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We All Share One Planet: Comparative Case Studies in Education for Sustainable Development in India

Author
Arribas Layton, Lucas

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We All Share One Planet

Comparative Case Studies in Education for Sustainable Development in India

A dissertation submitted in partial satisfaction of the

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in Education

by

Lucas Arribas Layton

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ABSTRACT OF THE DISSERTATION

We All Share One Planet

Comparative Case Studies in Education for Sustainable Development in India

by

Lucas Arribas Layton

Doctor of Philosophy in Education

University of California, Los Angeles, 2013

Professor Carlos Alberto Torres, Chair

A combination of factors including Global Climate Change, population growth, depletion of natural resources, and degradation of the environment have contributed to a general consensus concerning the need for man to amend his relation with the earth in order to perpetuate the survival and well-being of future generations of human beings. An emerging answer to this need is Education for Sustainable Development (ESD), a conceptualization of education oriented towards equipping future generations with the skills and the capacity for critical thinking needed to create lifestyles compatible with the natural environment. This new vision for education has been codified and promoted by various international entities, including the United Nations and its subsidiary organizations.

This dissertation documents the current status of Education for Sustainable

Development at the global level, as described by academics and policy makers in the available literature. Often times missing or present only in abbreviated fashion is documentation of actual Education for Sustainable Development projects, especially those designed and implemented in the developing world by grassroots activists and community based organizations. Through six case studies conducted during the spring and summer of 2009, I document and analyze six examples of Education for Sustainable Development in the provinces of Gujarat and Rajasthan in western India. I collected data through site visits, participant observation, interviews, document analysis, and archival research.

The analysis of these case studies provides a counterpoint to some of the prevailing narratives concerning Education for Sustainable Development. Although in most ways the themes emerging from the Education for Sustainable Development organizations I looked at are harmonious with the general theoretic model accepted in the academic literature, the case studies provide some insights previously absent or underdeveloped, such as the relative disconnect between the global Education for Sustainable Education movement and the implementation of ESD projects, the unfamiliarity with academic debates and terminology amongst many practitioners, the importance of indigenous knowledge and local history in ESD projects, the powerful theoretical framework provided by the teachings and life example of Indian independence hero Mahatma Gandhi, the centrality of livelihoods to ESD, the limited importance of traditional academic divisions which separate fields such as environmental studies and economics to the work of practitioners, the ability to implement ESD in resource constrained environments, the ability of non-educated people to bring about innovative solutions to

problems in the field of ESD, the generally marginal status of nature preservation in ESD in India, and the great variety of successful ESD programs existing currently in Western India.

This study was only able to examine a limited number of case studies, due to logistical and financial constraints, but points to the possibility of the existence of even more examples of successful Education for Sustainable Development. This study specifically addressed the following two research questions: (i) How do practitioners in India see and interpret their efforts in Education for Sustainable Development? What are their motivations and concerns? (ii) How do the academic debates on Education for Sustainable Development in India relate to the realities in the field for practitioners who are implementing this new type of education?

The dissertation of Lucas Arribas Layton is approved.

Susana B Hecht

Edith S Omwami

Val D Rust

Carlos A Torres, Committee Chair

University of California, Los Angeles

2013

DEDICATION

I dedicated this dissertation to my parents, who supported and encouraged me during my years at UCLA, and to my wife, whom I love very much.

Contents

VITA: Lucas Arribas Layton

1999	High School English Language Teacher Cambridge Rindge & Latin Cambridge, Massachusetts
2000	BA English and American Literature and Language Harvard College Cambridge, Massachusetts
2001-2003	Family Hillside Farming Extensionist Peace Corps Rio Grande, Intibucá, Honduras
2005	MA International Education Administration and Policy Analysis Stanford University Palo Alto, California
2006-2009	International Education Project Coordinator Center for International and Development Education, UCLA Los Angeles, California
2009-2011	Education Sector Development Worker Peace Corps Zóbuè, Tete, Mozambique
2012-2013	Education Consultant for South Sudan and Ethiopia World Bank Washington DC

PUBLICATIONS & PRESENTATIONS: Lucas Arribas Layton

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Chapter 1

Introduction

1.1 Only One Planet

In 1908 a British journalist asked Mahatma Gandhi if he would like India to enjoy the same standard of living as Great Britain. The freedom fighter known for simple living replied: "To have its standard of living, a tiny country like Britain had to exploit half the globe. How many globes will India need to exploit to have the same standard of living?" Over 100 years later, the rhetorical question continues challenging the consumer lifestyle to which many of the planet's inhabitants aspire. Author Richard Slimbach, who spent two years teaching occupational literacy to rickshaw drivers in India, echoes Gandhi's concerns, asking how many globes would it take to export "a lifestyle of conspicuous consumption to the world – complete with 2,500 square-foot homes, gas-guzzling SUVs, and Quarter-Pounders?" (Slimbach 2010, page 52). The exact number of planets needed may vary depending on the model employed to make the calculations, but the answer is clearly greater than one, which is all we have available. The question points at the ultimate unsustainability of the modern consumer lifestyle given our increasing understanding of the limits to the finite resources our planet offers.

Human history provides examples of development at the expense of natural resources resulting in the localized collapse of civilization. George Marsh first pioneered this idea during the mid 19th century with his book *Man and Nature*, examining the collapse of the ancient Mediterranean civilizations, which he attributed to environmental degradation (Marsh 1864). Recently Jared Diamond has continued this tradition, examining the

connection between environmental degradation and the collapse of the Rapa Nui of Easter Island and the Maya city-states of Central America, drawing renewed attention to the disastrous effects of unchecked over-exploitation of the natural environment (Diamond 2005). Charles Hopkins, a longtime leader in the field of environmental education, pointed out in the opening address to a recent International Conference on Environmental Education held in Amdavad, India: "Those cultures that ignored the importance of preparing their next generation with environmental wisdom have become ghostly indicators of cultural ineptitude; their only remaining purpose is to be a warning for those future generations that are wise enough to understand the indicators and to heed them" (Hopkins 2007).

Before the beginning of our current modern age, the human species was too limited in numbers and ecological footprint to pose serious threats to the overall ability of the world to sustain our species. This began to change with the transformations unleashed during the industrial revolution during the 19th century. Starting in this period, people in areas most affected by industrialization, such as Northern and Western Europe and the Eastern United States, begin seriously to consider man's ability to degrade or even destroy the life sustaining systems of our planet. Organizations sprang up to curb the worst excesses of industrialization giving birth to the modern conservation movement, which would lay the foundations for the modern environmental movement (McCormick 1991). Industrialization appeared later in the Global South. As resource constraints begin to affect the every day life of citizens in developing countries, environmental responses have emerged, especially in communities where environmental degradation impacts livelihoods (Shiva 1989; Dwivedi 2001).

Researchers Nisha Pandey and Vidyadhar Vadek issued an economic reality check, in which they cautioned that even though industrial growth in India has brought higher standards of living when measured by traditional indicators, such as per capita Gross Domestic Product, this growth has also brought higher rates of environmental degradation, green house gas emission, and polluted drinking water – factors that were omitted from most cost-benefit-analysis (Pandey and Vadek 2010). They went so far as to conclude that: "unsustainable growth may well be the greatest threat next to the proliferation of weapons of mass destruction, to the future of humanity" (Pandey and Vadek 2010, page 6).

Despite the existence of environment oriented organizations and activists since the industrial revolution, the planet's ability to sustain an ever growing population only begin to emerge as a top issue in the post-World War II era, during which a string of modern environmental classics appeared, including Harrison Brown's *The Challenge of Man's Future* (1956), Rachel Carson's *Silent Spring* (1962), and Paul Ehrlich's *The Population Bomb* (1968). In 1972 the alarming report *Limits to Growth* appeared. This top selling environmental book employed Malthusian logic and econometric modeling to paint ominous future predictions based on patterns of modern growth, leading to over-consumption of finite resources and over-pollution of the environment, triggering a collapse in human populations and well-being (Meadows et al. 1972).

Today the debate concerning carrying capacity and the future of our planet to sustain humanity is a mainstream issue (Jansen 2002, Naam 2013). David Orr, professor and author of the classic textbook *Ecological Literacy*, explains: "the truth is that many things on which our future health and prosperity depend are in jeopardy: climate stability, the

resilience and productivity of natural systems, the beauty of the natural world, and biological diversity" (Orr 2004, page 7). In his first inaugural speech, President Barrack Obama acknowledged, "Each day brings further evidence that the ways we use energy … threaten[s] our planet... We [can not] consume the world's resources without regard to effect. For the world has changed, and we must change with it" (Obama 2009). Indeed, in 2002 the delegates at the World Summit on Sustainable Development affirmed: "Most people in the world today have an immediate and intuitive sense of the urgent need to build a sustainable future. They may not be able to provide a precise definition of *sustainable development* or *sustainability*… [but] they smell the problem in the air; they taste it in their water; they see it in more congested living spaces and blemished landscapes; they read about it in the newspapers and hear about it on radio" (UNESCO 2002).

1.2 Statement of Problem

Supporting environmental causes, at least at the superficial level, has become highly visible and popular in the United States and the world over. The recycle symbol has become ubiquitous since its first appearance over 40 years ago and paparazzi often catch Hollywood celebrities sporting the eco-friendly Prius or other hybrid cars. The term *Green* pops-up everywhere: there are *Green* political parties, a *Green* television network, and sections in the local grocery stores dedicated to *green* foods and consumer products. Despite political backlash from some conservative elements of society, there is a general acknowledgement of the basic importance of our environment, and the need to maintain it

for future generations (Dunlap & Van Liere 2008).

In order to transform this general desire for maintaining a viable planet for human beings into the future into actual sustainable lifestyles and societies, changes in human behavior, production, and consumptions patterns are necessary (Redclift 1992). The key to changing human behavior in terms of the relationship with the environment is public awareness (Kerkhoff & Lebel 2006) and education (Huckle 1991; Paraskevopoulos, Padeliadu & Zafiropoulos 1998; Pandey & Vedak 2010). The United Nations acknowledged this, affirming in 1992 at the Rio Earth Summit: "Education is of prime importance for…helping people to develop competencies in order to solve environmental and development problems" (UN 1992) and again in 2002 at the Johannesburg World Summit on Sustainable Development: "Education will shape the world of tomorrow – it is the most effective means that society possesses for confronting the challenges of the future" (UNESCO 2002).

Although the potentially catastrophic ramifications of our current lifestyles are becoming more obvious and concerted responses are emerging in various fields, our current education systems are in many cases ignoring or failing to adequately address this crisis (Sterling 1996). Orr states bluntly: "No other issue of politics, economics, and public policy will remain unaffected by the crisis of resources, population, climate change, species extinction, acid rain, deforestation, ozone depletion, and soil loss. Sustainability is about the terms and conditions of human survival, and yet we still educate at all levels as if no such crisis existed" (Orr 2002, page 83). Similarly Lester Milbrath, expert in environmental policy, wrote in a pointed critique: "We are now training our children to live in a world that cannot be sustained" (Milbrath 1992b). Orr

continues to warn that, "traditional education alone will not save us," reminding us that in the past: "education [has been] no guarantee of decency, prudence, or wisdom" (Orr 2004, page 7). Orr points out that "it is not education, but *education of a certain kind*, that will save us," and that, "education must be measured against the standard of human survival" (Orr 2004, page 8). Education for Sustainable Development is emerging as a potential answer to this call for *education of a certain kind*.

The United Nations defines Education for Sustainable Development as education that encourages *"*changes in behavior that will create a more sustainable future in terms of environmental integrity, economic viability, and a just society for present and future generations*"* (UN, 2002). Education for Sustainable Development draws on the heritage of Environmental Education, which began with thinkers and activists such as Henry David Thoreau and John Muir (Shabecoff 2003) and combines them with ideas of economic development and sustainability (Tilbury et al. 2002) along with those of social justice and human equality (Agyeman 1999).

Education for Sustainable Development is still a new movement within education, full of possibilities, doubts, and questions. Given the predicted severity of environmental issues to come all potential solutions deserve our academic attention.

1.3 Purpose of Study

As we learn more about the many challenges facing a sustainable human existence, it is easy to lose hope (Hicks 1995; Sneddon et al. 2006). Researcher and former Peace Corps volunteer, Chris Sneddon, echoes this sentiment as he laments, "Burgeoning levels of energy consumption, enhanced levels of ecological degradation, a

growing public mistrust of science, vast inequalities in economic opportunities both within and across societies, and a fractured set of institutional arrangements for global environmental governance; all represent seemingly insurmountable obstacles to a move towards sustainability" (Sneddon et al. 2006, page 263). One objective of this study is to identify sources of hope and inspiration.

Education for Sustainable Development promises a way to transform our relationship with the environment by equipping youth with the skills needed to build more sustainable societies. However, history teaches us that too often education systems merely reproduce and reinforce existing social structures (Carnoy & Samoff 1990) even when they were designed to serve as transformational agents to contribute to the construction of a more just society for all (Carnoy & Rhoten 2002). Jicklings and Wals already echo this disillusion when describing Education for Sustainable Development, concluding in one of their papers: "We view education for sustainable development as a product and a carrier of globalizing forces. This globalizing agenda has instrumental and deterministic tendencies that favor transmissive arrangements for teaching and learning over more transformative ones" (Jickling and Wals 2007, page 18). Education for Sustainable Development was conceived to be a radical tool to transform our relationship with the environment. This study will dig beneath the at times overwhelming pessimism to reveal some successful examples of education at its best.

I believe, like Paulo Freire that a kinder, more peaceful world in which humans live in harmony with the environment is not a utopian dream, but something we can achieve through love and solidarity, as long as we retain hope (Freire 1970, 1994). In this spirit of hope, I have decided to focus on case studies of organizations I encountered during my

three months in Western India successfully implementing Education for Sustainable Development. Part of my effort is simply to document successful and innovative approaches to Education for Sustainable Development. In addition I want to answer a few specific research questions.

The active support of powerful international organizations, such as those within the United Nations framework, has pushed Education for Sustainable Development onto the agendas of transnational organizations and guarantees ESD's relevance to sustainable development and environmental work on the international stage, at least into the near future, if not longer (Sikkink & Keck 1998). Education for sustainable Development has already garnered a range of reactions and much attention from scholars in the academic field. Like many concepts, Education for Sustainable Development has taken own its own life created in international conferences and sustained and debated in academic journals. However it is unclear how meaningful this debate is to actual educators and the work they are doing in the field.

Karen Biraimah, former president of the Comparative and International Education Society, pondered in her 2003 presidential address how the "theories and research agendas that abound in comparative and international education are applied to the lived cultures and daily challenges faced by teachers and their students" (Biraimah 2003, page 423). This rhetorical question inspired me to look at Education for Sustainable Development from the perspective of actual practitioners. Of particular interest to me is how ground level practitioners, people actively engaged in implementing Education for

Sustainable Development, succeed despite all the problems and ambiguities found abundantly in the literature.

1.4 Research Questions

How do practitioners in India see and interpret their efforts in Education for Sustainable Development? What are their motivations and concerns?

How do the academic debates on Education for Sustainable Development in India relate to the realities in the field for practitioners who are implementing this new type of education?

Although my research questions could apply to any part of the world, I have chosen to limit my enquiry to India. I selected India because it is a rapidly developing country facing an abundance of ecological and environmental problems due to its pursuit of economic development (Pandey and Vadek 2010). In the book *Planet India*, Mira Kamadar, author and Senior Fellow at the World Policy Institute, describes India as the world in microcosm, stating, "No other country matters more to the future of our planet than India" (Kamdar 2007, page3). She also proclaims that the most crucial question for the future of our planet should be "Where is [India] heading with [her] billions?" (Kamdar 2007, page 3). India's active search for new paradigms on how to transition into a modern state creates an atmosphere rich in experimentation in all fields, including Education for Sustainable Development.

