cannot ignore it. Whereas a pamphlet may not be read, or seen as boring – ‘They are issues of SDCEA –sad stories and stuff’ – but when you are forced to see something or listen to it, like TV and radio, it strikes you”

SDCEA has recently embarked on a campaign to educate the community on the hazards of pollution. I was invited to the first workshop held at the Merebank Community Centre on the 13 July 2001. The workshop focused on the impact of pollutants on human life and included presentations by Mr Bobby Peek, Dr Mark Colvin, a researcher at the Medical Research Council, Mr Des D’Sa, and Ms Michelle Simon.

Meetings with affiliates are held whenever necessary. The purpose of these meetings is to share information and caucus. Being an environmental campaigner in my hometown, I was invited to one such meeting on the 18 December 2001 at the SDCEA offices in Austerville.

3.3.4 Merebank Environmental Action Committee (MEAC)

MEAC was formed in November 2000 in response to SASOL’s proposal to build a gas pipeline to transport methane rich gas (MRG) from the Mondi Mill to the ENGEN refinery. Of the six possible routes that the pipeline could follow, the one chosen by SASOL was deemed unsuitable by residents as it passed in close proximity to homes in addition to crossing fourteen other underground hazardous installations at least three times along the approximately two kilometre route. This led to residents becoming dissatisfied as they felt that their safety was compromised by industry’s desire to cut costs. The people of Merebank organised themselves around this issue.

MEAC was formed to co-ordinate residents’ responses to the scoping report and environmental impact assessment commissioned by SASOL. It has the mandate of twelve local organisations in Merebank as well as the community.

In addition to the three public meetings called by MEAC, public meetings were also called up during the scoping process by environmental consultants for SASOL. At these meetings,

residents voiced their growing dissatisfaction with the industry for not addressing their concerns. They displayed a high degree of understanding of the issues at hand and did not raise concerns merely from an emotional perspective. This can be seen from the responses of two residents:

“ENGEN creates a myth of social responsibility, but when looked at one by one, their efforts are negligible..... The statement that the increase in CO is insignificant is inaccurate. An increase in CO from 2,03 tonnes per day to 2,11 tonnes per day as shown in the documents is significant”.

“We are not saying that we do not want the pipeline. We want guarantees that it will be operated properly”.

SOURCE: SASOL GAS SUPPLY TO ENGEN REFINERY:Environmental Impact Assessment: Final Report Volume 3

In order to pressurise the authorities to take heed of their concerns a petition was drawn up by MEAC on behalf of residents. 2800 people petitioned the Minister of Environmental Affairs to get SASOL to construct the pipeline along the coastline so that there would be minimal interference with the community.

The media has also contributed to raising awareness amongst residents on the pipeline issue. Front page articles in major newspapers, together with television coverage has made this the most talked about environment issue in the South Durban Basin.

Mr. Rajah Naidoo, an attorney, heads MEAC. The working committee consists of civic leaders who themselves are environmental activists. They are highly conversant on environmental issues both from public perspective as well as the legislative perspective. In addition to taking the pipeline struggle with the community, MEAC has taken the Department of Environmental Affairs to court on the allegation that community concerns were bypassed when SASOL was granted permission to construct the pipeline. To this end, the Government and SASOL were interdicted from carry out further developments on the pipeline until these concerns were addressed.

Having identified the area under study, the organisations and their environmental activities, it becomes necessary in the context of this study to now look at the learning that took place during the struggle for environmental justice.

CHAPTER FOUR

LEARNING IN THE STRUGGLE

The struggles of the people of Merewent against environmental pollution extend from the 1950's. After enduring many years of frustration arising out of fighting an intransigent, illegitimate government that tended to support industry, people reached a stage when they had enough. They became active, organised themselves and worked with local community-based organisations. These people did not have any formal education on pollution related issues. They learnt on their own, and became quite effective in the fight for a safe and clean environment. Their learning in the struggle, which is the subject of this thesis, will be explored in this chapter.

In the first part of this chapter, Section A, I will present the learning activities of each organization. Thereafter, in Section B, an analysis of these activities, in the light of the research questions and previously elicited literature will be presented.

SECTION A

4.1 The Wentworth Development Forum (WDF)

The WDF, in its fight for a safe and clean environment, took its struggles on both the Practical and Strategic level.

At the Practical level, it mobilised the people of Wentworth. The protest march to President Mandela, and the public protest meetings in retaliation to the findings of the SEA served to conscientise people on the effects of pollution as well as galvanise public support for the WDF

“We had huge protest meetings on the Bluff, in Merebank we had over 1500 people attending one meeting” (Des D'Sa)

“So we created this big hue and cry and the community was behind us, saying ‘we support you... you have our trust’. And every single church leader and every single person in the community was behind us. We had people signing up petitions saying ‘We are behind you all the way’”. (Des D'Sa)

The organisational structure of the WDF allowed for grassroots intervention and learning. At the area committee level, meetings were held on pollution, and at most meetings, houseguests, people with knowledge on issues at hand, were invited. These meetings proved

quite effective in conscientising people, to the point that Des says with confidence that they have converted many residents into activists

“A committee of 4 to 5 people on each road make up an area committee. The reps from these committees make up the WDF. We then come together and share information at least once per month. There is lots of sharing and learning taking place. This serves as a conduit for information gathering. These are the people who go on protests. We have a very literate group in terms of pollution” (Des D’Sa)

Thus through dialogue many residents were able to come to an understanding of issues as it affected them, and this led to them becoming active in the struggles.

At the strategic level, the WDF realised that it could not fight the battles with the huge industries alone. In this regard, it linked with other organisations in the South Durban Basin to form SDCEA

“... in 1997 we realised that we could not work as individual organisations. We had to come together and in 1997 I was seconded from the WDF and linked up with other community organisations to form SDCEA” (Des D’Sa)

The environmental action of the WDF is largely due to the efforts of its chairperson, Mr. Des D’Sa. With a formal education of standard eight, he has been a textile worker for the past 27 years. He spearheads the environmental wing of the WDF and has developed knowledge and expertise on environmental pollution and degradation to a very high level, to the point that he is at present, also the chairperson of SDCEA. He attributes his learning on the environment to reading as well as engaging with other people at meetings and workshops

“I needed to understand for myself before I started talking to other people- explaining to people in the know that I did not have any background or technical experience or higher education..... I worked a lot – did a lot of reading, going to workshops, and that in itself uncovered a lot of information for me.” (Des D’Sa)

“None of us were educated on the environment. We started going to meetings and workshops where the environment was discussed, and we got to know ground issues about the environment.” (Des D’Sa)

Des felt that he needed to be knowledgeable on pollution and the environment for two reasons:

A: As leader of the WDF he needed to show strong leadership

“As heading this organisation I wanted to know more so that this became an organisation that people respected”. (Des D’Sa)

B. So that the struggles with industries could be effective

“people take you seriously when you are informed and knowledgeable. It is important to have information –then you can ask critical questions, and also you can answer from an informed position” (Des D’Sa).

In addition to attending workshops and meetings, Des and his fellow members gained information on pollution by engaging with industries that caused the pollution. However, given the highly technical and scientific nature of the data on pollution, the industries felt that they would not be able to make sense of it:

“They undermined us, thinking that we will not be able to go through it. They gave us the information not thinking that we will use it against them” (Des D’Sa).

Through self study, discussions within their group, and interacting with NGO’s and people in the know, Des and his colleagues grappled with this information and learnt about the pollution as it affected them

“We got to know about VOC’s, about SO₂ and H₂S and nitrous oxides, we started learning about these things and got to know the extent of the problem” (Des D’Sa).

Thus, in addition to understanding the technical and scientific nature of the data, Des realised the social impact of the pollution.

“As a civic leader going around in the area, I found that there were a lot of people who had asthma in the area. In every road at least ten people had asthma. I got the figure that of the 65000 people living here, at least 5000 had asthma. We got to know about the asthma and its effects, and that really galvanised me, and I started to know the costs people were paying. People without medical aid were paying like R800=00 per month for asthma pumps, and that really got me thinking the whole situation – we were now paying high medical bills for industry that was profiting out of this. So that really made me want to take on these industries” (Des D’Sa).

Des’ personal learning enabled him to become an activist. In addition to serving as the chairperson of the WDF and offering effective leadership of the organisation, as well as

spearheading its environmental wing, Des has been instrumental in promoting the empowerment of both membership and residents. He has transformed his personal learning into action and has become a facilitator for others' learning. This he has done through participation in workshops and meetings.

Des D'Sa has presented talks at conferences and workshops at the local, national and international levels. Some examples of his national participation included presentations at EARTHLIFE 2000 conference in Johannesburg, Legal Resource Centre Environmental Conference 2000 in Cape Town, and a presentation in 2000 to the residents of Sasolburg in who are in a similar situation to the people of the Basin.