Writing on the South Asian region in a chapter for the International Union for the Conservation of Nature (IUCN) report on Education for Sustainable Development, John

Fien stated: “There is a shared fear that modernization will imperil the traditional ways of belief and life [in this region of the world] that have ensured social and ecological sustainability for centuries. Indeed, the impacts of commercial agriculture, industrialization and the growth of service and tourism industries have already brought all-too-rapid and ill-planned urban growth and the associated problems of air, water and marine pollution, waste disposal, traffic congestion and social instability” (Fien 2002). The combination of incredible environmental pressures and a rapidly modernizing country full of entrepreneurial spirit have made for fertile ground in the field of education for Sustainable Development, full of promise and heartbreak (Luce 2007, Kamdar 2007).

Education for Sustainable Development is highly relevant to India’s future. Also, many of the world’s poorer countries, which are also seeking to grow their economies, are looking towards countries like India (Tilbury 2002). Kamdar writes: “We must pay attention to where India is heading: we are all likely to end up there, sooner or later. India encompasses all the promise and peril of this critical moment in human history. Indians … marry incredible Ambition to Problems so terrifying many of us are tempted to pretend they don’t exist. Indians don’t have the luxury of pretending. Ultimately, neither do we” (Kamdar 2007, page 23).

The experiences of organizations in India trying to educate the population on the larger consequences of economic growth on the nation’s environment could prove useful for these other countries. Indian has been an active player in the promotion of Education for Sustainable Development, and hosted the UN conference that inaugurated the Decade dedicated to this new form of education in 2005.

1.5 Significance of Study

There is some urgency when it comes to Education for Sustainable Development. As researcher/practitioner Stephen Sterling clearly states: "time is short and, it must be said, the caliber and extent of current debate on the interface between environmental survival and the role of education is disappointing. Whether education as a whole can be bold enough to develop an adequate response, on a scale commensurate with the issues that have to be addressed over the next decade, remains a crucial question" (Sterling 1992b). I hope to contribute to this response, which is so crucial for the welfare of the planet and all human beings that inhabit it.

I encountered plenty of discouragement while in India examining the field of Education for Sustainable Development, but I also found many beacons of hope; in this document I will focus on some of those successes. The International Union for Conservation of Nature, one of the world's oldest and largest environmental networks, dedicated to pragmatic solutions to the planet's most pressing environment and development challenges, issued a major report on Education for Sustainable Development in 2002. This document found that, "despite enormous pressures to entrench the descending spiral of unsustainable development, we find many families, communities, schools, non-governmental organizations and government agencies in every country in the region [South Asia] planning ways to live sustainably and create the structures that can encourage and empower others to do likewise" (Tilbury 2002, page 27). I hope the case-studies presented in this dissertation help share some of the inspiration engendered by the many men and women I connected with who are working so hard for a better future in India, and the entire world.

1.6 Overview

In this doctoral dissertation I look at Education for Sustainable Development, with a focus on India, through the lens of six case studies of actual ESD projects. I layout a basic introduction to Education for Sustainable Development and propose questions concerning ESD. I review the literature, examining the emergence, development, and current status of ESD in the world and follow by analyzing the major critiques of this movement. I then review the literature of Education for Sustainable Development in the Indian context. After the review of literature, I layout the theoretical framework in which I base my study and explain the research methods for developing answers to the questions I posed. As part of this project I spent three months in Western India researching Education for Sustainable Development and in this document I divulge my findings and discuss their significance while attempting to answer the questions that drove this study. After analyzing my results, I illustrate potential policy implications for these findings and suggest furthers areas of study for future research.

Chapter 2

Literature Review

2.1 Introduction

The first part of this literature review traces the emergence of Education for Sustainable Development as an independent concept from the larger Environmental Education movement. I trace the history of Education for Sustainable Development through its major milestones, provided mainly by large United Nations conferences dedicated to the topic. I draw upon different scholars who have reviewed this process, as well as original conference reports, to build a concise history of the birth of Education for Sustainable Development. To date, no one has compiled a comprehensive history of Education for Sustainable Development. I do not intend to produce an authoritative history with this literature review; my goal is to provide the necessary historical background to contextualize my study.

Next I examine the critiques that have emerged in response to Education for Sustainable Development. Most of this literature emerged after Education for Sustainable Development became a mainstream topic thanks to the various endorsements issued by the United Nations and major conferences organized to disseminate these ideas. Critiques of Education for Sustainable Development are found mainly in academic journals. As ESD is a cross-sectoral field, critiques can be found in a wide range of fields, and their respective literatures. Although I focus mainly on those from the field of education, I also have some examples from economics, development studies,

environmental studies, and other related fields. I grouped critiques by theme into sub-sections, and provided some analysis and response to each.

Finally, I look at literature addressing Education for Sustainable Development specifically in the context of India, the setting for my study. Although some of this material is found in traditional academic journals, because of the less organized and accessible nature of academic literature in India, I have also relied on newspapers, websites, legal documents, and materials produced by professional education and development agencies.

This review of literature is intended to provide the background information concerning my study, as well as provide a counterpoint with which to contrast the findings I made in my case studies, so as to highlight the differences in the general global Education for Sustainable Movement with the actual lived experience of the grassroots examples of Education for Sustainable Development.

2.2 Emergence of Education for Sustainable Development

Education for sustainable Development is one of the latest iterations of a long history of education concerning the relationship between man and environment. Man from its very origin has survived off the bounty of nature and has sought to perpetuate knowledge concerning how to exploit nature's resources (UNESCO 2002). More formally, Enlightenment age thinkers such as Henry David Thoreau, in America, and Jean-Jacques Rousseau, in Europe, incorporated nature into education philosophies (LaFreniere 1990). However environment education did not fully enter the realm of modern education until sometime in the mid 20th century (Palmer 1998).

Although different countries have experimented and implemented environmental education in piecemeal fashion with differing degrees of success, scholars trace the development of a larger, transnational Environmental Education movement through a series of major world conferences, mostly sponsored by the United Nations and its subsidiary agencies (Dwivedi & Khator, 2006). One of the earliest recognitions and codifications of modern environmental education emerged during the 1970 meeting of IUCN/UNESCO at the International Working Meeting on Environment Education in the School Curriculum, held in Carson City, Nevada (Palmer 1998; Potter 1988; Hesselink & Čeřovský 2008). This body concluded: "Environmental Education is the process of recognizing values and clarifying concepts in order to develop skills and attitudes necessary to understand and appreciate the inter-relatedness among man, his culture, and his biophysical surroundings" (IUCN 1970).

In 1972, the UN sponsored the high profile Stockholm Conference of the Human Environment, which aimed to find "common principles to inspire and guide the peoples of the world in the preservation and enhancement of the human environment" (UN 1972, page 1). The ideas developed in Stockholm continued in Tbilisi, at the Intergovernmental Conference on Environmental Education, held in 1977, where representatives from nearly 70 countries, declared "unanimous accord in the important role of environmental education in the preservation and improvement of the world's environment, as well as in the sound and balanced development of the world's communities" (UNESCO 1977). The Tbilisi conference is seen as a watershed moment and many call it the genesis of the Environmental Education movement (Sarabhai 2007b).

Most work at these early stages was nature oriented, advocating from an environment protection perspective, although occasional mentions are found of economic and human development goals (Hopkins 2007). For example, the Tbilisi declaration enumerates, "to foster clear awareness of, and concern about, economic, social, political and ecological interdependence in urban and rural areas" (UNESCO 1977) as one of the first goals of Environmental Education. It would take another decade for economic concerns to emerge as serious agenda items in the international environmental education movement.

Education for Sustainable Development draws directly from the tradition of Environmental Education, but adds the element of sustainability (Sarabhai, 2007a). The World Commission on Environment and Development, convened by the United Nations in 1983, introduced the term *sustainable development*. Most texts refer to the commission simply as the Brundtland Commission after the name of the chair, Gro Harlem Brundtland. The Commission's major publication, *Our Common Future*, combined environmental sustainability with social and economic development, providing the touchstone of sustainable development definitions: "meeting the needs of the people today without jeopardizing the needs of future generations" (WCED 1987, page 43).

The Brundtland Commission did not invent the idea of sustaining the health of the natural environment while exploiting its resources. The term sustainable, in the context of environmental exploitation, appears as early as the 18th century, used by European foresters voicing concerns about clear-cut logging (Wiersum 1995). However what the Brundtland Commission does is introduce the term *sustainable development* into the mainstream discourse of the environmental movement with a semantic marriage bringing together the environment, mainstream economic concerns, and intergenerational social

justice (Tilbury 2002). The high profile adoption of the concept of *Sustainable Development* impacted most immediately fields like economics, environmental science, and urban planning, and continues to impact fields as diverse as engineering (Byrne et al. 2010) to agriculture (Ramakrishnan 1992). We find definitions for sustainability like: "the possibility that human and other life will flourish on the planet forever", emerging from the field of design (Ehrenfeld, 2008, page 6). Even mainstream politics and corporations have begun to reflect the rhetoric, and to some extent the principles, of sustainable development in this age where everyone wants to seem eco-friendly (Lafferty 1996). In a volume dedicated to Buzzwords, Rist described *Sustainable Development* as combining contradictory elements into a single catchy phrase that has achieved star-status due to its sufficiently vague definition that most global parties could readily endorse, while permitting the coexistence of various, often conflicting, definitions (Rist 2010).

The next major milestone for Education for Sustainable Development came with the Agenda 21 document, revealed during the United Nations Earth Summit Conference on Environment and Development, held in Rio de Janeiro in 1992. Agenda 21 was one of the first major international documents to explicitly link education with sustainable development, with an entire chapter dedicated to Reorienting Education Towards Sustainable Development (Hopkins & McKeown 2002). Many scholars now recognize the Earth Summit as the crystallization of the global call to actively pursue sustainable development (Hesselink & Čeřovský 2008).

The United Nations Educational, Scientific, and Cultural Organization, UNESCO, was tasked by the UN with furthering Education for Sustainable Development as part of the implementation of Agenda 21. As part of this effort, UNESCO declared the decade

of 2004-2015 the Decade of Education for Sustainable Development. This honor signals the meteoric rise to prominence the newly formulated idea of Education for Sustainable Development has achieved within the global education movement in the 20 years since the time of Brundtland (Selby 2006). The language UNESCO uses in describing Education for Sustainable Development often soars with limitless ambition; it claims "sustainable development [is] the ultimate goal of the Man-environment relationship" (UNESCO, 1995) and suggests it has the scope to "reorient" and "reshape" not only Environmental Education but the entire field of education.

It is difficult to find any credible scholar or policymaker who does not recognize an important role for education in achieving Sustainable Development. In the words of Botswana scholar Mpotokwane: "Sustainable development is as much about the development of people as it is about the physical environment" (Mpotokwane 2003, page 107). This message emerged clearly as early as the Brundtland report of 1987. The report emphasized the importance and relevance of the sustainable development message for youth and teachers: "First and foremost our message is directed towards people, whose well being is the ultimate goal of all environment and development policies. In particular, the Commission is addressing the young. The world's teachers will have a crucial role to play in bringing this report to them" (WCED 1987).

The importance of education in the quest for sustainable development is a major component of the Agenda 21 document. Section 36.3 explicitly states: "Education is critical for promoting sustainable development and improving the capacity of the people to address environment and development issues" (UN 1992). The document further highlights the importance of both general education and specifically education for

Sustainable Development: "While basic education provides the underpinning for any environmental and development education, the latter needs to be incorporated as an essential part of learning" (UN 1992).

The Rio document also draws attention to the need to draw in various disciplines, as well as the formal and informal sectors, in approaching education for Sustainable Development: "To be effective, environment and development education should deal with the dynamics of both the physical/biological and socio-economic environment and human (which may include spiritual) development, should be integrated in all disciplines, and should employ formal and non-formal methods and effective means of communication" (UN 1992). This emphasis on the interdisciplinary nature of Education for Sustainable development resonates through the writings of many scholars (Filho 2006; Mpotokwane 2003; McKeown 2002; Hopkins & McKeown 2002).

Moacir Gadotti, Brazilian educator and theorist closely associated with Paulo Freire, sees the decade dedicated to Education for Sustainable Development as a great opportunity to initiate a myriad of projects and reform formal curricula around the world (Gadotti 2008). He rates the significance of the Decade for Education for Sustainable Development, along with the UN Earth Charter, on par with the "universal declaration of human rights" (Gadotti 2008). Gadotti links environmental work to the philosophy of fellow Brazilian Paulo Freire, comparing sustainability with hope as a "historical and existential imperative" (Gadotti 2008; Freire 1992). Freire speaks directly to the importance of these issues towards the end of his life:

> It is urgent that we take upon ourselves the duty of fighting for fundamental ethic principles, such as respect for the life of human

> beings, the life of other animals, of birds, rivers and forests. I do not believe in lovingness between men and women, among human beings, if we are not capable of loving the world. Ecology gains a fundamental importance in the end of this century. It has to be present in any educational practices that are radical, critical and liberatory....In this sense, it seems to me a distressful contradiction to have progressive and revolutionary speech and have, at the same time, a life-denying practice. A practice that pollutes the sea, the water, fields and that devastates forests, destroys trees, threatens animals and birds" (Freire, 2000, pp. 66-67).

Like many scholar/activists Freire and Gadotti embrace the issue of Education for Sustainable Development from the perspective of social justice and human dignity. Likewise, in a keynote address, at the Australian Association of Environmental Educators, Julian Agyeman maintains, "Matters of environmental quality and human development are central to education for sustainability" (Agyeman 1999).

The United Nations continues to affirm the central role of Education for Sustainable Development since its emergence in Agenda 21, with major conferences held in Johannesburg in 2002 and again in 2012 returning to Rio de Janeiro issuing substantial documents dedicated to Education for Sustainable Development. The these documents mainly restating the basic goals of ESD as outlined in Agenda 21, with occasional additions and refinements, such as those provided in *Education for Sustainability, From Rio to Johannesburg: Lessons Learnt During a Decade of Commitment* (UNESCO 2002). The most recent Rio + 20 conference, held in June 2012, proclaimed in article # 233 of its document *The Future We Want*: "We resolve to promote education for sustainable development and to integrate sustainable development more actively into education beyond the United Nations Decade of Education for Sustainable Development." (UN 2012, page 44). Although slightly diluted in verbiage from the zero draft, it still makes

clear a continued support to Education for Sustainable Development.

2.3 Critiques of Sustainable Development

Despite the utopist nature of Education for Sustainable Development, it has many critics, the number of which seems to correlate with the movements rise to prominence (Selby 2006). Wals and Jickling sum up the current position of Education for Sustainable Development as: "a highly relevant, controversial, emotionally charged, and debatable topic at the crossroads of science, technology, and society" (2002, page 123).

In this section I will briefly outline some of the major debates surrounding Education for Sustainable Development, including its relationship with Environmental Education, the contested nature of the underlying concept of sustainable development, the possibly deterministic nature of ESD, ESD as part of a consumerist agenda, the theoretically underdeveloped nature of education in ESD, North – South tension in ESD, the need for ESD to promote a new type of world economy, a fear of ESD fostering an over rational response to environmental problems, the failure to sufficiently address social justice concerns through ESD, and the dangers of ESD becoming inextricable intertwined with prevailing world systems. In addition I will provide a simple analysis and response to these major critiques of Education for Sustainable Development.

2.3.1 Environmental Education and Education for Sustainable Development

Although the idea of Education for Sustainable Development has emerged only recently, its connections to the earlier Environmental Education movement are obvious and well documented (Tilbury et al. 2002; Sarabhai 2007; Jickling 2008). Scholars now

debate the relationship between these two concepts, and like many contentious ideas, terminology often takes on political connotations (Jickling 2005).

Sarabhai, director of the Center for Environmental Education in India, tries to delineate some of the boundaries between the two disciplines in a piece written for the launching of the Journal of Education for Sustainable Development: "over the past decade, it is clear that Environmental Education, while continuing to be a champion in the promotion of Education for Sustainable Development, is not ESD itself. The two have their own distinct identities. EE, having shown the close inter-connection between human life and the environment, provides the basic understanding on which ESD is based. But EE needs to partner with a number of disciplines, such as economics, agriculture, management, engineering, design and peace education, in order to achieve the real scope of ESD" (Sarabhai, 2007a). The IUCN pushes the same idea, explaining: "[Education for Sustainable Development] concerns differ substantially from those of litter, nature study and the planting of trees in the school grounds and other apolitical and aesthetic work that has often been the focus of much school-level environmental education in the past" (Tilbury et al. 2002, page 9). UNESCO also claims that Education for Sustainable Development builds on Environmental Education by bringing in additive social justice components: "education for sustainable development should not be equated with environmental education … Environmental education is an already established school subject that emphasizes the relationship between men and natural environment, in terms of how to preserve it and how to appropriately manage its resources. Therefore, sustainable development conglomerates environmental education by putting it in a

broader context that considers social and cultural factors and social-political issues, such as equality, poverty and quality of life" (UNESCO 2005, page 46).

Fien and Tilbury also attempt to delineate the differences between Environmental Education and Education for Sustainable Development in the influential ICUN document on ESD. They write: "Education with the objective of achieving sustainability varies from previous approaches to environmental education in that it focuses sharply on developing closer links among environmental quality, human equality, human rights and peace and their underlying political threads" (Fien & Tilbury 2002). However, they also acknowledge the considerable common ground EE and ESD share: "Issues such as food security, poverty, sustainable tourism, urban quality, women, fair trade, green consumerism, ecological public health and waste management as well as those of climatic change, deforestation, land degradation, desertification, depletion of natural resources and loss of biodiversity are primary concerns for both environmental and development education" (Tilbury et al. 2002, page 9).

Tilbury sees the emergence of the schism separating Environmental Education and Education for Sustainable Development as a response to the failure of the environmental movement to position itself within the context of sustainability. He argues that even as the environmental movement began to embrace sustainability, it failed to define the essence of sustainability, or differentiate it from the earlier generations of environmental education of the 1980s (Tilbury 1995). Sauvé agrees that EE discourse often fails to emphasize contemporary economic realities or concerns for planetary solidarity (Sauvé 1996).

Jickling and Wals believe the United Nations backs Education for Sustainable Development at the expense of environmental Education. They point out the snubbing of Environment Education in UN Resolution 57/254, which designated 2005-2015 the decade of Education for Sustainable Development, making no reference to the term Environmental Education. They find that Education for Sustainable Development is now seen as a replacement for Environmental Education, superseding and dislocating Environmental Education at national and transnational policy levels (Jickling & Wal 2007).

Some scholars dismiss the emerging schism between Environmental Education and Education for Sustainable Development. Michael Scoullos, a pioneer in Environmental Education from the pre-sustainable development era sees continuity between EE and ESD, noting that, "the idea of environmental protection was never cut off from the idea … of development" (Scoullos 1995). Lucie Sauvé, despite illustrating some of the differences between EE and ESD, believes that ultimately it is only the focus in Education for Sustainable Development, which is, not the content or educational approach. She maintains both emphasize holism, inter-disciplinarity, value clarification and integration, critical thinking, issue-based and action learning, forcing her to ponder "What, then, is really new?" (Sauvé 1996, page 8). She concludes that it is mainly the orientation and emphasis that has morphed in an attempt to address the perception that Environmental Education was focusing too narrowly on the protection of natural environments, without taking into account the needs and rights of human populations associated with these same environments.

Some scholars believe that the debate between these two schools of education represent the tensions between deeper ideological conflicts. Those against Education for Sustainable Development see ESD merely as "the greening of growth (or capitalism)" while those for Education for Sustainable Development see ESD as a "greening of development (or socialism)." Huckle summarizes the conflict as follows: "*Sustainable growth* is a reformist concept based upon *business as usual* but with greater attention to reproducing the conditions of production. On the other hand, real or ecologically *sustainable development* is a revolutionary concept which requires constraints on market forces and the democratic planning of production to ensure a secure livelihood for all the world's people both now and in the future" (Huckle 1993). Ben Jackson makes a similar argument differentiating between "development which puts the economy first and that which puts people first" (Jackson 1991).

However, some see the emerging theoretical conflict between Environmental Education and Education for Sustainable Development as harmful and misrepresentative of the sentiments of practitioners in the field. A deliberation session facilitated by IUCN on the differences between Environmental Education and Education for Sustainable Development confirmed these sentiments. In a conference held in the Southern Africa region the debate between Environmental Education and Education for Sustainable Development was critiqued for being oppositional, and for misrepresenting environmental education processes that were responding to development issues (Murcott 2007). Similarly, and despite suggesting his own alternative nomenclatures, Gadotti cautions against pitting these ideologies against each other (Gadotti 2008).

Scholarship is an activity based on argument and debate. During a paradigm shift, such as the shift presented by sustainable development, disagreement is inevitable. Some of this debate is useful, and helps clarify emerging new ideas. However, at times it can occupy too much time in energy when examined by the criteria of its tangible results. Especially dangerous is the tendency for academics to become entrenched and politically aligned, which can lead to vilifying different points of view, or the use of straw man arguments to discredit legitimate arguments.

Ultimately, I do not see any deep theoretical divide separating Environmental Education and Education for Sustainable Development. I side with the point of view of the practitioners in Johannesburg documented by Murcott in that this type of academic debate and turf war does little for the actual promotion of the sustainable development goals upon which most academics agree. After an examination of many articles, it seems as if scholars use the different terms and names to make arguments concerning where the focus should lay.

2.3.2 Contested Nature of the Term Education for Sustainable Development

Another line of attack on Education for sustainable Development focuses on the underlying concept of Sustainable Development, which is a highly contested term. Stables and Scott call it a "paradoxical compound policy slogan" (Stables & Scott 2002). Both Jickling and Rist call Sustainable Development it an "oxymoron" (Jickling 1994; Rist 2010), and Rist goes on to compare the term to other problematic couplings, such as *capitalism with a human face* and *humanitarian intervention*.

Despite the apparent simplicity of the Brundtland definition, a large segment of the critique of Education for Sustainable Development focuses on the difficulty in defining sustainable development. Michael Bonnett attacks the term as unclear (Bonnett 1999; McKeown 2002). British political scientist Andrew Dobson (1996) claims that there were more than 300 available definitions for sustainability and sustainable development by 1996. Bob Jickling laments the divergence on the concept of sustainable development, claiming the likelihood of consensus is remote (Jickling 2005). Lélé refers to ambiguity surrounding the term as fuzziness (Lélé 1991), and even the IUCN concedes that the term *sustainable development* is socially and culturally contested (Tilbury et al. 2002, page 2).

Some scholars offer alternative terms, at times intentionally trying to provoke cognitive dissonance. Sterling prefers the term Sustainable Education (Sterling 2008), Sauvé suggests Environmental education for the development of responsible societies (Sauvé 1996), Huckle uses Education for Sustainability (Huckle 1996), Wheeler and Bijur used the title Education for a Sustainable Future for there compilation on ESD (Wheeler & Bijur 2000), McKeown has pointed out the need to distinguish Education *about* Sustainable Development and Education *for* Sustainable Development (McKeown 2002), and Paul Vare has even proposed splitting Education for Sustainable Development into two categories, ESD 1 – more practical, and ESD 2 – more theoretical (Vare 2009). Still others, like Jickling (2005) find it hard to believe how changing the name of Education for Sustainable Development could really improve the concept. Gilbert Rist, author of The *History of Development: From Western Origins to Global Faith* uses the phrase "diplomacy by terminology" to describe the way interested parties have tried to frame the sustainable development debate with different words (Rist, 1997, page 193).

Conversely, some scholars see a general consensus converging on the Brundtland definition (Ravindranath 2004; Mpotokwane 2003; McKeown 2002). Furthermore, various scholars argue that a lack of consensus on a precise definition of sustainable development should not disqualify it as a concept. Rauch even suggests the nondescript nature of the term is an asset, leaving room for negotiation and positive debate (Rauch 2002). Moacir Gadotti points out that many key terms are ambiguous, including such cherished concepts as democracy and critical thinking (Gadotti 2008; Huckle 1993). UNESCO makes a similar claim, stating "there will be nuanced differences according to local contexts, priorities and approaches ... there will be no single *right* definition of ESD, but there will be overall agreement on the concept of sustainable development that education addresses." (Pigozzi 2003, page 4)

Some scholars argue that although we cannot pinpoint what sustainable development is, contemporary society provides clear examples of what it is not (Hopkins & McKeown 2002). UNESCO iterates a similar idea, stating: "people in the world today have an immediate and intuitive sense of the urgent need to build a sustainable future. They may not be able to provide a precise definition of *sustainable development* or *sustainability* – indeed, even experts debate that issue – but they clearly sense the danger and the need for informed action" (UNESCO 1997, page 6).

Indeed, UNESCO embraces the ambiguity associated with sustainable development, implying that it leaves the door open for many possible solutions to the potential planetary crisis we face. "The concept of sustainable development … is not a simple one, and there is no road map to prescribe how we should proceed. Yet time is short, and we are called upon to act without delay. We must move ahead, in a spirit of exploration and

experimentation and with the broadest possible range of partners, so as to contribute through education to correcting trends that place in jeopardy our common future." (UNESCO 1997, page 3).

Ultimately it seems like Education for Sustainable Development, and Sustainable Development itself, can not be easily defined, and that no consensus exists concerning its parameters. Some academics take this as a weakness and others embrace it as a strength. Sadly, this debate is often removed from the realm of practice, and a review of what actually works.

1.2.3 Deterministic Nature of Education for Sustainable Development

Persistent detractor, Bob Jinckling, in his article entitled *Why I don't want my children to be educated for sustainable development*, argues that Education for Sustainable Development is no more than a fancy form of brainwashing, insisting: "Education is concerned with enabling people to think for themselves. Education for sustainable development ... or education for anything else is inconsistent with this criterion" (Jinckling 1992, page 8). Jickling believes visions of an ideal, sustainable future are influenced by history and culture and any educational programs would, by definition, be indoctrination for that kind of future (Jickling 1992). In a similar article, he elaborates this critique of Education for Sustainable Development stating it is a "one-dimensional vision" in which "declaration displaces critical discourse" (Jickling 1999). He fears institutions like the United Nations can draw on the legitimacy of conferences and gatherings of experts to make binding declaration which would influence education worldwide, and thus limit the autonomy of individuals at the local level to determine their

own futures. Jickling warns this could lead all too easily to "Big Brother sustainable development" reminiscent of the Orwellian metaphor for the ever-present, and ever-powerful, state—in which "directives are to be followed and deviants are to be eliminated" (Jickling & Wals 2007, page 11).

Given the mission of Education for Sustainable Development, some scholars fear inevitable contradictions between prescription and empowerment (Scott & Gough 2003). Again, Jickling (2005) fears that some segment of society decides what is best for everyone – a preferred ideology – and then uses education as a tool to implant their conception of *best* into the minds of students. He worries about the blurring of personal commitment with education and questions education when used deterministically, coercively, or for doctrinaire purposes (Jickling 2005).

In response to these concerns, Fien argues all education is politically committed (Fien 1997). Answering attacks from scholars like Jickling, Fien evokes Freire's *Pedagogy of the Oppressed*: "Washing one's hands of the conflict between the powerful and the powerless means to side with the powerful, not be neutral" (Fien 1997, page 441). Fien concludes that in the context of Education for Sustainable Development, refusing to take a side in the political debate is tantamount to taking the side of the powers that be, in this case, traditional neo-liberal capitalist development.

In further response to Jickling's deterministic concerns researchers like Huckle (1996), point to how education for sustainability "invites us to question the assumptions of dominant discourses in education, particularly those objectives, content and teaching methods which favor initiating people into the concepts and skills needed for finding scientific and technological solutions to environmental problems without addressing their

root social political and economic causes." This view is repeated by Sterling, who speaking for the British Environment and Development Education and Training Group, expanded on the open nature of Education for Sustainable Growth: "We believe that education for sustainability is a process, which is relevant to all people and that, like sustainable development itself, it is a process rather than a fixed goal. It may proceed – and it will always accompany – the building of relationships between individuals, groups and their environment. All people, we believe, are capable of being educators and learners in pursuit of sustainability" (Sterling 1992a, page 2).

A group led by Chris Sneddon concurs with the need to resist such closed interpretations of Education for Sustainable Development as espoused by Jinckling, arguing: "Yet how SD is conceptualized and practiced hinges crucially on: the willingness of scholars and practitioners to embrace a plurality of epistemological and normative perspectives on sustainability; the multiple interpretations and practices associated with the evolving concept of development; and efforts to open up a continuum of local-to-global public spaces to debate and enact a politics of sustainability. Embracing pluralism provides a way out of the ideological and epistemological straightjackets that deter more cohesive and politically effective interpretations of Sustainable Development" (Sneddon et al. 2006).

The assumption that determinism is bad, or limiting, underlies the line of attack elaborated by Jickling, which seems reasonable. However given the broad range of possibilities within Sustainable Development and the open nature advocated for by most proponents of Education for Sustainable Development, it seems unreasonable to believe

that ESD is limiting. As pointed out by many scholars, critical thinking is an essential component to ESD.

A general consensus exists concerning the importance of sustainable development for our planet and our species, so it would follow that some sort of education to equip youth with the skills to pursue sustainable development is necessary. It may be useful to draw attention to examples where Education for Sustainable Development is taking shortcuts and simply prescribing solutions to problems, instead of equipping individuals with the tools to come up with their own solutions, but it seems unreasonable to disqualify the entire concept of Education for Sustainable Development because of the existence of some misdirected programs.

2.3.4 Education for Sustainable Development as Part of a Consumerist Agenda

Some critiques have gone after the very notion of development. Despite his optimism for the potential of Education for Sustainable Development, Gadotti reminds us that development is not a neutral term and he worries that the concept of Education for Sustainable Development does not at this time have the potential to transcend the ambiguous, vague, and problematic notion of development (Gadotti 2008). The associations with development are even more problematic in the so-called *developing countries* because of unshakeable associations with modernization theory and colonialism, ideologies traditionally embedded in development. Similarly, Petras (2005) adds to this list the notion that development is still: "inextricably linked with problematic modernization theory and US/western domination, westernization, aid, grand narratives

of progress, acceptance of capitalism, speeded up development at environmental and social cost, and consumerism."

Other scholars highlight the inherent tension between sustainability and development (Caride-Gómez 2005; Bonnett 1999; Rist 2010). Gadotti observes that many scholars go as far as calling the pairing of sustainability and development a "logical absurdity" (Gadotti 2008) concluding that the pairing has at the least created confusion, and this confusion has benefitted an already prevailing consumerist neoliberal agenda. Bonnett brands the idea, with some irony, as the "dream ticket" (Bonnett 1999). He concludes the pairing was created to circumvent traditional attacks against development, giving it a Teflon coating and green ticket for consumer society's bad habits.