On the international scene, Des presented papers at the "Oil Watch Conference" in Durban in July 2000, the Danish Nature Conservation conference in Denmark in March 2001, and at the World Conference on Racism in Durban in September 2001.

The struggles of the WDF on issues of environmental exploitation did not centre only on the effects of pollutants on the health of the people, but also took into account the role of power in the control of the environment. Through his interaction with the authorities at the local, provincial and national level, Des realised that the

“presence of a democracy did not necessarily mean that your issues were addressed in a fair way, or that your interests were safeguarded...

so one must be careful of just going into a process with government under the disguise that the government will check and make sure your interests are secure.

That will never happen.” (Des D'Sa).

Des realised that the national interests are placed before the interests of a small community. To this end, he got involved at the level of National Policy generation and review on environmental legislation:

“I got to know the CONEPP process This was a discussion and consultation process set up by government. And emanating from this was the White Paper and Green Paper on Environment. From here I started to get the legal side of the whole thing” (Des D'Sa).

Literature produced by the WDF was mainly by way of pamphlets issued to residents. The literature focused mainly on housing, employment and other social issues. Little information on pollution was presented. This is not to say that the pollution issue was side stepped, but in the hierarchy of needs, housing and employment are uppermost and it would appear logical to focus more intensely on them.

4.2 Settler's Primary Environmental Committee (SPEC)

In its struggles for environmental justice and the right of its learners to a healthy environment, SPEC has operated at both the Popular Level as well as the Strategic Level.

At the popular level, SPEC worked with learners, teachers and parents. During staff meetings, teachers were enlightened on the types and nature of pollutants, as well as its effects on health. In addition to this being relayed to the learners in class, SPEC also taught learners about the hazards of pollution in the area. Learners were encouraged to write letters to the local newspapers on the issue as well as conscientise their parents

“We encourage our learners to express themselves in their own simple language by writing to the newspapers” (Lawrence).

At the strategic level of operation, SPEC engaged with many role players in the Basin. It aligned itself with the Merebank Residents Association, a civic structure that carried its concerns to the City Council; it works with SDCEA who lobbies its case at the various environmental fora; it has engaged itself with the Medical School and doctors in the area and secured an epidemiological study at the school.

The actions of SPEC have been motivated largely through the efforts of its founder and chairperson, Lawrence. He is a teacher at the school who resides out of the area, but felt the need to get involved in the struggle for the right to a safe environment for the children at Settlers Primary:

“The situation perturbed me. Although I am not living in the area, my concern is the children – I spend most of my time in Merebank, and to see these children growing up with wheezing problems, asthmatics ... for me that was disturbing”

“Basically, what we are saying now is that our children's right to a clean environment has been violated, and the right to a free and uninterrupted education is also being violated..... because there are so many instances when teaching and

learning is taking place constructively in the classroom, and suddenly through no fault of ours, these awful smells enter the classrooms and the pupils, being children, in the midst of the lesson complain- they can't bear these smells. The teacher is also experiencing the same symptoms. We have to endure and put up with this – we feel that this is not right. For how long can one endure this situation.” (Lawrence)

Like the other teachers at his school, Lawrence had no formal training on the environmental issues. Through self-study and his interaction with SDCEA, groundWork, the Medical school and doctors in the area as well as the authorities and industries, he has become quite knowledgeable on pollution issues as it affects the people at Settler's Primary. He has attended many meetings hosted by these organisations, and has served as an inspiration not only to his staff, but also to the people in the Basin, to the point that Michelle of SDCEA commented:

“The teachers of Settlers have been wonderfully and totally outspoken. Lawrence started it off- he noticed a smell, kids were complaining, and he realised that something was wrong. He was reading all this literature on the environment. He then decided that he wanted to know more from industry- what was going on, and that started the first meeting with industry. He asked industry to explain what was going on, and that's powerful- powerful for an individual, an educator to tackle industry, and he basically founded SPEC” (Michelle).

Information on pollution types, frequency of exceedences and knowledge on effects of pollutants, guideline standards for pollution played a crucial role in SPEC's deliberations with the industries and authorities. Lawrence realised early on that he needed to have evidence of the pollution caused by industries. To this end, he began a systematic collection of incidents of pollution

“I realised that I had to create a log book to record the numerous calls that were made – the time, date, type of smell, wind direction and industry phoned. This proved to be very important. I did it on my own because I felt that I needed proof to build up a strong case against industry. It worked to our advantage. When I looked at the number of complaints made over the months it was quite staggering. So I presented this at the historical meeting and this really got to them.” (Lawrence).

When such information (APPENDIX C) was presented to industries, its validity could not be refuted. This was ground breaking for Lawrence since industries always

“wanted it hidden. Now that it is in black and white – factual, scientific evidence, they could not duck it” (Lawrence).

This information gathering activity was then shared with other members of staff as the frequency of gas releases began to increase.

The power of information was further highlighted when SPEC realised that industry was hiding information in the instances of pollution, types and nature of pollutants

“Right now industry is not sharing information with us...

They refuse to give us information, saying that it is too technical. They come and take readings from the caravans. After much pressure, they come and give us little booklets of the readings – that’s about 2 to 3 months later. To go through that so late... (sigh)” (Lawrence).

Given the highly technical nature of the information on pollution, for example the tables, pi graphs on pollutants, Lawrence and his colleagues worked with other organisations and individuals such as Bobby Peek of “groundWork”, an environmental NGO, and SDCEA to understand and interpret this information. From such discussions they were able to come to an understanding of the impacts of pollution on the lives of their children.

Lawrence has taken his learning a step further and translated it into action by engaging himself with the employees of companies that do the monitoring. On his own accord, he asked the person analysing the HAWK MODEL data to explain to him the implications of the information. This led to him insisting that industries install such a model at his school. Although this was not successful, he managed to get industries to do an environmental audit on air pollution at his school as well as an “FTIR” test to monitor the types of pollutants released

“eventually industries commissioned ECOSERV to do a major study, and proof was in writing that the major contributors of pollution at Settlers were ENGEN and SAPREF. This really hit them hard. Thereafter we had an FTIR monitoring - which was done during various times in the day... The results did show the chemicals that were picked up as being for example 1,3 butadiene. But significantly it showed that the committee and national guidelines were exceeded” (Lawrence).

As a result of this, he got his committee to table a list of demands to industry to cater for the needs of his learners in cases of emergencies. Some of the demands were:

- Air conditioning for the classrooms
- Creation of a fully equipped sick bay
- Access to free medical treatment

Such demands were not favourably received:

“The industry did not take us seriously and downplayed our demands. In fact they got quite agitated with our demands” (Lawrence).

Whilst they did not obtain air-conditioning for the classrooms or the fully equipped sick bay, they did manage to secure free medical treatment for learners and staff at the school.

Industry now has an arrangement with a private ambulance company to provide emergency resuscitation for learners and staff, and to transport them to a local private hospital if necessary. The only proviso is that the illness must be pollution related. In response to this proviso, Lawrence stated that

“We are not experts and cannot determine whether the illnesses are pollution related—we are only concerned about the well being of our children” (Lawrence).

He however sees the importance of the log entries here:

“It is important to have log entries in this regard – to verify with industries that the illnesses were pollution-related” (Lawrence).

Lawrence believes that this particular action on the part of his team can serve as a motivation and learning for other schools in the area affected in a similar way by the hazards of the pollution.

In an attempt to secure the epidemiological study at his school, Lawrence worked with the local doctor and produced a paper entitled “Adverse Health Effects of Pollution on Children and Educators- Settlers Primary School, Merebank. A Scope of the Problem”

The data from his log entries formed the basis of this paper that highlighted the illnesses experienced by people at Settlers Primary. This paper was subsequently published in a South African environmental journal.

As SPEC itself does not produce technical data, but has to rely on industries and the CHD for it, Lawrence saw the need to interpret this information critically. He realised that the supposedly independent environmental audit companies present information in a manner that casts industries in a favourable light:

“they (auditors) are paid for by industries, and we must view their findings cautiously although they are an independent company.” (Lawrence)

Due to their constant thrust to be on top of information, as well as their motivation, industries and authorities accord SPEC a high degree of respect

“one thing that industry is worried about is how fast we are learning. This is important – we need to learn. They are concerned that we seem to know so much. They have now definitely taken us seriously. Our commitment to learn about the environment is what drives us” (Lawrence).

Lawrence believes that the learning by members of SPEC has resulted in them becoming activists:

“We at SPEC try to sustain the pressure against industry – this is very important – we should never adopt the attitude that ‘Why should we do it? Why should we take up the struggle?’ We must pursue it sincerely as there is light at the end of the tunnel” (Lawrence).

Parental involvement in the activities of SPEC has been scant. Save for their involvement in the epidemiological study, little else has been done to include them in the environmental struggles. This is acknowledged by SPEC who believe that the socio-economic problems of the area places pollution down the order of pressing needs.