Huckle argues, drawing on critical theory and the work of Habermas, that Education for Sustainable Development is playing a role in mitigating a legitimization crisis (Huckle 1993). By rebranding consumption patterns as sustainable development we might be missing out on an opportunity to fundamentally challenge the underlying assumptions that threaten our existence on earth. In this same line of argument, Jickling (2005) questions whether Education for Sustainable Development is merely playing a diversionary screen, asking: "Does this resolution look good on the surface, but lack the language and ideas to promote significant educational change?" Ruth Irwin postulates *sustainability* is used mainly to soften the perception of Neoliberal capitalism. She argues that sustainability merely distracts from neoliberal flaws, such as over emphasis on rational individualism, and atheological faith in God's Invisible Hand for *balancing* the Market (Irwin 2007). "Sustainability removes all of the unpopular consequences of deeply understood environmental concern so that the consumerist lifestyle is able to

continue unchecked. The consequences of the rhetoric of sustainability are the continuation of the modern consumer culture and an ability to keep ignoring the scientific evidence that modernity is resulting in radical climate change, pollution, deforestation, and extinctions" (Irwin 2007, page 1).

Jickling and Wals also take their shot at attacking the perceived neoliberal agenda hidden in Education for Sustainable Development: "While the public sector becomes more privatized, the private sector is being reframed as essential for public well-being. The emergence of socially responsible corporations is fuelled by a demand for kinder and gentler companies that are in tune with people, planet, and profit (the so-called *Triple-P* bottom line)" (Jickling and Wals 2007). Some argue that the dominant paradigm cannot shed its association from economic growth (Rist 1997; Selby 2006), pointing to authors like Amartya Sen (1999) renowned for his attention to the poor, yet still ideologically wed to economic growth. Lélé argues Education for Sustainable Development is based on an incomplete perception of the problems of poverty and environmental degradation (Lélé 1991).

Franz Rauch argues that the ambitious notion of sustainable development may merely be a coinage of words designed to combine economic development and the avoidance of environmental strains, in one vision to achieve universal recognition by all major social stakeholders, north and south, on this planet (Rauch 2002). Mexican radical and self labeled post-development scholar Gustavo Esteva simply calls sustainable development re-development, because he sees it as more of the same old neo-liberal agenda, just masked in greener terms (Esteva 1992; Esteva & Prakesh 1998). Richard Kahn suggests Education as Sustainable Development may well turn out to be an elaborate

greenwashing of Neo-liberal business as usual, and points instead to Ecopedagogy as a more humane alternative (Kahn 2008).

Lucie Sauvé attacks Education for Sustainable Development for: "adopting a narrow view of the environment, perceived essentially as a resource, as a big general store to be managed so as to ensure safe supply and long-lasting benefits. In this sense, an intervention focusing on the 3Rs [reduce, reuse, recycle], prescribing civic individual behaviors of recycling, may be pertinent in a certain context, but appears limited if considered within the perspective of a holistic process" (Sauvé 1996). Ehrenfeld also critiques the concept of Sustainable Development for not going far enough. He eloquently argues this point: "Almost everything being done in the name of sustainable development addresses and attempts to reduce unsustainability. But reducing unsustainability, although critical, does not and will not create sustainability" (2008, page 7).

Yet some still see the potential in the ambitious Education for Sustainable Development movement to address these issues. In a keynote address at a UNESCO World conference on Education for Sustainable Development held in Bonn, Germany, Graça Machel, former Minister of Education and Culture in Mozambique, stated: "We have an opportunity to build a new world order, not simply tinker at the edges of a failed system or to recreate the corrupt systems that have imploded on us. And education has a crucial role to play in that restructuring. We know that education is key to individual growth as well as social, economic and political development" (UNESCO 2009, page 21). Likewise, Tilbury emphasizes the radical nature of Education for sustainable

Development, and attempts to distance ESD from other less ambitious agendas (Tildury et al. 2002).

It is safe to assume that some profiteers have appropriated the idea of sustainable development in a superficial way to shield ultimately unsustainable patterns of consumption from public scrutiny. However, this is not a fundamental component of Education for Sustainable Development, or grounds to justify outright dismissal of ESD. Most of the grand narratives we cherish most, such as peace, democracy, and critical thinking, have dubious proponents using the ideas to mask less noble activities. A more constructive critical activity for scholars or other interested parties could be exposing cases in which Education for Sustainable Development is being used fraudulently, or highlighting examples of exemplary ESD, in which it truly is helping to achieve a more sustainable future. It is evident from this literature review that a great diversity of ideas and programs exist under the umbrella of Education for Sustainable Development, so generalized attacks must be made directly against the underlying theories of ESD. It is not fair to level criticism against specific organizations associated with ESD and then generalize that to condemn the entire field.

2.3.5 Education Is Still New to the Field of Education for Sustainable Development

Education for Sustainable Development is still an emerging discourse relatively insulated from the concerns of most educators (Gonzalez-Gaudiano 2005). This line of debate argues that education has not fully taken its place within the Sustainable Development field. Scholars point out that Education for Sustainable Development originated from outside of the education field (McKeown 2002; Hopkins & McKeown

2002). These same scholars point out that economists and ecologists have dominated Sustainable Development. Subsequently much of the research has focused on those areas. Research on sustainable development from the field of education is still comparatively underrepresented (Sauvé, Brunelle & Berryman 2005; Mpotokwane 2003). Sarabhai laments, "Education is still seen at the fringe of [Sustainable Development]…It is high time we recognize the importance that education plays in the sustainable development process" (Sarabhai 2008). There is a scarcity of material addressing education for sustainable development available to the education community (Filho 2006). Even UNESCO acknowledges these weaknesses in Education for Sustainable Development: "In spite of multiple efforts to strengthen ESD, many challenges remain. In particular, there is a need: to integrate sustainable science and education; to strengthen co-ordination and collaboration between different levels of education for SD; and to mitigate information and knowledge gaps between different parts of the world" (UNESCO 2005).

It seems as if general consensus exists concerning the emerging role of education in the field of sustainable development, with traditional advocates of ESD such as UNESCO agreeing with scholars know for their critical reviews of ESD. Indeed the historical review of the literature exposes how recent the phenomena of sustainable development itself is, and how many fields, not just education, are still reacting to the challenging ideas imbedded in this new way of looking at man's place in the world.

2.3.6 North – South Tension and Education for Sustainable Development

In his speech opening the 1992 Earth Summit in Rio de Janeiro, Maurice Strong, United Nations Conference on Environment and Development secretary general declared,

"The most important ground we must arrive at in Rio is the understanding that we are all in this together…if the agreements reached here do not serve the common interests of the entire human family, if they are devoid of the means and commitments required to implement them, if the world lapses back to business as usual, we will have missed a historic opportunity, one which may not recur in our times, if ever" (Strong 1992). Despite the official plea for unity on the issue of Education for Sustainable Development, most people involved with Education for Sustainable Development acknowledge a rift between the rich and poor. IUCN states: "the most obvious area of complexity is the increasing divergence between the *natural environment and economic development* agenda of the primarily rich economically developed countries of the North and the *social and economic development* agenda shared by the poorer nations of the South" (Tilbury et al. 2002). The IUCN document goes on to elaborate on these two groups, which it labels: "those that prioritize *sustainable economic growth* and those that give preference to *sustainable human development*" (Tilbury et al. 2002, page 3). The International Union for the Conservation of Nature (IUCN) characterizes the conflict between these two groups as follows: "Sustainable human development provokes a fundamental challenge to established interests, primarily because it focuses upon issues of social equity and ecological limits, and, thereby, questions world views and development models that are predicated on assumptions of unlimited economic growth" (Tilbury et al. 2002, page 3). Orr expresses a very similar sentiment: "The primary differences between the two [Sustainable Economic Growth, Sustainable Human Growth] have to do with assumptions about future growth, the scale of economic activity, the balance between top-down and grassroots activism, the kinds of technology and the

relationship between communities and larger political and economic structures... the former approach reinforces a tendency toward a global technocracy and a continuation along the present path of development, albeit more efficiently. The other view requires a rejuvenation of civic culture and the rise of an ecologically literate competent citizenry who understand global issues" (Orr 1992, page 1). Academics agree that the conception of the environment and the role of environmental education will differ according to position in the world; the debate revolves around the ability of the Education for Sustainable Development framework to bring both camps together (Sauvé 1996; Rist 1997).

Some scholars see Sustainable Development as a continuation of elite environmentalism, a Western concept, producing the ultimate affect of transferring resources from the poor to the rich (Guha 2006). Gonzalez-Gaudiano makes this point explicitly: "Education for Sustainable Development has proved resistant to non-Western perspectives. This lack of environmental value diversity in the cultural sense is surely a major blind spot, especially when *development*, even when wedded to the concept *sustainable development*, has become a term now synonymous for many in so-called developing countries with a history of exploitation, with aid politics, with structural adjustment policies and the very diminution of *the commons* environmental education was originally designed to enhance and protect" (Gonzalez-Gaudiano 2005).

Professor Akhil Gupta summarizes the North – South tension much more bluntly: "Most of the pollution in the world and the overwhelming proportion of resource depletion have been caused by rich countries in the North in the process of industrialization. For this use of common resources, the North did not pay anything. Now

that poor countries in the South are industrializing, the North wants to put up barriers on the grounds that the commons cannot be allowed to deteriorate any further" (Gupta 1998, page 307). Gupta pushes the rhetoric of "we are all in this together" to see if it has anymore substance than the veneer of feel-good liberalism semantics and concludes that it does not, curtly stating "Concerns about our *common future* turn out in practice to be rather more parochially focused on the future of the wealthy industrial countries" (Gupta 1998, page 306). In arguing this, Gupta points to the emphasis on third world problems, like overpopulation, food security, and loss of genetic diversity which he equates to a reincarnation of the "old colonial theme in which a feminized tropical nature is sought to be protected by white scientists as the patrimony of mankind. Skirting the first world problems of over-consumption in affluent countries" (Gupta 1998, page 305). Gupta goes on to argue that the ruling classes in the Third World are often treated as "children who need to be disciplined by a (usually) kind and paternalistic father" (Gupta 1998, page 306). Gupta summarizes hypocrisy he perceives using a pithy quip from *Newsweek*: "One's willingness to make *sacrifices* for the environment goes up in proportion to the number of Volvos one already owns" (Newsweek, June 1, 1992, page 22, quoted in Gupta 1998) or in other words, "Northern countries are willing to promote global environmentalism as long as it does not affect their consumption" (Gupta 1998, page 309).

Frederick Buttel agrees that the all-inclusive optimistic language can be deceiving, arguing that the mental shorthand amongst Northern dominated agencies is that, "sustainable development pertains mainly to rainforest zones" (Buttel 1992, page 19). Gupta reinforces this point stating that due to rainforest fundamentalism, "advocates of

sustainable development have paid little attention to those agro-ecosystems and semiarid zones where the majority of the world's population live and work" (Gupta 1998). Professor Buttel concludes that the concept of sustainability was developed mainly by and with the interests of the North in the forefront with policies aimed "towards the south" (Buttel 2000, page 60). Basically the idea of "sharing one world" is made mostly by leaders and activists in the north, while the view from the south is that "the environment is a crucial arena where conflict between the haves and have-nots manifests itself." (Gupta 1998, page 306)

Shive and Bandyopadhyay expose some of the limitations of the basic North-South dichotomy. They illustrate how the colonial relationship between Britain and India was perpetuated after independence, only now instead of featuring environmental management conflict between the Indian community groups and British administrators it is between Indian community groups and the Indian government (Shive & Bandyopadhyay 1986). Basically what Gupta calls "paternalistic Western experts" (Gupta 1998) are not necessarily confined to the west, but can be found in New Delhi as well. Likewise, Michael Redclift points out that the new economic systems introduced by the British during colonialism, which seriously undermined traditional means of sustainable development, continued under the independent Indian national government (Redclift 1987).

In the 1997 Education and Public Awareness for Sustainability conference held in Thessaloniki, the delegates try to acknowledge and bridge the gap between rich and poor by declaring in Article 37: "A heedless pursuit of *development*, for example, can not be accepted at the cost of inflicting irreparable damage on the environment. But neither can

the preservation of the environment be achieved at the cost of maintaining half of humanity in poverty" (UNESCO 1997, page 15). In more poetic terms the same delegates concurred, "We cannot sacrifice people to save elephants, but neither can we - at least for very long - save people by sacrificing the elephants. Indeed, this is a false dichotomy that must be rejected. We must imagine a new and sustainable relationship between humanity and its habitat: one that places humanity at centre stage, but does not neglect that what is happening in the *wings* may turn the drama of everyday life into a Greek tragedy in which we see a terrible fate approaching, but can muster up neither the collective will nor common means to escape it" (UNESCO 1997, page 15).

During an Education for Sustainable Development conference held in Bonn Germany, experts discussed the North – South issues concerning ESD, and concluded the following: "We need to remove the stereotyping of the North-South-South relationships which mainly reduces the partnerships to an exchange of money from North to South. We need to establish these relationships with an orientation of mutual benefits. In order to support that we need to appreciate the different understandings of ESD, acknowledge that just as there are disparities, there are also many similarities in what we see as sustainable development" (UNESCO 2009, page 71).

The rich-poor divide provides one of the most resonant critiques to Education fro Sustainable Development. It is safe to conclude that the lived experiences and access to resources of an individual will influence his or her perception of Education for Sustainable Development. This brief review exposes some of the conflicts which have emerged so far due to these differences, and indeed, this has contributed to a credibility crisis for ESD is certain communities. This study was designed to examine some of the

perspectives held at the grassroots level in India, and its results confirm some of the attacks documented in this section, but also rebuke some of them.

2.3.7 Need for a New Type of Economy and World Order

Some academics suggest that to address the planetary problems faced today we need radical reforms, such as a transformation of human society itself (Gadotti 2008, Huckle 1993). Some scholars claim that our pattern of natural resource consumption cannot be altered without completely reorganizing our consumer society. Gadotti suggests the need to develop a new type of economy based on solidarity (Gadotti 2008) and the need to rework the present system of citizenship linked with the nation state. He suggests a global notion of citizenship is needed to combat the current crisis at the global level. He describes this notion using the terminology such as planetary citizenship, planetary civilization, and planetary awareness (Gadotti 2008).

Answering Gadotti's concerns about citizenship, Bonnet claims that real Education for Sustainable Development must embrace larger democratic principles, enabling students to find creative solutions through critical thinking (Bonnett 1999). This sentiment is echoed by Östman who emphasizes the important connection between education for sustainable development and democracy (Östman, et al. 2005). Scholars have repeatedly mentioned the need for participatory development in designing education for sustainable development to insure the buy-in of diverse stakeholders (Lynch & Modgil, 1997). Education for Sustainable development is not something that can occur solely in classrooms, or at schools – many stakeholders, governments and intergovernmental bodies, the mass media, the civil society and non-governmental

organizations, the private sector, in addition to the formal education institutions must participate in the Education for Sustainable Development project if it is to take on the necessary scope (Filho 2006).

Defenders of sustainable development and education for sustainable development counter that it is exactly these types of projects in which they hope to engage, and that the scope of education for sustainable development should embrace transformation at the global level. In a compilation of material from the Nordic countries, Leif Östman argues that Education for Sustainable Development is not just about imparting new content to students, but about transforming them to become critical thinkers. This task requires deep reforms in pedagogy, embracing new forms of education and specialized teaching skills, not just new material to teach (Östman, et al. 2005). McKeown summarizes the distinction clearly: "an important distinction is the difference between education *about* sustainable development and education *for* sustainable development. The first is an awareness lesson or theoretical discussion. The second is the use of education as a tool to achieve sustainability" (McKeown 2002).

2.3.8 Over-Rational Response to Environmental Problems

Bonnett argues that the very idea of Education for Sustainable Development implies the need for making difficult projections into the future that will justify a dangerous scientifically managed society (Bonnett 1999). Some scholars explicitly acknowledge the need to break with traditional definitions of development and the concomitant worldview of scientific rationality and progress. Lynch and Modgil argue for, "a broadly conceived notion of education…a more inclusive consciousness, such as that required for

sustainable development, presupposes a new basic and primary education, oriented to intuition and imagination and to the experience, values, perceptions and ways of knowing of groups and nations traditionally excluded from the scientific rationalist approach to development" (Lynch & Modgil 1997, page 9). Petras makes a similar argument, stating: "it is these overly rationalist and functionalist premises that interpret *economic growth* on a naïve, unreflective rationalist philosophy of history picturing world progress as driven by a Western historical process motivated by the values of *freedom*, *progress,* and *rationality* that have come under increasing scrutiny and have been highlighted under the conditions of globalization" (Petras 2005). Jain argues in line with Ivan Illich (1972) that before one can learn Education for Sustainable Development, one needs to unlearn the culture of consumption (Jain 2005). Jain goes on to argue that there can be no set curriculum for triggering this unlearning.

This line of argument is similar to the attack leveled against the supposed deterministic nature of Education for Sustainable Development. It appears that an over rationalized response is a credible threat to true Education for Sustainable Development, but not a response that is theoretically embedded in the nature of ESD. Examples of over rationalized responses should be documented and examined critically, but the entire notion of Education for Sustainable Development should not be discredited on account of these cases.

2.3.9 Failure to Sufficiently Address Social Justice Concerns

Likewise, Greenall Gough argues that Education for Sustainable Development proposed scientific and technological solutions to environmental problems do not address

their root social political and economic causes, but only temporarily ameliorate some of the more salient harms. He sees this piecemeal approach as "guided by a techno-centric rationality and behaviorist goals of reductionist Western science which often ignores the issues of justice and ecological sustainability" (Greenall Gough 1993). Author David Selby agrees that Education for Sustainable Development has failed to realize its original breadth and promise in redressing the "marginalization of the voices of peace, social justice, anti-discrimination, indigenous peoples, as well as that of sustainability educators in the South" (Selby 2006, page 351). Akhil Gupta expresses another dissenting voice, "Despite the fervent hopes of many of its proponents, sustainability does not necessarily entail outcomes that would be seen as positive by those committed to social justice" (Gupta 1998, page 306). Graça Machel, former Minister of Education and Culture, questioned Education for Sustainable Development in light of the huge educational disparities that still exist in the world: "If education does not help to bridge the huge gap between the rich and the poor, then I would have to question its end value and argue that it would not be sustainable" (UNESCO 2009, page 21).

This attack has not gone unnoticed by the major proponents of Education for Sustainable Development. In their 10 year review of ESD, delegates at the 2002 Johannesburg Word Summit on Sustainable Development, affirmed: "Sustainable development is perhaps more a *moral precept* than a *scientific concept*, linked much with notions of peace, human rights and fairness as with theories of ecological or global warning" (UNESCO 2002).

In a similar yet divergent line of argument, eco-feminists point to the tradition of omitting the roles and contributions of women activists in the past. Furthermore, they

have identified western science and its patriarchal assumptions and attitudes to nature, women and development as a major cause of environmental exploitation and the increasing marginalization of many of the world's people. (Merchant 1980; Shiva 1989) In the encyclopedic *Women, the Environment, and Sustainable Development* it is argued that the North South divide compounds the argument made by Shiva (Briadotti et al. 1994). Akhil Gupta adds to this sentiment explaining: "The discussion of population, environmental safeguards, and deforestation is similarly densely infested with patriarchal, filial, and heterosexist imagery. What I am suggesting, therefore, is that the universalizing humanistic impulses of global environmentalism, *the human family,* embody a fundamentally inegalitarian conception of a global order and that such inequalities are not incidental but are central to the *management* of the environment by paternalistic Western experts" (Gupta 1998).

Social justice for the current inhabitants of earth, and for future generations is a key component of Education for Sustainable Development as it was conceptualize throughout its emergence during the latter decades of the 20th century. The previous section of this literature review outlining the history of ESD makes several references to the centrality of social justice to Education for Sustainable Development. This does not guarantee against abuses that occur during the implementation of certain projects or of certain elements subverting the goals of social justice for their own aims. Critiques exposing failures to meet the social justice criteria are essential for keeping ESD in harmony with its core principles. However, Education for Sustainable Development cannot be categorically dismissed because of examples where it fails to meet the demands of social justice.

2.3.10 Inextricable Intertwined with Prevailing World Order

Education for Sustainable Development is the term most used to describe education pertaining to man's relationship with the environment in United Nations documents (Hopkins & McKeown 2002). This association has contributed to some of the backlash against Education for Sustainable Development. Some scholars see Education for Sustainable Development as a deliberate shift from ecological values to economic values (Sauvé, Brunelle, & Berryman 2005). This association is highlighted by González-Gaudiano, who claims Education for Sustainable Development has supplanted the older and more emancipatory conception of environmental education, becoming indiscernibly entangled with prevailing models of economic development (Gonzalez-Gaudiano 2005). Meira Cartea locates the tension in Environmental Education's acceptance of plurality versus Education for Sustainable Development's tendency to hegemony. The movement to displace Environmental Education with Education for Sustainable Development represents the marginalization of possible alternatives, which avoid the appeal for development and its association with neo-liberal environmentalism, such as: education for sustainability, ecopedagogy, earth pedagogy, or global education (Meira Cartea 2005). Gadotti also argues for the consideration of alternative terms, such as: human development, sustainable human development, and productive transformation with equality (Gadotti 2008).

Buttel reasons that "Though proponents of the SD notion benefited by having the imprimatur of Sustainable Development being endorsed by an impressive range of institutions and international organizations like the United Nations, the World Bank, and

the European Union, SD has slowly but surely begun to recede from the social-scientific radar screen. This has in large part been because of the fact that the SD concept could not overcome being seen as a nebulous knowledge claim which was too imprecise to generate a coherent set of hypotheses and body of research" (Buttel 2000, page 61).

The close association between the United Nations and Education for Sustainable Development has also opened avenues to critique the international conference approach to spreading this message. On one side, international conferences are credited with successfully putting sustainable development on the world agenda, and increasingly linking that concept with education (Caride-Gómez 2005; Lynch & Modgil, 1997). However, some see international conferences as more of a celebration, with focus on fireworks, with too little attention to substance and critique. Furthermore, the focus on rituals and convergence is accused of stifling diversity, and promoting hegemonic discourse (Gutiérrez-Pérez & Pozo-Llorente 2005; Jickling 2005).

Despite the increasing visibility of Education for Sustainable Development in the theoretical work and amongst the everyday language of practitioners at the transnational level, many teachers and students are still unfamiliar with the terminology (Kagawa 2007). Ultimately, Franz Rauch warns of the danger that Education for Sustainable Development may be simply reduced to a catchword of the outgoing century. He elaborates: "Fears have become loud that the consensus that was reached on the abstract aims of sustainability might be stalled in the non-committal sphere, and that the underlying idea may degenerate into an empty shell" (Rauch 2002, page 47). UN Secretary General Kofi Annan (2001) acknowledge this point arguing: "The greatest

challenge in this new century is to take an idea that sounds abstract—sustainable development—and turn it into reality for all the world's people" (page 2).

2.3.11 Discussion of Critiques

This review of the literature critiquing Education for Sustainable Development illustrates how any idea, no matter how basic to the survival of humanity, can attract criticism. To a certain degree this is productive. A healthy debate helps define Education for Sustainable Development and move it forward.

One of the main themes that emerges is that Education for Sustainable Development is so big and often undefined that anyone can appropriate it for virtually any cause, including some that seem antithetical to sustainability. In the same way a thorough literature review can find critics of some of the most cherished ideals in existence, such as human rights, democracy, and the very notion of education itself, precisely because they are such big ideas and encompass so many applications.

Given its open nature, Education for Sustainable Development serves as a canvass upon which people project their own aspirations and fears. Thus in the review of critiques of ESD we often find many arguments focus on what could happen if ESD develops in an uncontrolled way, or is hijacked by special interest groups or entities trying to mask their actual intentions. Some argue that Education for Sustainable Development is the best hope for the future prosperity of mankind, while others argue that it is the opposite.

In the review of literature, two broad approaches to Education for Sustainable Development are evident: those based on analyzing the theories of ESD, and those that

analyze the actual implementation of ESD. These broad categories are not dissimilar to those found concerning nearly any topic in the field of education. Given the broad consensus with the educational and scientific community regarding the unsustainable nature of current human activity, the are less theoretical objections to the general idea of ESD; the majority of the attacks on ESD concern the way it has been implemented in various contexts.

2.4 Education for Sustainable Development in the Indian Context

India is very much part of the global phenomena described earlier in the introduction to this paper, contributing to, natural resource depletion, global warming, air and water degradation, and overpopulation. A superficial look at the India of today seems to indicate progress on a grand scale, especially when looking at economic growth and the availability of material goods (Kamdar 2007; Lak 2008, Luce 2007). Some analysts now tout India as a new global superpower (Lak 2008). This optimism was captured by famed Indian entrepreneur RA Mashelkar, who stated in a speech commemorating the arrival of the 21st century: "The next century will belong to India, which will become a unique intellectual and economic power to reckon with, recapturing all its glory, which it had in the millennia gone" (Mashelkar 2000).

However, studies have demonstrated that economic development in India since 1991 has come largely at the cost of the natural environment (Mukherjee & Kathuria 2006). Genuine progress, that is to say improvements in the lives of India's citizens, has been lower than what per capita Gross Domestic Product may indicate because of the high environmental cost of that growth and the natural resources depletion accompanying it

(Lawn 2008). The poor, women, and marginalized groups, such as tribals and members of discriminated castes, have suffered the most from the natural environment price paid for economic growth.

In terms of cataclysmic environmental disasters, the 1984 Union Carbide chemical disaster in Bhopal, India, has been widely considered one of the most the most deadly in terms of human lives, having immediately killed approximately 3,800 people, and injuring or leading to birth defects in hundreds of thousands (Broughton 2005). The chemical disaster has been labeled a transformative turning point in international environmental politics (Kamieniecki 1993). It is often listed on par with other high profile environmental disasters like Three Mile Island, Chernobyl, Exxon Valdez, and Deep Water Horizon. Even more dramatically, it has been called "the Hiroshima of the chemical industry" (Iyengar & Bajaj 2011). Like any disaster at this magnitude, the event drew the world's attention, at least momentarily to the human and environmental costs of unbridled industrialization and development, especially in poorer countries.

India, like all countries in the world recognizes the great importance of a healthy environment for its citizens. It has enshrined these ideals in its constitution, outlining the duty for common citizens to protect the natural environment. In Chapter IV of the Constitution of India, Article 51A, a section added in 1976, lists the Fundamental Duties of citizens. One of the Fundamental Duties is "to protect and improve the natural environment including forests, lakes, rivers, wild life and to have compassion for living creatures" (Government of India 2007). Since June 1996, India has designated part of the Calcutta high Court to deal specifically with enforcing environmental statutes. These courts have been labeled *Green Benches* (De 2004, Sharma 2008).

India has long recognized the important role education plays in achieving environmental goals. Scholars link Education for Sustainable Development in India to Gandhi and his concept of political economy called *Sarvodaya*, or uplift of all, which emphasized sustainability through local production and simple living instead of the accumulation of wealth (Rajput 1998). Eventually this philosophy led to an educational system called *Nai Taleem*, founded in work-based/inquiry-based learning. This represents the first serious attempt in India to tie formal school education to local environmental and social needs. Gandhi emphasized the importance of productive activity in education, curriculum tied to the social environment, and intimate contact between the school and the local community (Chhokar & Chandrasekharan 2006). Gandhi recognized the strain of population on resources and resource depletion and highlighted the connection between the way children are educated and the way they make decisions for their entire life concerning resource management (Gandhi 1951). Although several parts of independent India implemented Gandhi's vision of education during the 1950s, the glittering prizes of modernization and economic development quickly overshadowed these initiatives during the 1960s (Kumar 1993, Haigh 2006a). The legacy of these principles lives on in the Small is Beautiful philosophy popularized by economist Ernst Schumacher in the 1970s (Schumacher 1972).

Indian philosophies and religious heritage, often popularized by Gandhi, have also contributed to the international environmental movement. In 1973 famed Norwegian philosopher Arne Næss and father of the Deep Ecology movement, noted: "Gandhi's utopia is one of the few that shows ecological balance, and today his rejection of the Western World's material abundance and waste is accepted by progressives of the

ecological movement" (1973, page 95). In fact in a paper entitled *Deep Ecology Education: Learning from its Vaisnava Roots*, researcher Martin Haigh illustrates how Indian philosophy profoundly impacted the formation of the Deep Ecology movement (Haigh 2006a).

Some scholars look even farther back into India's history while exploring Education for Sustainable Development. Some find environmental messages in the Rigveda and Upanishads, which urge every person to conserve the five elements of the world (land, water, energy, air, and space) and hold respect for Mother Earth and all its living beings, including plants and animals (De 2004). Others point to the Bishnoi tradition in Khedaji, Rajasthan. The 15th century Rajput saint founded a cult based on the conservation of the environment. He considered cutting tress and killing animals a sin. In 1730, Maharaja Abhay Singh of Jodhpur ordered kherji trees cut to produce lime mortar. 363 members loyal to the Bishnoi tradition defended the trees with their bodies and their lives (Srivastava 2001). The statement: "If a tree is saved even at the cost of one's head, it is worth it" is attributed to Amrita Devi, one of the leaders of this movement.

This historic tree hugger movement inspired the modern Chipko environmental movement, in the rural Uttarakhand region of the Himalayas, which emerged in response to local environmental resource management issues, coinciding with the Stockholm 1972 conference on Human environment (Srivastava 2001, De 2004). Chipko slogans include: "Ecology is permanent economy" (De 2004). The phrase presages the direct links between the environment and the economy; links that will later be made explicitly in the Education for Sustainable Development movement.

Others point to the longstanding sustainable ecologies practiced by India's native tribal peoples. Naga (indigenous peoples of India's Northeastern region) retain large amounts of environmental knowledge and life long learning practices; the ability to live sustainably; and actively question the value of development (Goswami 2005). Harvard trained environmental scientist Gadgil has labeled these native peoples *barefoot ecologists*. He maintains that people close to the earth have the greatest environmental knowledge for sustainable living (Gadgil et al. 2004). Indian researcher Rahul Goswami contends that countries such as India and others in the Global South have much to offer the North in terms of sustainable lifestyles from their storehouses of traditional knowledge (Goswami 2005).

Indigenous knowledge amongst the Naga is based on customs and traditions passed on from one generation to another through *morungs*, a system of communal living for tribal youth. Storytelling amongst tribal people has also perpetuated knowledge for everyday and inter-generational survival (Tilbury et al., 2002).

However, as in the case with many indigenous peoples, this authentic and productive way for communicating environmental knowledge to communities is in danger of disappearing under increasing pressure to modernize and participate in formal schooling, which creates and nurtures a culture of consumption and is often irrelevant to the local realities in which students live (Goswami 2005). The primacy of print media as the media of instruction in formal schools makes it difficult to incorporate native ways of knowing (Goswami 2005).

Other researchers downplay the importance of the contributions available from traditional lifestyles. Bonnett argues that native cultures are sustainable only because of

low population density and low levels of technological development, both of which are irrelevant to contemporary India (Bonnett 1999). Author Edward Luce attempts to dispel some of the mystique surrounding the myth of idyllic pre-modern life, highlighting the oppressive nature of the caste system and difficulties for personal development in the in many traditional Indian lifestyles (Luce 2007). Bina Agarwal, author of *Gender and Green Governance*, also questions romantic appraisals of traditional institutions, especially those which gloss over the plight of traditionally marginalized groups, such as women, especially since many of those lifestyles are based on the exploitation of female labor (Agarwall 1998).

India formally recognized the importance of Environmental Education in its National Education Policy of 1986. This document states in section 8.15: "There is a paramount need to create a consciousness of the environment…it must permeate all sections of society, beginning with the child. Environmental consciousness should inform schools and colleges. This aspect will be integrated in the entire education process" (NEP 1986).