Due to a greater focus on working closely with other organisations, SPEC has not produced any literature of its own for distribution to parents.

4.3 South Durban Community Environmental Alliance (SDCEA).

In striving for environmental justice in the Basin, SDCEA worked at both the popular and strategic level. Despite being a forum representing the environmental concerns of the CBO's in the South Durban Basin, this organisation frequently interacted with the community.

At the popular level, SDCEA played a co-ordinating as well as educating role. The protest marches and mass meetings it organised in conjunction with the CBO's served to raise awareness amongst residents whilst at the same time informing its mandate

“SDCEA became quite progressive and proactive at that level because in order to obtain a mandate you needed to educate people in the community – you cannot take a mandate from uninformed people because then that's not legitimate. The idea was to go and set up public meetings and inform communities of what the environment is” (Michelle).

Apart from addressing schools and mass meetings, the educative functioning of SDCEA was that of a consultant to its affiliates. Being composed of environmental activists and experts, SDCEA was always in a position to offer advice and explanations to its membership. For example, when SPEC needed to know how to interpret the pollution monitoring data, Lawrence consulted Michelle and Bobby Peek.

“they developed their own understandings from SDCEA – so they saw the commonality of their problems that SDCEA was talking about, and related it to the environment”. (Michelle)

Such a role fits in well with the aims of SDCEA that sees as one of its purpose, to

“empower and capacitate – so that when the enemy goes to the people, the people will be in the know. Industries tend to throw crumbs at organisations in the name of community upliftment, and these organisations may be tempted to adopt a soft attitude towards them”. (Des D'Sa)

Strategically, the affiliation with SDCEA increased the chances of organisations obtaining delivery on their demands:

“the organisations believed that SDCEA was respected in their positioning, and thereby identified with SDCEA. It was a strategic move for CBO's to link up with SDCEA”. (Michelle)

SDCEA'S meetings with its affiliates display a high degree of interaction amongst the members allowing for collective learning and knowledge generation. I was invited to attend one such meeting at their offices in Austerville, Durban, on the 18 December 2001 where the issue of the proposed 200 000 ton per annum sludge incineration by the paper mill was

discussed. Prior to this meeting, MEAC was invited to a public meeting hosted by Mondi where the proposal to incinerate the sludge was discussed. Here, MEAC raised its concerns with Mondi and subsequently took a position on the proposal.

At the SDCEA meeting of 18 December 2001, MEAC presented a report back of the public meeting to the house. Using annotated diagrams on flip charts, Mr. Rajah Naidoo made a detailed presentation of MEAC's position on the issue. He argued that despite SDCEA's stance of "NO" to incineration, MEAC has to consider the proposal as Mondi claims that they will employ new technologies that will result in no release of dioxins and furans. In the light of this, MEAC called for an independent assessment of the proposal.

The meeting began debating the MEAC stance and the issue of incineration. The WDF believed that MEAC's position would pave the way for other industries to reintroduce incineration as a form of waste removal, and given the fact that industries in the past used independent consultants to lie to the people, they could not be trusted. As such, SDCEA should be firm on its "NO" stance to incineration. The civic group from Isipingo on the other hand, argued that technology is changing, and as such SDCEA must be open to new processes. After a lengthy debate lasting more than one hour, Des and the WDF agreed that it is possible that new technologies could have been developed, and as such this proposal needed assessment. Furthermore, they realised that the proposal could not be rejected simply on the basis of saying no to incineration.

In addition to explaining to members the pro's and con's about incineration, this meeting also served to illustrate the power relations that exist in the struggles with the authorities. The paper mill wanted to conduct an EIA around the proposal. The members realised that if they acceded to this request, the mill would assume that the community was fully aware of all issues around this proposal and as such would push its case with the authorities. Given the history of the granting of EIA's in this country, the granting of this permit by the authorities would be a foregone conclusion:

"EIA's are meant to direct development according to the capacity of the environment in terms of air space, water, people, industry etc. The long-term impacts of the projects must be considered. Yet here we have EIA's being blindly approved".

(Michelle)

. They instead opted for the idea of an independent consultant's assessment of the proposal, feeling that this would give them ample ammunition against the proposal.

SDCEA acknowledged the role of power possessed by the authorities and industries in environmental exploitation

“there is a cosy relationship between industry and government which tends to dilute the struggles of communities. Even though government makes a commitment to people, it is reluctant to penalise industry as it will impact negatively on economic growth. Investment is government's first priority.” (Michelle)

She however believes that in order to fight them there must be education, and in this regard SDCEA has a role to play:

“People (need to) take the initiative to empower themselves- see knowledge as power... to defend themselves, to defend their rights against the powers of industry and government which operate on an intellectual level. In order to be on their level, you have to assert your mental level as well”. (Michelle)

Michelle believes that through SDCEA's interactions with its membership, many individuals within the organisation have gone on to become 'organic intellectuals' in order to be better activists:

“Some of our active members have gone on to become intellectuals, for example Des D'Sa our chairperson: He had no knowledge of the pollution issues. He only had a work background – having worked in industry and as a trade unionist. He came to SDCEA, and studied, and can now speak with an understanding and knowledge of environmental issues, and he has taken this organisation very far.” (Michelle)

In addition to making him an activist, Michelle sees Des' learning and activism as facilitating others' learning and activism:

“He has transferred knowledge to the people of Wentworth on such a tremendous scale that Wentworth which was once a docile community in respect of the environment has now increased its participation ten fold.”

“He is transferring knowledge in every kind of sitting or gathering. If you talk to Des, you'll realise that he knows so much technical information- information, which he gained through self-education. He has been very inspirational – a true case

example of how self-education can change somebody into a knowledgeable person. He has no accreditation for his knowledge. It never happens anyway.” (Michelle)

SECTION B

4.4 Analysis of activities

In presenting the analysis of the activities of the various organizations, I would like to firstly focus on the research questions and relate them to this study. Thereafter, this study will be related to the previously studied literature.

4.4.1 The research questions

- A. What are the educational intervention strategies and activities of the environmental action groups in Merewent to raising awareness of pollution hazards amongst residents?

In answering this question, the following can be deduced:

a). CBO's Play a Significant Role in Awareness Raising and Learning

The WDF has a large membership in Wentworth. It represents the interests of the entire Wentworth community having been borne out of the amalgamation of the civic structures in the area. It is therefore able to reach out to the people in Wentworth.

The WDF has, through its area committees, provided a platform for membership to become aware of the pollution struggles in the Basin. The open door policy of the organisation, where residents were free to attend these meetings and critique the organisation, facilitated community participation in the affairs of the organisation. The frequency of the meetings and the concept of a house guest knowledgeable in environmental issues enabled the organisation to facilitate learning on pollution related matters. At the same time, these meetings served to sustain community involvement in the activities of the WDF.

SPEC is composed of staff members at the Settlers' Primary School, and as such, represents the interests of its learners. SPEC's attempt to create awareness of the hazards of pollution focused mainly at the level of the industries, learners and staff. By illustrating the frequency of the pollution, both through the log- book entries and directly meeting with industries, SPEC was able to create pollution awareness with the industries as well as get them to accept liability for the effects of the pollution. The learners and staff at the school were

taught the identification of pollutants, the detection of the generators of pollutants and the effects of it on their health.

The participation of learners in the epidemiological study served to actively involve them in the environmental struggle. In addition to learners being taught how to conduct lung function tests and record the readings, this study served to instill in learners an awareness of the situation as it existed at the school.

SDCEA, being an environmental forum, has membership from the CBO's in the Basin. Its co-ordinating role in the Basin has served to direct and unite the actions of its affiliates. Although much of its work has been at the strategic level of interaction with authorities and industries, SDCEA has provided the space within itself to engage with its membership and the community of the Basin.

SDCEA hosted meetings with its affiliates where, in addition to caucusing, the hazards of pollution were discussed. Members were made aware of the various pollutants, its nature and effects, both short term and long term, on their health. The interactive nature of SDCEA's meetings with affiliates facilitated debate amongst members and clarification of ideas, thus enabling them to develop an understanding of various issues, namely social, political and economic in the fight for environmental justice.

Both the WDF and SDCEA engaged in the mass mobilisation of the people of Merewent. Through the protest marches and mass meetings they organised, they were able to highlight the devastating effects of the pollution in the Basin. The WDF has been rather skilful in sustaining the attention of the community of Wentworth by including pollution on the agenda of public meetings it called up to highlight other specific issues.

b). Networking and Solidarity in Social Movements Increases Chances of Successful Action Towards Desired Change

The strategic association of the WDF and SPEC with SDCEA served two main purposes. Firstly, it highlighted the struggles of the WDF and SPEC with the authorities. The WDF and SPEC were confronted with a large number of people suffering respiratory problems. In the case of the WDF, this led to people facing huge medical bills as well as unemployment as a result of being unwell. SPEC on the other hand, found that their children were unable to

enjoy the benefits of proper schooling. The gas emissions acutely affected the learners' concentration levels, whilst at the same time hampering the teachers' efforts to provide quality teaching. Through their association with SDCEA, these organisations were able to gain adequate exposure and the pollution problem as it affected them was highlighted. The Settlers' Primary School in particular, has enjoyed tremendous publicity in that its problems are highlighted at most environmental meetings relating to the Durban South Basin.