Despite recognizing the need for Environmental Education, the state failed to deliver. A legal case brought forth to the Supreme Court in India in 1991 highlighted the lack of implementation of Environmental Education and produced an edict urging action: "we would require every state government and every Education Board connected with education up to the matriculation stage [and beyond]…to immediately take steps to enforce compulsory education on environment in a graded way" (Supreme Court of India, 1991). Even after this ruling, it seems few steps were taken until the Supreme Court revisited this topic in 2003, requiring the production of a model curriculum for the 2004-2005 academic year. The National Council of Educational Research and Training,

NCERT, took on this challenge and a curriculum is now available, although challenges still exist in its implementation. Environmental messages have often been hastily inserted into government textbooks and may conflict with information provided in the same book. For example, one book reviewed by the World Conservation Union revealed messages lauding the use of pesticides to increase yields in one section and discouraging the use of pesticides in another section pointing out the negative environmental effects and potential health dangers to farmers and consumers (Tilbury et al. 2002).

In 2004 efforts were made in India to transition to Education for Sustainable Development, including directing education to be empowering rather than socializing; participatory and based on learning with peers and with involvement of the community; lifelong and continuous; multi-sourced and multi-accessed; and adding sensitivities to gender and diversity (Gadgil et al. 2006). These concepts continue to be hard to incorporate into the rigid test driven culture of secondary schools in India (Chhokar & Chandrasekharan 2006). A major problem of schooling throughout the region is its overly academic nature and lack of relevance to everyday rural and community life of the villages where most people live (Tilbury et al. 2002). Furthermore, the traditional system of Indian testing limits critical thinking, which is necessary for Education for Sustainable Development (Sarabhai 2004).

It seems that the results of efforts since the 1980s have been limited to greening the curriculum, not in transforming it (Chhokar & Chandrasekharan 2006, Sarabhai 2004). The Indian education system has succeeded in adding some environmental content into the existing curriculum, but it is still taught in the traditional manner. Scholars critique this limited implementation; Education for Sustainable Development requires a new

pedagogy, not just new content (Gupta 2007). Adopting new pedagogy has proved very difficult for Indian teachers traditionally dependent on books and rote memorization techniques (Gupta 2007, Chhokar & Chandrasekharan 2006, Sarabhai 2004).

Curriculum nationally designed in Delhi, such as that incorporating Education for Sustainable Development, often fails to address local issues in many of India's remote and diverse communities. Children living in rural and underdeveloped areas find it hard to relate to issues such as traffic and industrial waste issues more prominent in the urban centers, which textbooks tend to favor (Tilbury 2002). Furthermore, the compartmentalization of textbook production in India makes it difficult to incorporate trans-disciplinary approaches (Sarabhai 2004).

Hopkins and McKeown emphasize teacher preparation, pre-service and in-service, as *critical* to the implementation of Education for Sustainable Development (Hopkins & McKeown 2002). Vargas states: "[It is] needless to emphasize that much depends on the teachers in infusing this perspective" (Vargas 2000, page 14) and highlights the need to equip teachers themselves with critical literacy before they can impart this skill to students (Vargas 2000). Unfortunately, almost every scholar examining Education for Sustainable Development in Indian schools points to the inability of the teacher body to implement the demands of this new type of education (Ravindranath 2004).

Compounding the problem, teacher preparation programs in India were largely unregulated until just recently (Maheshwari 2000). Maheshwari points out that over 800 elementary level teacher preparation facilities exist in India as well as over 900 secondary school teacher preparation facilities, often functioning autonomously or with low levels of centralized supervision. Changes have been made in school curriculums, but teacher

training remains static under the daunting inertia of the Indian education system (Maheshwari 2000).

Huge gaps exist in India between the goals for implementing Education for Sustainable Development and what is actually happening in the classrooms (Sarabhai 2004). However, this situation is not unique to India; it exists in many countries around the world, especially in developing regions (Lynch & Modgil 1997). There is the hope that new technologies and new teachers will be more effective at implementing Education for Sustainable Development in the future (Maheshwari 2000).

Despite the reluctance to embrace change in the formal education sector, India as a whole has demonstrated a radical ability to transform and absorb change (Kamdar 2007; Lak 2008; Luce 2007). The Non-Governmental and Civil Society sectors have made some advances where the education sector has lagged. In some cases NGOs have entered into cooperation with the formal education sector to make inroads in the large teacher capacity building deficits (Pandey & Vedak 2010). NGOs and community based development organizations have shown some promise at succeeding in rural areas were large top-down government programs have failed to reach, physically due to remoteness, or programmatically due to culture gaps, or a failure to address problems holistically (Tilbury 2002). Some research suggests NGO implemented Education for Sustainable Development is better than any provided in the formal schooling because of its ability to connect with actual experience (Haigh 2006b).

In many ways, India has played a leading role for developing nations in Education for Sustainable Development (El-Awady 2005). Indira Gandhi was the only foreign head of state to attend the 1972 Stockholm conference, one of the forerunners of the Education

for Sustainable development movement. In contrast only 20 years later, 168 heads of state attended the Rio conference in 1992. Despite the many dignitaries present in 1992, Maurice Strong, chair of the conference, complained "there were very many heads of state but very few world leaders," (Hopkins 2007). At the 1972 conference Gandhi made her famous statements linking the environment directly to human and economic development: "We do not wish to impoverish the environment any further and yet we cannot for a moment forget the grim poverty of large numbers of people. Are not poverty and need the greatest polluters? … [Environmental problems are] compounded to seemingly unmanageable proportions by poverty, squalor and ignorance, showing us why environmental problems must be treated as an integral part of development strategy in this case, tackling poverty, unemployment, disease and ignorance simultaneously" (Gandhi 1972, page 2).

2.4.1 Discussion of Education for Sustainable Development in the Indian Context

This review of literature highlights India's historic contribution to the Education for Sustainable Development movement. At the same time it reveals the shortcomings of many of India's top-down initiatives to implement ESD in its public institutions.

This literature review also suggests gaps in terms of documentation of actual Education for Sustainable Development projects. Information concerning India is less prevalent in literature available in English and the journals most often used in academic research in the West.

Chapter 3

Research Design and Methods

3.1 Theoretical Framework

This dissertation analyzes the educational response to global environmental problems through the perspective of organizations and grassroots practitioners in India involved with Education for Sustainable Development. This theoretical framework serves two purposes: first, to justify focusing on Indian non-governmental organizations involved in Education for Sustainable Development, as opposed to the formal schooling system or transnational organizations; and second, to explore the importance of implementation and the practitioner in understanding global phenomena.

3.1.1 The Importance of NGOs in Transnational Movements

Karen Mundy, author of *Educational Multilateralism and World (Dis)Order*, explores the extent to which networks of nongovernmental actors can influence the development of a more just world order that is both equitable and representative (Mundy 1998, Mundy and Murphy 2001). She sites NGO actions as crucial in global scale social justice action, starting with the anti-slavery movement of the 19th century and continuing with campaigns like child survival and universal primary education in the 20th century. Now Education for Sustainable Development is joining this tradition of transnational crusades as it inherits the mantel of the environmental movement. Karen Mundy and Lynn

Murphy identify NGOs as increasingly important actors, especially in the post-Cold War era, at the level of agenda setting, the spreading of norms, and changing inter-governmental and governmental discourse (Mundy & Murphy 2001).

Mundy and Murphy found that, "To realize their demands, campaigners have employed a remarkable repertoire of strategies drawn from the experience of other transnational advocacy initiatives" (Mundy & Murphy 2001, page 126). Clark and her colleagues identified two ways civil society can influence government: ''It enhances political responsiveness by aggregating and expressing the wishes of the public through a wealth of nongovernmental forms of association; and it safeguards public freedom by limiting the government's ability to impose arbitrary rule by force'' (Clark et al. 1998, page 92). Prinsen and Finger have found transnational NGOs can empower local communities whose work would otherwise be overlooked (Prinsen & Finger 1994). Likewise, Margaret Keck and Kathryn Sikkink describe a ''boomerang'' strategy in which NGO and community organizations can appeal to transnational bodies, who in turn apply pressure at the national level to provide domestic movements greater leverage against their home governments (Keck and Sikkink 1998).

Given the now prominent role of non-governmental actors in transnational crusades like Education for Sustainable Development (Princen & Finger 1994, Haigh 2006b), I will focus my research at the grass roots level of civil society, both Non-Governmental Organizations and Community-Based Organizations, working in the trenches at the actual locus of implementation of ESD.

3.1.2 Focusing on practitioners through Backwards Mapping

Implementation of Education for Sustainable Development goals and policies identified at the transnational level is an important, difficult, and often underestimated component in ESD literature. Theorist Richard Elmore relates anecdotally that in normal cases, only about 10 percent of achieving a desired societal change is accomplished by identifying the preferred analytical alternative to address an issue, leaving the remaining 90 percent in the realm of implementation (1980). He concludes that "[we] cannot assume that policy is the only — or even the major — influence on the behavior of the people engaged in the process" (Elmore 1980, page 604). Likewise, theorist Wadi Haddad warns that, "Misjudging the ease of implementation is probably the most frequent error in policy planning" (1995, page 36).

In this dissertation, I have examined a concept, Education for Sustainable Development with a thorough literature review, which provides a complex view of that concept as it has been defined at the transnational level at global conferences and critiqued by academics. However, the work of Elmore and Haddad would indicate that this picture of Education for Sustainable Development may be substantially different than what actually happens at the sites of implementation.

In approaching my own study of Education for Sustainable Development, meant to compliment the vision presented in the literature review, I draw on the backwards-mapping model developed by education policy implementation specialist Richard Elmore (1980). This model draws on the bottom-up tradition of implementation analysis. A bottom-up framework identifies the network of actors responsible in service delivery and describes the series of negotiations connecting these actors. This type of framework

works best when describing situations in which there are multiple and no clearly dominate policies or agencies, and in situations in which policy development and implementation cannot be clearly distinguished, and at understanding the roles of street level bureaucrats, the people at the bottom of the chain of command that actually come into contact with service provision, and target groups in getting around or distorting policy initiatives to serve their own interests (Sabatier 1993). This type of framework is relevant to the decentralized and convoluted world of Education for Sustainable development.

Traditional top-down approaches ignore or underestimate the grassroots knowledge available at the implementation level. This has been especially true in rural settings and developing country contexts or where practitioners were perceived to be uneducated or unable to participate in research intellectually (Hall 1979). These parameters apply to many of the Education for Sustainable Development projects in India. This traditionally overlooked perspective is the focus of my research in this dissertation.

Backwards mapping critiques the traditional top-down analysis, which privileges the actions of policy makers and assumes a more hierarchical and less problematic implementation phase (Elmore 1980). This approach resonates with the work of education theorist Henry Giroux and his idea of educators as transformative intellectuals (Giroux 1993). Giroux argues that transformative educators draw on their expertise acquired through experience to modify policy mandates from above. Practitioners form their own theoretical convictions and skills for translating them into practice (Giroux 1993, 2002).

Giroux's draws heavily on the definition of intellectual famously pioneered by Antonio Gramsci, who claimed: "all men are intellectuals . . . but not all men have in society the function of intellectuals" (Gramsci 1971, page 9). In my research I want to acknowledge and draw from these organic intellectuals. Like former Comparative International Education Society President Karen Biraimah, I want to, "introduce real faces and lived cultures into the continuing debate over a meaningful impact of theory on praxis" (Biraimah 2003, page 435).

Backwards mapping questions the assumption that explicit policy directions, clear statements of administrative responsibility, and well-defined outcomes will necessarily increase the likelihood that policies will be successfully implemented. Instead, this theory insists that much of what happens in the implementation process cannot be explained by the intentions and directions of the policymakers (Elmore 1980). This perspective is especially relevant to Education for Sustainable Development, a field in which many ideas and theories have been developed by international agencies and national governments, but implementation of these policies at the local level has often taken novel and unexpected forms dependent on the specific realities of each project.

Backwards mapping does not deny the importance of hierarchies, rather it analyses them in a manner consistent with critical theory. By acknowledging the agency of the actors involved at different levels in a complex chain of implementation, it challenges the way we look at power structures. It considers the limited ability of actors at one level of the implementation process to influence the behavior of actors at other levels and the limited ability of public organizations as a whole to influence private behavior (Elmore 1980). The backwards-mapping framework suggests analyzing Education for Sustainable

Development in India from the perspective of the actors closest to the delivery level and capturing their intellectual contributions, which is what I do in this study.

Bunker Roy, founder of the Barefoot College admonishes the traditional research apparatus status quo stating, "Listen to people. They have the solutions in front of you … Don't listen to the World Bank, listen to the people on the ground. They have all the solutions in the world" (Roy 2011). Approaching the issue from the point of view of the people involved in Education for Sustainable Development at the ground level resonates with the critical school of thought. This approach acknowledges the ability of institutions to reproduce inequalities, it also explicitly questions the ability of institutions to enforce chains of command and introduces the idea of bargaining space, in which individual actors can escape the determinism of society (Huckle 1993).

The conceptual framework of backwards mapping lends credence to the field based approach to studying Education for Sustainable Development proposed in this document. This approach allows an understanding of the implementation process from the perspective of the actors closest to actual service delivery.

3.2 Role of the Researcher

As I argue in my theoretical framework, I want my work to draw on the intellectual contributions of practitioners engaged in the implementation of Education for Sustainable Development. This effort resulted several times in my active involvement with the projects I set out to observe. As my role extended beyond those of a traditional researcher, I leaned on the ideas developed in Participatory Research. As defined by William Whyte (1989): "Participatory research is a methodology in which the

professional researcher invites one or more members of the organization studied to play more active roles than simply those of passive informants" (page 369). Participatory Research draws directly on Freire's approach to creating horizontal relationships between researchers and practitioners through the use of dialogue, with a focus on reflection and mutual learning (Cornwall & Jewkes 1995; Torres 1992).

Participatory Research acknowledges my difficulty in observing the behavior of those I studied as if it occurred without my presence (Whyte 1989). Instead, Participatory Research allows me as a researcher to actively participate in the activities that form the focus of my study, Education for Sustainable Development, as well as practitioners to participate in the development of research objectives. Participatory Research recognizes research as a committed act. In this way it parallels the stand of Paulo Freire (1998), who challenges the possibility of neutrality in the field of education, a field he describes as inherently political (Torres 1992). In describing Participatory research, Cornwall and Jewkes (1995) concur with Freire's stance, maintaining: "Practitioners take a deliberately political stance, focusing on empowering disenfranchised and marginalized groups tot take action to transform their lives" (page 1671).

Participatory Research allows space for action. During my three months in India I lived with local teachers and activists, sharing living spaces and food. I stayed at the Barefoot College, in Tilonia, and participated in their trainings and community activities. In academic terms, I shared knowledge and encouragement; I helped connect people with resources, and tried to bring a small spotlight to the accomplishments I witnessed. As methods expert Robert Stake writes, "One of the more effective means of adding to understanding for all readers will be by approximating through the words and illustrations

of our reports, the natural experience acquired in ordinary personal involvement" (Stake 1978, page 5).

There is also an academic tradition associated specifically with researcher action. As described by Krasny and Bonney (2005): "Participatory Action Research combines research with education and action – it attempts to engage local people in defining and conducting research, with the goal of not only collecting data, but also educating community members about their current situation ad engaging them in actions to improve local conditions," (page 292). I have worked as an educator in formal and non-formal settings and as a rural extensionist in Latin America and Africa collaborating with poor and marginalized communities. I identify with the principles of Participatory Action Research and they informed my study, however, given the constraints and limited time to interact with the Education for Sustainable Development community, I cannot fully claim to have engaged in Participatory Action Research.

The influential Colombian sociologist Orlando Fals Borda, often considered the father of Participatory Action Research constructs a more comprehensive and human paradigm in the social sciences drawing on phenomenological and Marxist ideas adapted to regional realities and factors (Fals Borda 1987). Participatory Action Ressearch challenges established academic hierarchies, without discarding the need to accumulate and systematize knowledge (Fals Borda 1987; Fals Borda & Rahman 1991).

During my time in India, I participated in a regional environmental conference, provided input for a document on the mitigation of desertification, provided career advice and mentoring for several young professionals and students, and in general took actions to improve Education for Sustainable Development. Given the limited amount of time in

India, the Participatory Action component of my work was limited, but it nonetheless provided an ideological motivation for my research approach. The Indian people engaged in Education for Sustainable Development helped me focus and refine my research questions and fine-tune my methodology. Organizations informed me of the successes of others and helped me expand my network. Likewise, I was able to teach practitioners about the larger world of Education for Sustainable Development.

I encountered some limitation of Participatory Research during my stay in India. Although I tried to involve my counterparts in the development of my research as much as possible, it resulted difficult at times. Many of my collaborators expected a more traditional research relationship and found it hard to adapt to participatory research and the additional involvement it requires.

Despite the limitations and whether I engage in Participatory Research or Participatory Action Research, I want to conduct research that is relevant to improving the human condition. I share the same expectations of my research as iterated by research methods expert Robert Stakes: "We expect an inquiry to be carried out so that certain audiences will benefit, not just to swell the archives, but to help persons toward further understandings. If the readers of our reports are the persons who populate our houses, schools, governments, and industries; and if we are to help them understand social problems and social programs, we must perceive and communicate in a way that accommodates their present understanding" (Stake 1978, page 5).

3.3 Research Methods

As stated earlier, the literature review reveals a broad consensus concerning the larger ideas of Education for Sustainable development, such as the need for humankind to find a way to live that does not deplete resources for future populations and to transmit this knowledge to new generations. The critiques of Education for Sustainable Development suggest the real debate is in the implementation in ESD; the critiques focus on how we are trying to teach future generations how to live sustainably. The literature suggests a need to further understand the realm of implementation.

The theoretical framework and backwards-mapping approach suggest my research questions need a response focused on the practical issues of ESD, and how the actors involved in implementation perceive the theoretical realm of Education for Sustainable Development. I chose a method that would facilitate this research, case studies.

3.3.1 Case Studies

Case studies have long been accepted as a standard tool in conducting academic research in the field of education. Nearly 40 years ago, Robert Stake wrote: "this method [case studies] has been tried and found to be a direct and satisfying way of adding to experience and improving understanding (Stake 1978, page 7)." The academic literature indicates that "case-study methodology is a common and appropriate research tool" particularly relevant to studies of education for sustainable development (Corcoran et al. 2004, page 9). Sustainability is complex and a great diversity exists in the field of ESD, making case studies an advisable way to approach researching this topic, especially given the flexibility and adaptability of case studies (Corcoran et al. 2004). Given the relatively

recent emergence of ESD, case studies can serve as exploratory and clarifying means of researching the field.

In addition to the methodological support for case studies, the literature also reveals a demand for this type of academic work in the field of Education for Sustainable Development. Writing in 2004, Professor Robert Stevenson observed: "Most of the early literature on sustainability in [education] focused on conceptual and policy issues; or stated another way, on theory and rhetoric, rather than the practice of educating for sustainability" (Stevenson 2004, page 39). "As a result, in recent years there have been demands, first, for examples of sustainability initiatives…and second, for empirical research on the topic, including a call for evidence of programs or activities that support the theoretical arguments advanced by many writers…these demands seem to have coalesced into the emergence of case-study methodology as a common approach to studying and reporting on local efforts or initiatives in sustainability in [education]." Despite the research that has taken place since the publication of this observation, my review of the literature shows that there is still a demand for more case study research in this field.

Writing in an issue of *Environmental Education Research* dedicated to theorizing the use of case studies in research in this field Dillon and Reid (2004, page 23) declare that: "Case studies are put to a variety of uses in investigating environmental and sustainability issues... These uses include: to document, describe (in detail), contextualize, investigate and/or explain information that characterizes and qualifies what is of interest in this area." Research methods expert Robert Yin concurs on this point, stating in a more general sense: "[Case studies] reveal the multiplicity of factors [which] have interacted to

produce the unique character of the entity that is the subject of study" (page 82, Yin 1989). This research method allows investigators to produce richly detailed information on a subject. Professor Peter Blaze Corcoran, an active proponent of the United Nations Decade of Education for Sustainable Development, promotes case studies in this area of research claiming: "The case study approach allows the researcher to *go deep*, to learn what works and what does not" (Corcoran et al. 2002). Corcoran makes this stamen about the case study method in contrast to other methods using surveys, checklists, and indicators to collect quantitative data which may be broader, but often lack the depth of case studies (Corcoran et al. 2004, page 9).

In addition, case studies provide a practical way of producing research which can readily be used in the realm of policy and practice. Robert Stake, an early advocate of case study research extoled this aspect of the method, stating: "We expect an inquiry to be carried out so that certain audiences will benefit -not just to swell the archives, but to held persons toward further understandings. If the readers of our reports are the persons who populate our houses, schools, governments, and industries; and if we are to help them understand social problems and social programs, we must perceive and communicate in a way that accommodates their present understanding" (Stake 1978, page 5). Stake goes on to explain how case studies produce results easily accessible to readers: "It is widely believed that case studies are useful in the study of human affairs because they are down-to-earth and attention-holding…Case studies will often be the preferred method of research because they may be epistemologically in harmony with the reader's experience" (Stake 1978, page 5). Case studies can help bring some clarity to the emerging field of Education for Sustainable Development, and identify areas for future

research. "The role of academics in the case study is not only to provide solutions, but also to outline and define problems of which the stakeholders may not be aware" (Steiner & Posch 2006, page 889).

Despite the strengths of case study methods, the literature also reveals some potential weaknesses. Professor Bob Stevens (2004) summarizes some of the concerns that have been expressed about case studies in the field of Education for Sustainable Development, including: the problem of clearly defining the meaning of the term *case study* (Merrian 1988); their romantic and nostalgic representations, and biased, selective, or idealistic assessment of *successful* practices (Bell et al. 1984); the extensive length of many case-study reports (Miles 1987, Merriam 1988); a lack of basis for scientific generalizability (Yin 1994); and a general lack of quality or rigor in case study research (Yin 1994, Corcoran et al. 2004). Cotton and his colleagues add: "case study approach offers a strong grounding in reality, utility to practitioners, and high resolution data that enable cross-disciplinary and synoptic analysis of [subjects'] understandings of and attitudes towards sustainable development. However, a potential drawback is the limited generalizability of the case study, particularly in relation to attitudes within academic disciplines in different [settings]" (Cotton et al. 2007, page 583). Even Corcoran, one of the most vocal proponents of case studies in the field of Education for Sustainable Development points out the short comings found in many of the case study research: "case studies rarely included any information on the theoretical approach to the methodology or on the methods used to gather the data" (Corcoran et. 2004, page 14). Likewise, Dillon and Reid argue: "Case study methodology risks misinterpretation and superficiality amongst case-study producers and readers if assumptions and positionings

regarding the epistemological and ontological dimensions of the case under study are not appraised and attended to" (Dillon & Reid 2004, page 23).

In agreement with the previously listed grievances, Kyburz-Graber concludes: "There is a tendency to use case-study research methodology for research issues aiming at simply describing a complex situation, and to draw conclusions with insufficient rigor" (Kyburz-Graber 2004, page 53). In response, Corcoran and his colleagues "suggest an approach we call *critical case-study research*" (Corcoran et al. 2004, page 9). In this type of case study the researcher focuses more on the context of each case, rather than seeking to generalize. Corcoran and his colleagues wrote the following concerning critical case studies:

> Being mindful of this critical view of sustainability we are particularly interested in the contextual development of sustainability. In other words, sustainability as a concept that takes shape and meaning by the active involvement of all relevant actors in a transparent and highly reflective process that is firmly rooted in the social realities of a given context, but sensitive to emergent realities in other contexts as well. Taking this notion seriously suggests that it is unfeasible and even undesirable to look for universal descriptions of sustainability or for universal models for the development, implementation and evaluation of sustainability. It appears more useful to look for contextual studies of practice that have transformative value both for local practice and practices elsewhere, hence the value of a critical case study. (Corcoran et al. 2004, page 9)

In order to counter such criticisms, case study researchers have proposed various academic measures to ensure quality in cases study research. These criteria have been summarized by methods expert Robert Yin in his much-cited book *Case Study Research: Design and Methods*. He maintains that a case study can be fully recognized as a scientific method if certain quality criteria, which follow the general criteria of

objectivity, reliability, and validity, are fulfilled (Yin 1994):

- A theoretical basis including research questions is described;
- Triangulation is ensured by using multiple sources of evidence;
- A chain of evidence is designed with traceable reasons and arguments;
- The case study research is fully documented; and
- The case-study report is compiled through an iterative review and rewriting process.

In elaborating the triangulation process, Kyburz-Graber writes: "Case-study research uses multiple data sources and builds on multiple perspectives for interpretation, a procedure which is called triangulation" (Kyburz-Graber 2004, page 59). Professor Bob Stevens lists some of the resources available in triangulating available to case study researchers: "Typically, such techniques as observations, interviews, and documentary analysis are used to assemble a detailed or rich account of a single or multiple cases of an individual, student, classroom, group, program, or institution" (Stevenson 2004).

In order to enhance the accuracy of the data collected, I triangulated the data in my case studies using various sources. I compiled data via interviews, observations, and archival research, exposing how organizations and individuals actively engaged in education for Sustainable Development perceive their efforts. This data consists of material from interviews conducted in person, via telephone, or through Internet correspondence, with practitioners in India. I conducted at least one in-depth interview for each case study with a senior administrator. When possible, I conducted additional interviews with various types of personnel to capture different perspectives within the various organizations. I complement the interview material with an analysis of documentation produced by the organizations, including material available form institutional websites, recorded or transcribed interviews, conferences, publications, and

organization archives and databases. Finally I incorporate data from observations made while visiting organizations in India and the personal life stories of the participants in my research.

My data analysis consisted of identifying prominent themes in the materials I gathered during my fieldwork. These often emerged in the interviews I conducted. I would then search supporting materials to corroborate the importance of these themes. I also identified unique or particularly salient ideas that contradicted the major themes and ideas I found in my study to challenge my generalizations and add complexity and nuance to my analysis. As in the spirit of participatory research, described earlier, I would often present my initial findings with my contacts, eliciting feedback and criticism on my preliminary conclusions. I compare this data to the material I have gathered in conducting my review of the literature surrounding Education for Sustainable Development and its existence in the Indian context. In my findings and discussion, I comment on the relevance of theoretical debates to the actual practices in the field and divergences that exist.

I am particularly interested to see how the practitioners frame their own experiences, as compared to the way academics and scholars have written about them. I comment on some general patterns that emerge in the Indian experience with Education for Sustainable Development that appears unique to this region and differentiate it from how Education for Sustainable Development has emerged in Western nations. In performing my analysis, I drew on the theoretical work of Snow and Benford (1992). They focus on how the motivations and interests of different concerned groups can affect the issues and the way they frame them in order to best resonate with larger and more powerful frames.

To check the reliability of my data and conclusions, I again draw on insights provided by Participatory Research. Given my close relationship with my counterpart agencies in India, I used them as a resource in verifying my findings. Whyte (1989) argues that this approach: "provides a critical safeguard against self-delusion by the researcher and unintentional misleading of colleagues through a rigorous process of checking the facts by those with firsthand knowledge before any reports are written" (page 381).

3.3.2. Selection of Case Study Organizations

I conducted several case studies of Indian organizations involved in Education for Sustainable Development. My theoretical framework pushed me to look at Non-Governmental and Community Based Organizations, Civil Society, and the Non-Formal sectors for my research.

As my literature review of Education for Sustainable Development in the Indian context shows, the response from the formal education sector in India has been slow and problematic. Ivan Illich's (1972) critique of institutionalized education is particularly relevant to the highly bureaucratized Indian education system. This large and rigid schooling system, controlled by a complicated hierarchical administration, has inertia and vested interest inhibiting change and often fails to respond to the pressing needs of the students and families it serves. Several scholars have already analyzed Education for Sustainable Development in the formal education sector in India, racking up lists of criticisms and only a few successes. In my drive to focus on success stories related to Education for Sustainable Development in India I focused outside of the Indian Ministry of Education.

In selecting organizations to feature in case studies I drew on a broad definition of Education for Sustainable Development as provided at the 2002 Johannesburg Summit on Sustainable Development: "Education for sustainable development is an emerging but dynamic concept that encompasses a new vision of education that seeks to empower people of all ages to assume responsibility for creating a sustainable future" (UNESCO 2002, page 5).

Given the many organizations involved with Education for Sustainable Development, the selection of organizations to include in my research was a crucial aspect of my project. I began the process via the internet and e-mail correspondence, searching for organizations actively engaged in Education for Sustainable Development. This first led to several entities that self-labeled themselves as organizations involved in ESD. I also found several organizations involved in ESD that did not self-label as ESD focused organizations. Given my interest in how various organizations viewed their efforts in this field, I selected both types (self-labeled and non-self-labeled) of organizations. I realize that selecting organizations through internet and journal based exploration could exclude organizations without a digital presence on the world-wide-web. Therefore I networked with the initial organizations I found on the internet to identify other potential candidates.

The practical constraints of my study, such as funding and time, limited me to six organizations. Given this constraint, I tried to create a representative sample of those I found through my desk study. Also for practical purposes, I limited myself geographically to the western Indian provinces of Gujarat and Rajasthan, although I found many promising organizations in other parts of the Indian sub-continent. I only

included organizations in my sample willing to participate in my study. Furthermore, I could only work with groups that worked primarily in English, or at least that had materials in English and members available for interviews that spoke English. Language was not a major issue, as English is a commonly used language in India. Physical accessibility and communications was a consideration, although I was able to reach some isolated sites, such as the Barefoot College, in Tilonia, which required taking a train and then hiking a few miles through the hot and arid countryside from the nearest station. I picked organizations based in various sectors, such as non-formal education, labor, universities, and social networks to try to explore the diversity in Education for Sustainable Development.

Once I determined my sample, I sought contacts and key informants in each organization to help me logistically organize my interviews and visits. These allies helped me refine the aims and scope of my study. I also gained access to organizations' documentation and archives through these contacts to provide further information to strengthen my work.

3.4 Limitations

One of the weaknesses in using case studies as a research tool is the limited ability to generalize beyond the scope of the specific institutions examined. This is widely recognized within the field of education research. As stated by Robert Yin, "generalization is one of the most hotly debated problems in case study research" (Yin 1994).

In addition to the theoretical limitations of this study, I also experienced several practical limitations. This study was conducted during three months in Western India, so time was a constraining factor. Also, my study was funded solely by my own financial means, without any university or foundation funds or support.

The network of Education for Sustainable Development in India reflects the nascent status of ESD itself. It remains fractured and lacks the depth and institutionalization of other types of more established educational networks. As I relied on this network to establish my sample, I recognize the possibility of having completely missed some circles of ESD operating outside of the network of organizations I was able to contact. Organizations engaged in Education for Sustainable Development often lacked means to broadcast their achievements, although with the internet they at least had some means of projecting their organizations to the larger world. Some organizations may be involved in local matters and see no need to broadcast their message internationally. Lists of organizations are few and mostly incomplete. Even the UNSESCO page dedicated to Education for Sustainable Development fails to list more than a few successful examples of Education for Sustainable Development in India.