Secondly, it helped to publicise the pollution hazards in the Basin locally and nationally. SDCEA enjoys a high media profile with environmental reporters in both the electronic and print media. In addition to ensuring that instances of pollution, for example the recent underground pipeline leakages in the Basin, got immediate and effective coverage in newspapers, on radio and television, such a profile enhanced the status of SDCEA as an organisation campaigning for environmental justice.

c). Leadership Plays a Crucial Role in Awareness Raising and Development of the Group

The chairpersons of WDF, SDCEA and SPEC, Des and Lawrence respectively, have, through their actions promoted an awareness of the pollution problems in the Basin.

Through self-study and interaction with others in the know, these leaders have become quite knowledgeable on issues around pollution. This served to:

- Raise awareness amongst members within their organizations

When these leaders became knowledgeable on environmental issues, they shared their learning with their membership. The area committee meetings of the WDF provided Des with a route to share knowledge with the members of the organisation as well as the people of Wentworth.

Being in charge of the SDCEA, Des organised many meetings where he and other environmental experts facilitated learning amongst the membership. In this way, the SDCEA maintained their awareness of the current issues around the pollution in the Basin.

Lawrence, through his staff and SPEC meetings was able to share his knowledge and thereby alert the community at his school to the problems they faced. His securing of the epidemiological study served to raise the awareness of the community. Parents and

learners now became acutely aware of the seriousness of the problem when they realised that international experts took an interest in their plight.

- Mobilize their membership

Both Des and Lawrence are highly motivated persons who were able to galvanise the support of their membership. By making their members knowledgeable, they were able to mobilise them into taking action. Membership realised that the pressure against industries had to be sustained, and as such, they worked relentlessly in their battles with the industries and the authorities.

Des has maintained a local presence in the Basin, attending and addressing the meetings of the various affiliates of the SDCEA. In addition, Des is a field worker in Wentworth who has called on residents personally to discuss the pollution in the area. In this way, he has been able to motivate his community to pursue the struggle.

- Force the industries to take notice of their organizations.

Lawrence, through his persistent interaction with industries, forced them to take notice of him and his organisation. His commitment to learning and becoming knowledgeable has earned him the respect of the industries as well as the people involved in the pollution struggle. By learning to analyse pollution monitoring data, Lawrence has not only been able to identify instances of pollution exceedences, but has also challenged industries on these instances. Industries now found that they were asked to be accountable for their actions. Hence, they could not be negligent in adhering to the pollution guidelines. This has led to a decrease in the number of exceedences in the Basin. Furthermore, whereas Lawrence at one stage had to beg and wait for pollution-monitoring data, today he is timeously provided with the data.

d. Collective Action Catalyses Learning and Social Action.

The protest marches and mass meetings hosted by SDCEA and the WDF, and the area committee meetings held by the WDF served as the learning sites for people, in addition to conscientising and mobilising them. By focusing on the nature of the pollutants and its impact on their lives, these meetings enabled the community to develop a level of scientific literacy which enabled them identify the pollutants as well as realise the impacts of these

pollutants on their lives. These people realised that the asthma problems they experience were due to the contaminants in the air and not as a result of inherent weaknesses of their bodies. That, in addition to making them sick, less productive and un-employable, the pollution saddled them with high medical costs. The community now saw the connection between the pollution and their poverty. They became relentless in their action, and forced the SDCEA to seek government intervention to pressurize the industries into lowering its pollution levels.

SDCEA, acting on the instruction of its affiliates in Merewent, enlisted the assistance of the National Minister of Environmental Affairs who then met with the community and assured them of government support in their struggle. Several meetings with ENGEN were held where the environmental performance of the refinery was debated. As a result of repeated pressure put on it by the SDCEA and government, ENGEN entered into an agreement with these parties. In terms of the agreement, ENGEN undertook to reduce its SO₂ emissions from 72 tonnes per day in 1998, to 25 tonnes per day in 2003. Particulate emissions were to be reduced by 70% within this time.

B. The second question of this study relates to the internalisation of knowledge leading to people becoming critical examiners of their experiences.

The environmental action groups met regularly in the SDCEA, where open discussions on issues relating to the struggles for environmental justice were discussed. From time to time, and depending on the issues under discussion, members made presentations at these meetings. These, together with the presentations by environmental experts enabled their members to become knowledgeable on issues relevant to the pollution struggle, not only in the Basin, but also worldwide. SDCEA thus provided a platform for information sharing and knowledge generation amongst the environmental groups in the Basin.

The WDF took this learning from SDCEA and presented it to its membership and community at its area committee meetings. Through their involvement at these meetings, many members realised the devastating effect the pollution was having on their society. They realised that the industries were profiting from their hardships, and forced the SDCEA to apply pressure on these industries to curb their pollution levels.

Lawrence, who regularly attended SDCEA meetings and interacted frequently with Michelle and the doctors, became knowledgeable on the pollution. He was able to analyse pollution monitoring data and understood its impact on the people at his school. He realised that the industries, by placing his learners at a health risk, were in violation of their constitutional right to a healthy environment. Furthermore, he found that the industries were profit orientated with blatant disregard for the health of the community, and that government condoned this behaviour by issuing industries with light fines every time they committed offences. It was on this basis that he engaged in a process of getting industries be accountable for their actions, calling on them to explain the various instances when they exceeded the pollution guideline levels.

4.4.2 The Merewent case study: An example of popular education

The notion of popular education as that located in the struggles of ordinary people (Steele 1999), and of the production of ‘really useful knowledge’ (Johnson 1988), is exemplified in the struggles of the environmental groups of Merewent. For example, if one considers the work of Lawrence and Des:

Lawrence and Des linked their daily experiences in their environment, such as smells in the air, high instances of children and residents having asthma, weather patterns when pollution levels were high, with knowledge gained from readings and discussions with people in the know to develop understandings of what was happening around them.

Echoing Martin’s (1999) claim of the non-formal nature of this form of education, the knowledge they now developed was not formulated on the basis of a preplanned curriculum. Instead, it was derived from their lived experiences. It had no vocational intention, but reflected the interests of the people, which was to ensure that people obtained relief from the hazards of the pollution in the Basin. Accordingly, it was on the basis of these understandings that they were able to ask critical questions and challenge the assumptions of industries that it was acceptable to pollute the environment.

In addition to enabling Lawrence and Des to ask critical questions, it would appear that the juxtaposing of their experiences with relevant knowledge from readings and interactions with people in the know led to the formulation of a grounded theory of the dynamics of the pollution struggle in the Basin. Elements of this theory included notions that industries are

only interested in reaping a profit, that government support is not necessarily on the side of the people. Their subsequent actions in mobilising their communities and organisations is congruent with Thompson's (1997) claim that the formulation of such theories leads to the development of a critical mass of people who engage in social action for social change.

The actions of Des and Lawrence verify the claim made by Wenger (1998) that individuals through interaction with the community are able to generate meanings for themselves and the group, as well as an identity. Des initially did not realise the pollution problem as it existed with residents. Being a textile worker, he interpreted the situation in his community as it existed with his employers and co-workers— that in addition to providing a vital commodity, namely fuel, the refineries provided people with much needed employment. As such, it became necessary for them to pollute the environment, and that attempts to get the refineries to stop this would mean a loss of livelihood for the workers. As a unionist, Des's main concern was the welfare of the workers. Naturally then, his efforts focused on the interests of the workers.

When Des retired and joined the WDF, he began to see the situation from the point of view of the living conditions of the people. In carrying out his role function as a community worker, Des now began to witness the devastating effects of the pollution on people's lives. He realised that the community was being exploited, and that industries were benefiting from people's suffering. This spurred him on to take action. He engaged himself in a process of learning, and through his interactions with environmental NGO's and environmentalists, his thinking was transformed. He further developed his knowledge collectively with his colleagues in the WDF. Through this process, Des became an environmental activist and helped redefine the role of the WDF as an organisation that campaigned not only for social upliftment, but also for environmental justice.

Lawrence was a teacher at the school. He had limited understanding of environmental issues. He interacted regularly with the SDCEA and other environmental experts and developed his understanding of the plight of the people in Merewent as well as the power relations that existed in environmental battles. He then shared his knowledge with other members of SPEC, and in so doing helped SPEC define its identity as well as its role in the environmental struggles.

The process of learning by members of the WDF and the SDCEA show evidence of collective learning in a group as set out by Kilgore (1999). The vision of the WDF to include the human element of environmental conservation had developed through the learning and influence of Des. Des interacted with his colleagues and members of the community through the area committee meetings and public meetings where the WDF's vision of environmental justice was promoted. Through their participation in such meetings, the community in turn developed a point of view in line with that of the WDF.

The environmental struggles of the people in the South Durban Basin sees the coming together of different organisations in the SDCEA. These organisations represent different communities within the Basin, and as such may approach the pollution struggles differently. However, through their interaction with each other in the SDCEA, these organisations developed a shared vision of environmental justice in keeping with that of the SDCEA, and it is the pursuance of this vision that motivates their actions. In keeping with Kilgore's (1999) model of collective learning, the SDCEA is thus seen as the constructor of the environmental knowledge and vision of the membership.

Given that the organisations within the SDCEA have a shared vision of environmental justice, this does not exclude the presence of divergent points of view. Being drawn from different backgrounds, these individual organisations have at times differing views on how to approach the environmental struggles. Accordingly, there are bound to be conflicting viewpoints on various issues within the SDCEA. The meeting I attended on the 18 December 2001 illustrates the conflict within the group and at the same time, highlights the assertion by Kilgore (1999) that the conflictual nature of the groups serves to enhance learning whilst developing themselves. An elaboration of aspects of the meeting is presented to illustrate the point:

Given the position of SDCEA on incineration, MEAC opted for an independent assessment of the proposal by Mondi to incinerate 200 000 tons of sludge per year, believing that they needed evidence to reject incineration. The WDF opposed the stance of MEAC, arguing that SDCEA was fundamentally opposed to incineration, and that industries always lie to communities. It proposed that they should go for an EIA instead.

MEAC's counter argument was that an independent consultant, chosen by it, would not lie to them, and furthermore, a blanket "NO" for the proposal would not provide adequate basis

for a rejection of the proposal. In addition, MEAC felt that if they opted for an EIA, then there was a great possibility that government will approve the EIA. After much deliberation, the WDF realised that by going the EIA route, there was a slim chance of them stopping the project, and that just saying no to a project will not provide sufficient basis for opposing it. The WDF realised that it needed evidence to oppose a proposal, and agreed with MEAC to get an independent consultant.

This meeting attests to the claim made by Kilgore (1999) that conflict is about the construction of knowledge, that is “really useful knowledge” – which is informed, and serving the subjective interests of the oppressed. The WDF was opposed to incineration, but was willing to move from that stance in the light of new evidence. They realised that with new technologies, there could be the possibility that incinerators could be developed which could eliminate the production of the hazardous emissions. Thus, the WDF was able to clarify its own ideas about strategic action as well as on the incineration debate.

As stated earlier, the transformation of the WDF into an environmentally conscious organisation was in a great part due to the efforts of Des. Initially, as a result of his personal learning, Des was able to direct the development of both WDF and the SDCEA. This is consistent with Finger’s (1989) assertion that individual development occurs before group development and that the individual is at the centre of group transformation.

Being a participant in these groups however, enhanced Des’ subsequent learning. The meeting of the 18 December 2001 shows that by debating within a group, Des was able to transform his thinking on incineration and strategic action. This is in line with Welton’s (1993) view that the individual develops whilst pursuing the objectives of the group.

From the above, it can be seen that the development of Des into an environmental activist cannot be attributed exclusively to either individual learning or collective learning. There are times when he developed his understanding of the situation on his own, and then when he developed his understanding through interaction in the group. It was thus a mix of individual and group learning.

Politics played a central role in the struggles of the environmental groups in Merewent. These groups believed that it was due to apartheid that their communities were located close

to the refineries, and that the soft approach of government towards these industries was politically motivated. They politicised the environmental struggles, associating environmental justice with political emancipation. Their meetings were critical of the attitude of government officials towards industries.

This approach by the environmental groups is in contrast with the view of Finger (1989) who believed that by linking education with politics, the development of the individual was neglected. Individuals were seen to merely promote the political aspirations of the group. As such, he sees the separation of education from politics as necessary for the development of the person. Des however, believed that by politicising the situation in Wentworth people came to an understanding of their oppression, which then motivated them to become knowledgeable and hence more involved in the environmental struggle.

Whilst the environmental struggles of the CBO's in Merewent made every effort to involve the local communities, the participation of these communities was far from satisfactory. It becomes necessary in the light of this study to find some possible reasons.

As stated earlier, the fatalistic approach of the Merebank community in believing that the battles against the refineries will never be successful and hence are not worth being fought, still prevails today. In addition, the many people who work in the refineries see environmental action as a threat to their employment. They believe that by participating in such action against the refineries, they will be working towards closing them down.

The scant participation of the people in the vicinity of the Settlers' School, is due to the socio-economic status of the area. According to Lawrence, this is a poor community whose main concern is to provide food, clothing and shelter for their families. Given such a focus, the residents are unable to find the time to attend environmental meetings and learn more about the pollution situation.

The negative messages of environmental groups that account for poor community participation as stated by Milbrath (1989), is verified by Michelle. She believes that this accounts for a large percentage of the people being reluctant to get involved. However, she sees the media as playing a vital role in encouraging environmental awareness. By being broadcast on the radio and television as well as enjoying prominence in newspapers,

instances of pollution and environmental battles make their way into the homes of residents. Residents are now forced to take note of them.

Milbrath's (1989) idea of creative evolution where an increase in disequilibrium in a community forces people to engage in social action has similarities in the action of the people in Merebank. The area in the vicinity of the Settlers' School is today widely referred to as the "cancer valley". This has come about through the work of an investigative environmental journalist who found that a large number of people, mainly children, in the area were suffering from pollution-related cancers such as leukaemia. His work, which was published in a daily provincial newspaper in September 2000, (APPENDIX: D) alerted the residents of Merebank to the reality of the pollution hazards in the area. They realised that they were now a community at risk. The residents now became active.

At about the same time ENGEN publicised its proposal to install an underground pipeline to transfer methane rich gas to its plant, and called for public comment on the proposal. With community fears being heightened, the residents attended public meetings called for this purpose and became voiceferous in their objections to aspects of the proposal. In addition, they questioned the role of the local residents association in the environmental struggles. This high state of emotion, coupled with their dissatisfaction with the residents association to effectively represent them, led to the people forming the MEAC.

The actions of MEAC, where it abandoned the traditional process of consultation with industry and government and sought relief from the courts is evident of Milbrath's (1989) perception of a community being unable to contain its discomfort any longer and thereby finding new ways of doing things.

As mentioned in the introduction, this chapter explored the learning that took place when residents engaged in environmental action. In the plan of this thesis, the conclusion of this study will now be presented.

CHAPTER FIVE

CONCLUSION

In presenting the conclusion for this study, I will present a summary and an outlook of this study.

5.1 Summary

The community of Merewent is one that possesses a high degree of commitment to fighting for a clean and safe environment. Over the years, this community has been subjected to high levels of pollution from the various industries located in its midst. This has had a profound negative impact on the health of the people, rendering them susceptible to pollution related illnesses and cancers. This placed severe restrictions on their quality of life.

The Merewent community started off as economically poor. With the main emphasis being survival, the people still found time to engage in struggles for political freedom. Later on, they focused their attention on the fight for a clean environment. In this fight, the community was not literate on the many issues of the pollution as it affected them. However, not to be outdone by this lack of knowledge, they organised themselves into action groups and slowly began to learn about these issues as they fought for environmental justice.

The learning by the people of Merewent in the struggle for a clean environment has served to motivate them as well as ensure that they will not be taken for granted by the industries. People here learnt from each other, from experts in the field, as well as inspirational leaders who grew out of the community. This has served to ensure that they will always have a say in how their environment shall develop.

5.2 Outlook of this study

This study focuses on Merebank and Wentworth. The absence of an environmental group representing the people of Merebank limited the ability of this study to uncover the social learning that occurred within that community, and as such must be seen as a limitation of this study. It must be borne in mind that the SPEC and MEAC, although based in Merebank, are limited in uncovering social learning for this community as a whole. SPEC

represents the learners at the school, and MEAC was formed to represent community concerns specifically around the pipeline issue.

Merebank and Wentworth, although making up Merewent, exist as separate communities along racial lines. The representative organisations meet at the SDCEA, but show little or no involvement together. This racial separation of this community raises questions for future research.

5.3 Conclusion

Environmental groups in Merewent devoted much effort to raising public awareness of pollution, seeing it as one of the ways through which they could force industries and government to be more responsive to the concerns of the people.

By becoming knowledgeable on pollution matters, these organisations, and the SDCEA and WDF in particular believe that people can become more active in their fights with industries and the authorities, and get government to deliver on its promises, namely that everyone has the right to a healthy environment.

The commitment of these groups to relentlessly pursue the environmental struggle, coupled with their commitment to update their knowledge on the environmental struggles most certainly serves as an inspiration for the environmental activists not only of Chatsworth, but also of other communities experiencing similar environmental injustices.

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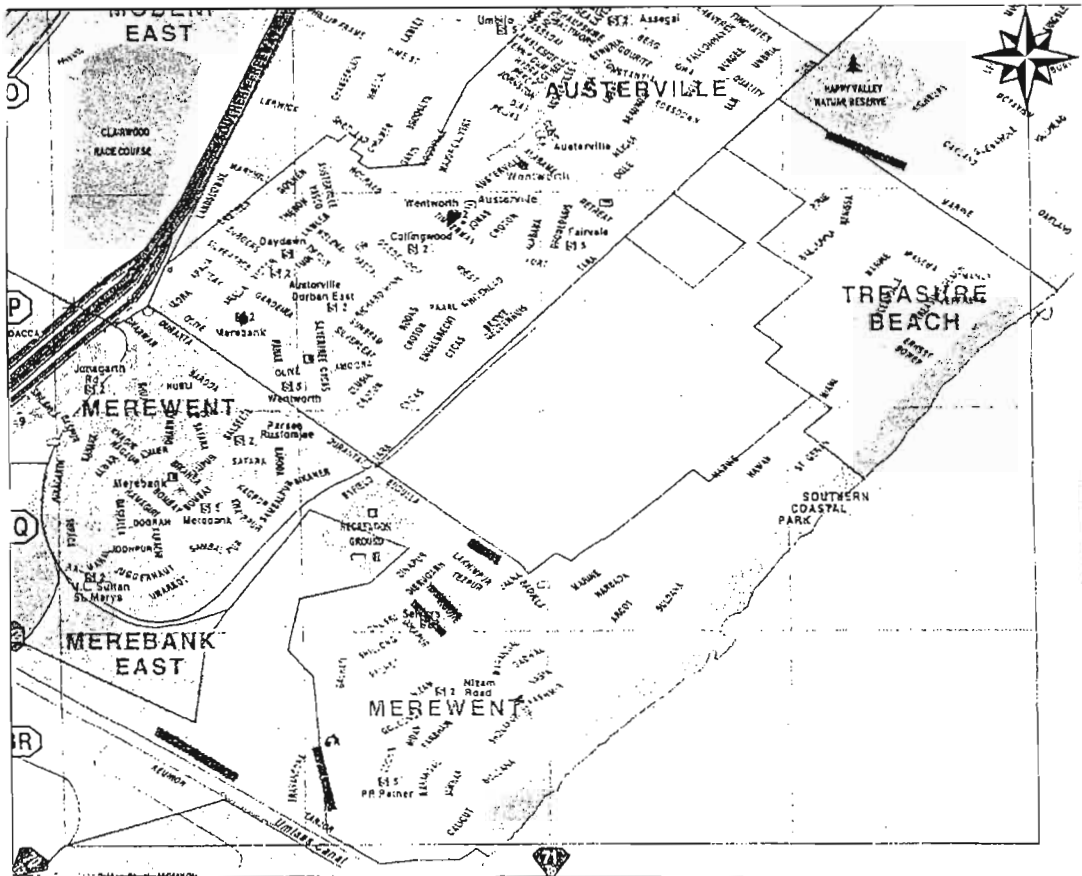
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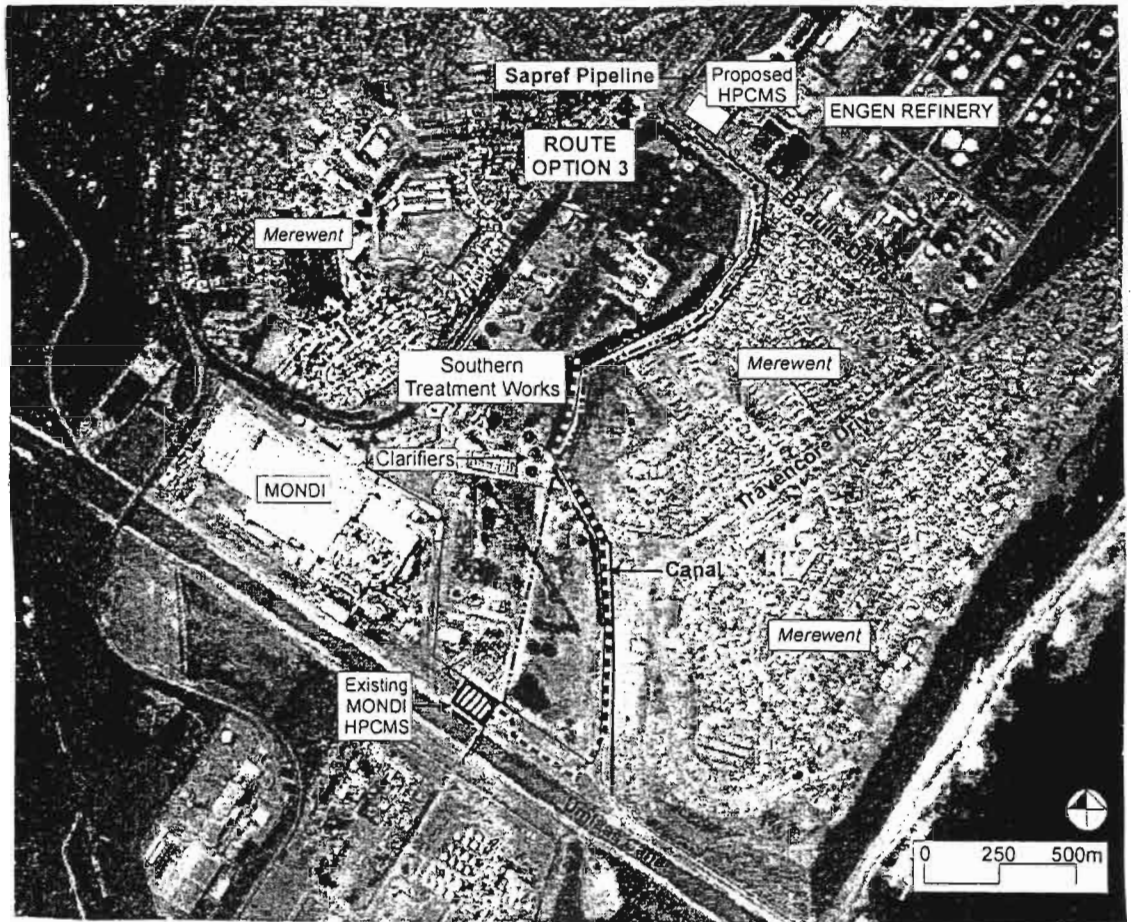
APPENDIX A

MAP OF MEREWENT



APPENDIX B

LOCATION OF MEREWENT IN THE BASIN



APPENDIX C

LOG ENTRIES BY SPEC

SETTLERS PRIMARY SCHOOL
LOG ENTRIES - AIR POLLUTION

TIME / VARIATION	TYPE OF SMELL	SYMPTOMS
3AM - 1PM	PUNGENT/ACRID/STRONG	HEADACHE/BURNING SENSATION ON NOSE AND EYES/NAUSEA
6:45AM - 8AM	Foul Smell/Putrid	HEADACHE/HEAVY CHEST/AFFECTS THROAT, NOSE EYES, DIZZY SPELLS/NAUSEA
1:13 - 9:30	ACRID/STRONG	HEADACHE/DIZZINESS/AFFECTS THROAT/NOSE/EYES. DISURBS THE COURSE OF TEACHING AND LEARNING
1:32 - 9:57	ACRID/STRONG	HEADACHE/DIZZINESS/AFFECTS THROAT/NOSE/EYES. DISURBS THE COURSE OF TEACHING AND LEARNING
10:07 AM - 10:35 AM	PUNGENT/STRONG	HEADACHES/BURNING SENSATION ON EYES NOSE/THROAT. DIZZY SPELLS/NAUSEA
11:13 AM - 12:15 PM	ACRID	HEADACHE/BURNING SENSATION ON EYES NOSE/THROAT. DIZZY SPELLS/NAUSEA
11:33 AM - 12 PM	STRONG - BURNING SENSATION	HEADACHE. NAUSEA HEAVY CHEST
12:32 PM	ROTTEN EGG SMELL	UNBEARABLE. NAUSEA. BOILS OF VOMITTING

ODOR

SMELL - UNPLEASANT - BOILS OF VOMITTING

ROTTEN EGG

SMELL

ALSO ROTTEN EGG

SENSATION

STRONG - BURNING

HEADACHE. NAUSEA

HEAVY CHEST

SMELL/NAUSEA

NOSE/THROAT. DIZZY

SENSATION ON EYES

HEADACHES/BURNING

PUNGENT/STRONG

ACRID

10:07 AM - 10:35 AM

11 AM

11:13 AM - 12:15 PM

11:33 AM - 12 PM

12:32 PM

LOG ENTRIES

COMPLAINTS MADE BY POLLUTION CONTROL OFFICER OF SETTLERS PRIMARY TO MAJOR INDUSTRIES CONCERNING AIR - POLLUTION

TIME	NAME OF INDUSTRY	COMPLAINT
8.30 AM	ENGEN - JIM FREW NOT AVAILABLE	SO ₂ EMISSIONS EDUCATORS/PUPILS TRAUMATIZED
8.00 AM	ENGEN DURBAN CORPORATION (RESPONDED) CITY HEALTH (SLOW RESPONSE) MONDI	SO ₂ EMISSIONS SO ₂ SO ₂ SO ₂ EDUCATORS/ SO ₂ PUPILS TRAUMATIZED
8.05 AM	ENGEN/SAPREF/MONDI (CITY HEALTH)	AIR POLLUTION
8.20 AM	ENGEN	BAD ODOUR IN AIR
10.30 AM	ENGEN/SAPREF/MONDI/CITY HEALTH RESPONSE FROM ALL CONCERNED	ODOUR TOXIC SMELL ODOUR/STRONG PUNGENT SMELL
9.00 AM	SAPREF/ENGEN/CITY HEALTH DURBAN CORPORATION	
8.00 AM	ENGEN/DURBAN CORPORATION RESPONDED	COCKTAIL OF POLLUTANTS
8.05 AM	ENGEN/SAPREF/CITY HEALTH	COCKTAIL OF POLLUTANTS
8.30 AM	DURBAN CORPORATION ENGEN/DURBAN CORPORATION/ SICEA - RESPONDED CITY HEALTH	COCKTAIL OF POLLUTANTS
8.00 AM	ENGEN ENGEN/DURBAN CORPORATION CITY HEALTH	UNPLEASANT SMELL COCKTAIL OF POLLUTANTS
8.00 AM	ENGEN	POLLUTION
8.18 AM	CITY HEALTH (NEIL LARATT)	
7.30 AM	ENGEN	

APPENDIX D

**INVESTIGATIVE REPORT ON POLLUTION
IN THE SOUTH DURBAN BASIN**

CANCER AND AIR POLLUTION IN DURBAN SOUTH: FACT OR FICTION?



NATHANAEL BEDESSY: 3, died last year from leukaemia.



JODACHE NAIDOO: 4, has stomach cancer.



ANDREW HARRIS: 25, died from leukaemia in 1994.



LYNSEY DE BEER: 18, died of leukaemia in 1995.



LISA-ROSE CHAPPLE: 14, died from leukaemia last year.



TASLEEM OMAR: 3, sick with leukaemia.



RAVESHNI GOVENDER: 11, died of cancer in 1997.



SADÉ SCHWARTZ: 13, being treated for brain cancer.

CASES

47 Marine Drive: Lisa Rose Chapple, 14, died of leukaemia last year.

51 Marine Drive: Mrs Alberta Thomas, 73, died of lung cancer 10 years ago. Her daughter, Mrs Maria Waterman, 51, died of lung cancer eight years ago, in nearby Hignett Road.

52 Marine Drive: Mr John Steenman, 19, died of cancer 10 years ago. His father, Ian, also died of cancer, about 15 years ago at the same address.

54 Marine Drive: Mr Harold Butler, 67, died of stomach cancer in 1990.

65 Marine Drive: Mr Leon Coetsee, 65, but described by neighbours as very fit for his age, died of leukaemia in May 2000.

Marine Drive: Mrs "S", suffering from cancer (full name known to The Mercury).

102 Marine Drive: Mrs Isara Price, 71, died of lung cancer in September 1999. Never smoked, according to friends.

105 Marine Drive: Mr Peter Wilson, 63, died of cancer 26 years ago.

117 Marine Drive: Dr Jemma Verster-Whitehorn, 44, died of stomach cancer in December 1999.

157 Marine Drive: Mrs Coull was treated for cancer in 1984 and 1986.

Marine Drive: Mrs "A", a close neighbour, whose name is known to The Mercury, is fighting cancer.

THIS IS A LIST of some of the cancer cases in South Durban traced by The Mercury, published with the consent of family members wherever possible.

It is by no means exhaustive and there is no suggestion that all of the cases were caused by air pollution. However, the Merebank children are surrounded on three sides by major polluters - Sapret, Engen, Mondi and the busy South Coast freeway.

The list has been compiled mainly from interviews with residents, because geographically based cancer records are not available from the National Cancer Registry.

81 Doon Road: Mrs Gill de Lager, 36, died of lung cancer in November 1998.

THE
POISON
IN OUR AIR

Agony of the children

CASES IN MEREBANK

2 Golconda Place: Tasleem Omar, 3, is sick with leukaemia and is being treated at Red Cross Memorial Children's Hospital in Cape Town. Her parents had to leave Durban to find work in Cape Town and be close to her during treatment, leaving their older son behind in the care of grandparents.

6 Golconda Place: Joel Nalcker, aged two-and-a-half, developed a lump on his back in May last year. Doctors fear the growth is cancerous and recommended surgery, but his Christian parents refuse to accept this and have opted for prayer instead.

36 Dinapur Road: Nathanael Bedessy, 3, died in September last year from acute lymphoblastic leukaemia.

124 Dinapur Road: Jodache Naidoo, 4, was diagnosed with stomach cancer in February and has had the tumour removed.

26 Lakhimpur Road: Maana Gounden, 8, died three years ago from leukaemia.

59 Lakhimpur Road: Clement Naicker, 7, was diagnosed with a tumour of the spine at the age of two and a half. He died in 1992.

40 Satara Road: Eleven-year-old Raveshni Govender died of cancer of the spine and thigh in October 1997.

85 Junagarh Road: Chantal Naidoo, 15, died in September last year from cancer which began in her mouth earlier.

Bluff Road: Mr Aubrey Armstrong, died of lung cancer in May 1994. He grew up on the Bluff and lived in Hilltop for more than 20 years.

Bluff Road: Gareth Clark, 11, died of cancer in March 1999. Moved to Hilltop Road at the age of six.

Bluff Road: Werner Herbst, 12, died from leukaemia in early 1998.

Bluff Road: Mr Dirk Sahr, 69, has been treated for colon cancer.

Bluff Road: Mr Ernest van der Merwe, 53, died of skin, throat and lung cancer in 1983, four years after his diagnosis.

Bluff Road: Mr Henk Maas, 68, died of lung cancer in 1972. His wife, Mrs Maas, died of stomach cancer, aged 51, in 1970. At least one of their dogs also died of cancer.

Bluff Road: Mrs Margaret van der Merwe, 74, died of stomach cancer in 1994. Her dog also died of cancer.

Bluff Road: Mrs "Wendie" van der Merwe, 68, died of cancer. Her husband did not wish to confirm or deny the cause.

Bluff Road: Mr Arthur van der Merwe, 48, died of cancer. His wife, Iona, believed to have died of cancer in 1994. Relatives could not be traced for confirmation and accurate dates.

Bluff Road: Ms Lynsey de Vries, 18, died of leukaemia in June 1995.

Bluff Road: Norman van der Merwe, 76, has cancer of the ear.

Bluff Road: Mrs Hazel van der Merwe, 64, died of breast cancer seven years ago and her husband, Trevor, died of cancer four years ago.

Bluff Road: Mr Andrew Harris, 60, died of leukemia in 1994. His mother died of cancer of the nose and mouth in 1980. He drank away slowly over 18 years. "Eventually, I used to pray every night for God to take him away."

Bluff Road: Mr Wayne Hardman, 30, a well-known surfer, died from brain and lymph cancer in 1993. He had a mole on his back, which developed into lymphoma.

Bluff Road: Dr Pierre Potgieter, 33, was diagnosed with leukaemia in March 1996. He is at present in remission after a bone marrow transplant, but has moved to Bloemfontein.

Bluff Road: Mr Ronald Page, 56, died of brain cancer five years ago.

Bluff Road: Mr Barry Armstrong, 60, a well-known municipal secretary of Durban, died of cancer in 1993.

Bluff Road: Mr Rodney Coley, 67, died of lung cancer 11 years ago. He was a smoker.

Bluff Road: Mr Willie Wordemann, 73, died in August 1998 from cancer, aged 73. He had lived on the Bluff for several years but was living in Glenwood when he died.

Bluff Road: Mrs Madge Moyses, 44, was diagnosed with breast cancer at the age of 56 and died aged 61 after cancer spread to her lungs and other organs.

Bluff Road: Mrs Pat Knowles, 49, died of breast cancer in 1973. Her husband, Mark, moved to another part of the Bluff after her death and later to New Germany, where he was diagnosed with cancer of the jaw in 1989. He died soon afterwards at the age of 69.

Bluff Road: Mr Keian Egan, 42, died of cancer of the throat and lungs in 1987.

Bluff Road: Mrs Lilian Beer, 68, died about 20 years ago from cancer which developed in her breast but spread throughout her body.

Bluff Road: Mr John Minaar, 31, has been treated for colon cancer.

Bluff Road: Sade Schwartz, 13, has brain cancer. She was diagnosed last year, but cannot have surgery because of the location of the cancer and is being treated with chemotherapy and radiation.

Bluff Road: Mrs Marcia Marnewick was diagnosed with cancer last year and is in remission. Her son, Jimmy, 25, died of bone cancer in 1996 shortly after moving to the Transvaal. He had lived on the Bluff from the age of nine.

IT NEEDS to be said at the start that there are many crossroads and stumbling blocks on the pathway to finding answers. And at the end, only half the "truth" may emerge, the rest hidden at the back of unexplored alleys.

I don't pretend that I had time or expertise to explore every alley.

But my gut feeling, however prejudiced or jaundiced it may be, suggests that the number of cancer cases in parts of south Durban is more than just coincidence. The cases I learnt about cannot all be explained away by "the usual suspects" - tobacco smoking, a poor diet, too much sunlight or genetic factors.

And as a journalist - not a scientist or trained researcher - it is likely that my endeavours will be dismissed in some quarters as unscientific, inconclusive or unduly alarmist.

ANYONE WITH MORE INFORMATION about other cancer cases, particularly childhood cases, can contact Tony Carnie at tel (031) 308 2314.

They can also contact Michelle Simon of the South Durban Community Environmental Alliance at (031) 461 1991 or Dr Mark Colvin of the Medical Research Council (031) 202 0777.

Nevertheless, this is the story I would like to tell you about cancer and air pollution in south Durban.

It started about two months ago with a telephone call from Mrs Eileen Chapple, a former Bluff resident.

Eileen is a tough, gritty woman. But nearly a year after leukaemia killed her 14-year-old daughter, she cannot come to terms with the tragedy.

"This has changed my whole life. Every time I go into her room these days it just tears my soul. I used to be strong. But I'm a broken woman now. Just waiting to die."

Lisa was so lovely. But it took just five weeks for her to die. At the end she was so sick she didn't even look like a human being.

"And I know it was the pollution on the Bluff that killed her..."

She told me this story around the time that the Bucket Brigade, a group of American citizen activists, visited south Durban and collected air pollution samples - including samples outside the Engen petrol refinery which indicated high levels of benzene, a well-established cause of cancer.

SEVERAL community members also believe that south Durban has a high cancer rate, because of the air pollution - but there's no comprehensive evidence to prove (or disprove) the claim beyond any doubt.

Mrs Chapple knows this, too. But she also knows the names and addresses of several people from her old neighbourhood who died recently, or are still living with cancer and leukaemia.

She provided enough details on one small part of the Bluff to warrant a search for a possible cancer "cluster".

Within days of following up her leads (door-to-door and by phone), I had con-



A SPECIAL INVESTIGATION BY TONY CARNIE Chief Reporter

...piled a much longer list of cancer cases - concentrated initially near the northern tip of the Bluff, next to the military base which overlooks Africa's largest tanker storage area for chemical and petroleum products.

Later I discovered that every year, nearly 3 700 tons of "product" leaks into the air, ground or water surrounding the 970 tanks at the Island View tanker farm.

Some of the products are harmless, such as vegetable oils. But other tanks house large amounts of toxic petroleum or carcinogenic products such as benzene, acids, alcohols, ketones, cyanhydrides and polymerised ethers.

And quite apart from the cancer cases which struck down their family and friends, residents also told me anecdotes about the "smells in the night" which sometimes forced them to close their windows, or how their curtains turned black and had to be washed frequently.

A resident in the Marlborough Park area of the Bluff told me about school-

children walking to school one morning - pinching their nostrils closed to avoid breathing in noxious chemical fumes.

Mr Norman Barrett, who moved to the Bluff to help his granddaughter when she developed leukaemia, told me how a piece of his car fell off in the bathroom recently. Soon after, he was diagnosed with cancer.

Mr Ian Love, of Gray Park Road, told me of an incident a few years back when he found his car and the roof of his house coated with a tar-like substance.

He washed his car but the residue wouldn't budge. So he phoned the Engen refinery. They promptly sent staff round with polish and a buffing machine to clean the muck off his car.

Mr Nelson Lutchnanna, of Warangal Road, Merebank, sometimes finds little black particles in the phlegm he coughs up.

But I've lost count of the number of people who complained about asthma, even though their families don't have a history of asthma.

Yet I also found many people who have lived on the Bluff to a ripe old age with no health problems to speak of.

I found a similar pattern in Wentworth and Austerville, though several people seemed reluctant to make their cancer experience public.

Finally, in Merebank, I was shocked how easy it was to track down the parents of so many young children with cancer and leukaemia. In some streets two children were affected.

Yet after finding so many cancer cases with relatively little effort, I began to wonder whether cancer is commonplace throughout the city. If I repeated the exercise in Kwa Mashu, Phoenix or Durban North, would I find similar problems?

...says he was diagnosed with acute lymphoblastic leukaemia at the age of seven, but has responded to lengthy chemo and radiation and is now in remission at the age of 13. Aneesha and her younger son suffer from asthma.

144 Warangal Road: Shalindran Lutchnanna, 8, has a rare blood disorder and had to have his spleen removed a year ago. The disease is not related to cancer but the cause is unclear. His grandfather, George, died of liver cancer in January aged 72.

106 Badulla Drive: Mr Poonamsy Moodley, 78, died from lung cancer in 1995. He never smoked or drank, according to his son, Moses. Moses Moodley, 43, and two nephews (both 19) living at the same address all suffer from asthma.

108 Badulla Drive: Mrs "Baby" Govender, 47, died nine years ago from cancer which developed in a lung and spread to her back. Her family say she never smoked.

PART TWO TOMORROW: Is there any scientific proof that air pollution causes cancer? Are some people more vulnerable? Why apartheid is still alive and well in cancer research. Why we know so little about cancer clusters, and details of another killer disease which may be linked to pollution.

APPENDIX E

BIOGRAPHICAL DETAILS OF RESPONDENTS

1. DES D'SA

- Is a 46 year old environmental activist who was born in Cato Manor.

-The 11th of 13 children, he completed his schooling up to standard eight.

- In 1966 he moved to Wentworth under the forced resettlement of 'Coloured' people by the government.

-Began work in 1971 as a carpenter. From 1975 to 1993, he worked for the Frame Group, working initially as a Process Controller, and then as a Process supervisor, and finally as a Safety Training Officer.

-From 1993 to 1999, he worked for SASOL FIBRES as a Process Supervisor.

- His community involvement include:

1. Member of Durban Housing Action Committee (DHAC) in the 1980's
2. Civic Movements of Wentworth in the 1990's
3. Environmental Issues in Wentworth since 1994.

He is at present the Chairperson of the WDF as well as SDCEA.

2. MICHELLE SIMON

Is the project co-ordinator of SDCEA.

She was born in Merebank 28 years ago, and lived there for most of her life.

She has a BA degree in Geography and Anthropology, and is a Masters student in Social Policy at UDW.

Her work experience includes:

- Researcher in Geography at UDW
- Environmental Officer – Gauteng Provincial Government

- Provincial Co-ordinator- EJNF (Gauteng) 1997-1999
- Project Co-ordinator – SDCEA – 2000 - PRESENT.

3. LAWRENCE VARTHARAJULU

Is a resident of Chatsworth. He has an education degree from UDW, and has been a teacher for more than 15 years, teaching Afrikaans at the Senior Primary level.

Has been teaching at the Settlers' Primary School for more than 5 years.

Became interested in environmental issues when he started teaching at Settlers' Primary.

APPENDIX F

INTERVIEW SCHEDULE

1. Tell me about your organisation and what you do
2. What are some of the activities of your organisation?
3. Who addressed your meetings?
4. How did you publicise issues?
5. How did people respond to your campaigns?
6. How did you learn about environmental pollution?
7. What did you do with information that you obtained?
8. Would you say that your colleagues are activists now?
9. Is there anything else you would like to tell me....?

APPENDIX G

DEFINITIONS OF TERMS

The following definitions of terms are used in the context of this study

1. BLACK

African, Indian and Coloured people.

2. SCIENCE

Study of the natural world through observation and test. It incorporates procedures and experiments that enable one to make sense of the world (environment).

Science as a recognised discipline, is based on the following premise:

- We can make sense of the world
- Our understanding of the world changes with time
- Scientific knowledge is durable
- Scientific inquiry is evidence-based, but has certain limits
- Scientific inquiry enables us to predict, verify and repeat
- Scientific activity is a social process
- Scientific activity involves the open contestation of ideas.

3. TECHNOLOGY

Is the discipline that involves the practical application of science as well as the study of these applications. It is a human activity that involves the use of knowledge, skills and resources to solve a problem in a given situation. Technology is needs driven, and is located within a problem solving context.