Chapter 4: Results

4.1 Introduction

Modern western societies have long defined India as a land of a million villages, immune to many of the vices of industrialized states and full of ancient wisdom (Luce 2007; Kamdar 2007). However, the subcontinent's more recent transition away from traditional society into modernity have led to new stereotypes: India is over-populated, full of industrial pollution, urbanizing at an uncontrolled and destructive pace, and the people there are unable to prioritize the natural environment given their many immediate needs (Chakrabarti 2009). I shared some of these beliefs before my fieldwork. Arriving in India, many of my assumptions concerning eminent environmental catastrophe were immediately reinforced. Masses of humanity crowded my sight in every direction; consumer culture sprawled, with new highways already choking with Tata Nanos; cities brimmed with optimism and dot-com driven business booms, all under ever-loftier skylines, obscured by hazy clouds of industrial smog. Every look brought my fears about carrying capacity to the fore. Yet, like always, the reality was far more complex. My same initial glances of India also captured hopeful details: auto rickshaws designed to run on cleaner burning natural gas, an urban tree planting campaign to green downtown, and scavengers from the untouchable classes rescuing recyclable materials from street trash. Upon further exploration, I found the efforts of countless Indians, coming together in community based groups and non-governmental-organizations to make substantial strides towards a greener and more sustainable India. Ultimately, although my earlier stereotypes were not unfounded, they were grossly simplistic and ignored the nuanced

realities of the complex problems and emerging solutions to the issues facing contemporary India.

My study takes place mainly in Gujarat, home state of Gahndi, and adjoining Rajasthan state. The Times of India compares Gujarat to California, pointing out that both are semi-arid costal states, particularly susceptible to the affects of climate change. Both are prosperous industrial states within large countries. Average incomes are much higher in California, over 20 times as high as Gujarat. Gujarat is also much more densely populated; although California is nearly twice the size of Gujarat, the Indian state has over 60 million inhabitants, while the population of California is nearer to 40 million (Times of India 2009).

Ahmedabad, also known as Amdavad, the capital of Gujarat state, served as my base during my three-month study. It is a mega metropolis, with nearly 7 million inhabitants, transected by the river Sabarmati. Ahmedabad traces its historical roots to the 15th century when Sultan Ahmed Shah founded the city as his capital. Known as the Manchester of India for its industrialization and profitable textile industries, Ahmedabad is now transitioning into more service oriented and high-tech industries, exacerbating the rich – poor divide, and fueling growth which makes it one of the fastest expanding cities in the world.

In this setting, I looked at Education for Sustainable Development in six organizations: Self-Employed Women's Association (SEWA), Management Education Center on Climate Change at the University of Gujarat, the Honey Bee Network, the Center for Environmental Education, the Barefoot College, and Vikram Sarabhai Centre for Development Interaction (VIKSAT). My study has been limited to six case studies

mainly by practical concerns, such as time constraints and financial limitations. However, the six case studies are able to capture some of the most salient examples of Education for Sustainable Development in the region, and provide a diversity of organizations that enables some means of comparison, as well as the possibility of identifying trends and differences. In this section I have included the case studies of these organizations. A discussion of the themes and major findings follows each of the organization case studies.

4.2 Self-Employed Women's Association

SEWA, the Self Employed Women's Association, is found in a low high-rise Ahmedabad independence era office block, overlooking the Sabarmati River and the community of informal housing hugging the river bank. The long lines of white linens, from the city's upper-classes, cleaned daily by self-employed women, are clearly visible drying in the hot summer sun from SEWA's fourth floor windows. The austere office space, reflecting the guiding philosophy of Gandhi, seems out of an earlier era. Even the computer in the office looks outdated; administrative work is still mostly done the old fashioned way, with stacks of paper everywhere. The archive consists of bookshelves full of haphazardly arranged materials, although SEWA is slowly transitioning into the digital age according to the administrator I am here to meet with.

Ela ben Ramesh Bhatt, a woman from an educated and financially secure family, founded SEWA. Like many NGOs in India, a member of the traditional elite started SEWA to help the less fortunate. Bhatt is now retired and no longer oversees the daily

operations of the organization she founded 40 years ago in 1972 to help the rag pickers of urban Amdavad, but her spirit still looms large over the organization.

The term *self-employed* is an ideological twist Bhatt popularized when she began working with poor women confined to the informal economy to emphasize their entrepreneurial potential and break away from the sometimes condescending language used to describe non-formal work (Bhatt 2006). According to material in SEWA's archive, the organization works towards achieving full employment for its members. SEWA defines full employment as work that provides employment security, income security, food security and social security (at least health care, child care and shelter). Self-reliant implies that women should be individually and collectively autonomous, both economically and in terms of their decision-making ability. SEWA receives funding from NGOs, government agencies, and international organizations like the United Nations, but also receives membership dues from its nearly half million women members. SEWA likes to emphasize its members' contributions towards their empowerment as part of its self-reliance philosophy.

I met with one of the current administrators at SEWA, Pratibha Pandya, a short woman dressed in a simple cotton sori with round glasses; her confident attitude reflecting the sense of empowerment which permeates the organization. Pandya has been with SEWA for 23 years. She started off organizing in a rural area before moving to Amdavad to work with the main office. As an administrator Pandya serves as a liaison with sister organizations and international collaborators. She describes the relationship between the many interconnected organizations that form SEWA with the metaphor of a banyan tree: SEWA spawns new pilot groups like aerial prop roots sent from its

branching crown, these roots eventually reach the earth and take on a life of their own as new trunks, which in turn hold up and stabilizes the ever expanding canopy that is SEWA.

Sister organizations include SEWA Academy, SEWA Housing, SEWA Bank, SEWA Insurance, and many affiliated women's co-operatives, which address the social and economic issues facing self-employed women in contemporary India. SEWA also has strategic worldwide alliances with organizations holding similar values and seeking similar goals, like Streetnet International, a South African alliance of street vendors based in Durban.

SEWA, recipient of many prizes and the subject of multiple studies, articles, and best practices case studies, has achieved a certain level of visibility, so Pandya hosts international visitors not so infrequently. She has also traveled internationally, visiting Paris in conjunction with UNESCO and is currently working on strengthening a sister organization in Kabul, as the SEWA banyan tree begins to take root in Afghanistan.

Despite the international connections and attention, SEWA has not adopted many of the cosmopolitan habits or the transnational vocabulary of many large Non-Governmental Organizations. SEWA derives its terminology mainly from the lives of working women. When I initially asked Pandya about Education for Sustainable Development she confessed ignorance concerning the term, despite the fact that their organization has achieved many accomplishments in this area and is even featured on the official Decade of Education for Sustainable Development web page. A recent report presented at a conference on Community Adult Education in Michigan concluded:

> SEWA academy's innovative training practices promote sustainable development of under-educated adults to help develop critical

> thinking, social, and political consciousness regarding their socio-economic status…Exposure to SEWA Academy's teachings combined with grassroots leaders' sustained efforts to bring awareness and empowerment among isolated females throughout India indicate that a non-Western feminist model has the power of *sustainable development* for low-income working women in India (Razvi 2010, page 6).

Pandya assumes Education for Sustainable Development has something to do with protecting the natural environment and laments that there is not much that self-employed women can do about the environment at this stage in their collective development. In this sense she is referring to the environment as natural wilderness areas in need of preservation. However, Pandya later expands the meaning of environment as something she is more engaged with, the space inhabited by self-employed women: the slums, the river margin, the marketplace, and the streets. These environments are hotbeds of SEWA activity; Pandya points to three environmental factors that continue to rally SEWA's efforts: access to clean water, sewage management, and trash disposal. As SEWA explains in its official annual report for 2010: "Increasingly people are becoming aware of the lack of clean surroundings in our cities and its health consequences. The poor in slums especially, face piling of garbage, filthy and insufficient number of toilets, overflowing drains, stagnant pools and polluted drinking water, which spread disease and make their lives miserable." These issues provide the entryway into larger environmental issues.

Pandya points out that for SEWA every issue branches out, encompassing the entire lives of their members and always comes back to the core mission of the association, empowering women to improve their lives. Pandya acknowledges the reality of mainstream environmental issues, like global climate change, in the lives of her

constituency, especially in its affect on rains for crop production and harvesting of drinking water. However, Pandya sees this as an issue out of the hands of the women in her organization, although ironically it is they whom will most suffer most the consequences of this global-scale change. She points out that the best these women can do is mitigate the climate change effects on their local environments through the construction of check dams, sand bagging, and building wells and water storage tanks.

SEWA's founder, Bhatt, in a retrospective book about the creation and development of the Self-Employed Women's Association describes how she sees the issue of women's livelihoods as integrally connected with issues concerning the environment and sustainable development:

> My sense of community centers around work, but work defined not as an occupation, a job, a career, but as a livelihood. A livelihood is a chain of being. It connects work to ecology, to a sense of community with nature. Livelihood has implicit in it two forms of access: access to nature as a commons and also to the means of production, consumption, distribution and renewal. Renewability involves all three processes: production, consumption and distribution. In recycling livelihoods, you recycle both nature and community. Thus we sustain both over time" (Bhatt 2006).

Even though Bhatt never uses the term Education for Sustainable Development, SEWA literature and projects reflect the ideals behind this movement. Pandya's unfamiliarity with the term *sustainable development* or the decade of Education for Sustainable Development was mainly a semantic issue. SEWA uses other terms, like *Self Reliance*. Pandya talked about coping with environmental calamities like drought with terms like *Livelihood Security*. The SEWA literature describes a vision of achieving sustainable and dignified livelihood activities for self-employed women.

Pandya pointed out the complexity in an environmental project promoted by the city to reclaim and beautify the riverfront, build green spaces and walkways, and shore up the unstable river bank by installing flood mitigation. Many middle-class and elite constituencies see this project as an advance for the urban environment. At the same time it will displace many poor families who inhabit this marginal area. These families see this project as a threat to the livelihoods of the women who use that space to wash linens from nearby hotels and do laundry in the river.

SEWA focuses much of its environmental rhetoric towards their projects in rural areas, which they see as directly oriented towards natural resources. SEWA literature used the term *eco-regeneration*, tying together the fields of economy and ecology. Pandya reiterates a point frequently emphasized in SEWA literature, "forest and nursery workers, it is they who are the worst sufferers in the increasing ecological degeneration and land degradation at the local level." For the self-employed women, it is the union between the environment and livelihoods that draw them to sustainable development. One study found self employed women are especially active in environmental projects that also generate income or protect access to clean water:

> In all of the activities initiated by SEWA, the underlying strategy is to link environmental protection with livelihoods, whereas mainstream state agencies tend to deal with these two issues as mutually exclusive. For example, in Gujarat there are several instances of how the government is allowing extraction of ground water (at times as low as 600-900 feet) from the fringe villages to meet urban demand, with total disregard for the drying of aquifers and the loss of water for irrigation purpose. However, in the case of SEWA, it is observed that women are motivated to rebuild their environmental bases if they are convinced of tangible economic benefits in doing so. Through regular meetings with women and men in the villages, SEWA was able to identify two urgent needs– the need to find non-water based economic work and the need to conserve water, revive traditional sources like

> surface wells and ponds, and create alternative water sources like rainwater harvesting. (Mishra-Panda 2005)

SEWA projects focused on regenerating and protecting forest resources for the production and protection of forestry livelihoods related to the sustainable harvesting of forest products has led to secondary livelihood opportunities, like the Shree Vanlaxmi Ecotourism project, which rents a replanted forest area as a conference and recreational facility. The group also generates income through eco-tours of their projects for tourists and providing conference facilities for groups.

SEWA eco-regeneration projects include not only livelihood and income generating activities, such as tree nurseries, seed collection, organic fertilizer production, and tree planting, but also include awareness promotion activities. SEWA women held 336 environmental awareness rallies in 2004, spreading their messages to over 60,000 people. They also led celebrations in 9 different districts in honor of Environment Day. Women who became involved with Eco-regeneration activities as a way of sustaining their families had progressed into becoming general advocates for the environment as they became more aware themselves of who intertwined their well-being was with that of the environment.

Pandya also points out how SEWA is active in rural agriculture, where many women eek out a living as small farmers. For example, in 2004, 150 women in 16 villages were trained through SEWA in vermi-compost, the use of ground worms to make organic fertilizers. The production of green fertilizers not only benefited women's own farm plots, but they were able to produce an excess of 2450 kilos of vermi-compost, which they sold for 12,250 Rupees. Continuing efforts in this field, which eventually brought green livelihoods to 1.3 million farmers and 2.6 million hectares, led to recognition from

Sierra Club in July of 2009. The Sierra Club pointed out that SEWA members consume less oil and coal based energy, recycle many items in their daily life, productively reuse solid waste when possible, and are eager to use, produce, and manage green technology such on solar lamps. 139,665 SEWA members earned a total income of 1,175 million Rupees through green energy and green livelihood initiatives. Highlighting income generation outcomes from an organic compost project reinforces SEWA's commitment to jointly pursuing economic and environmental goals.

This achievement was made possible through the use of an innovative education program based on the outreach work of barefoot technicians. SEWA has trained thousands of barefoot technician specialized in promoting green livelihoods focused on food security and environmentally friendly and economically beneficial activities for women, such as water conservation, construction and management of water structures, nursery raising, solid waste recycle, fodder growing, vermin-compost production, eco-friendly rural infrastructures, solar lamp production, eco-friendly energy sources, and garment production with eco-friendly fabrics and natural dyes. A document in SEWA archives captures the words of Reema Nanavaty, Director of Rural and Economic development at SEWA, on the occasion of the recognition:

> The Sierra Club has extended a hand of friendship and motivates us to continue to work towards the common goals of fighting poverty with more green and clean measures…While the rest of the world talks and negotiates, we the poor women of India cut down carbon emission…If the poor and women can take leaps towards a green and clean economy the others have no excuse to be inactive. May we invite all Indians, and also all Americans, today to catch-up.

This attitude reveals not only the enthusiasm for mixing sustainable development with livelihoods for the poor, but it also reveals the notion that successful programs in India

feel like they have something of value to share with the whole world, including rich developed nations like the United States. This attitude will emerge as one of the hallmarks of Indians participation with Education for Sustainable Development.

The progression from eco-regeneration as livelihood to activist for the environment is illustrated in the 2004 SEWA annual report through several vignettes, including this one of Rewaben, from a tribal area of Gujarat:

> Rewaben's younger sister was a member of SEWA. She informed Rewaben of SEWA and advised her to become a member of the organization. She became the leader of Savings and also joined the organizing team. After that she developed a tribal nursery and earned 3500 rupees. With this money she was able to construct the roof of her hut. Next year she took a loan of 3000 rupees and sold the saplings which she had grown in the nursery and got good income. A part of this income was spent in household affairs. In the third and the fourth year, with the help of a loan from SEWA, she planted 5000 saplings and earned 6000 rupees. Rewaben started vermaculture along with nursery and by selling those she earned money. Rewaben says with the co-operation and involvement of SEWA she is experiencing a lot of power and confidence. Now with the help of posters and songs she can convince people about the importance of growing trees and she can speak impressively in meetings.

SEWA has portrayed their eco-regeneration through a gendered lens through the *Feminine Forests* project, described in their 2004 annual report:

> The situation of female agriculture workers is even worse [than the situation of urban self-employed women]. There exists unemployment, unfulfilled household demands of water, fuel and other NTFPS, which escalates due to severe environmental conditions. To tackle these unfavorable circumstances SEWA undertook and still continues a lengthy struggle for the rights of rural poor women considering forestry related income generating and re-generating activates.

Several reports have exposed the marginalization of women in forestry projects throughout the history of India's environmental movements. Agarwal points out that

women often take collective action and organize for natural resource management differently than men, often times more successfully (Agarwal 2000). This gendered difference would give more importance to an organization like SEWA that has been so successful in giving voice to such a large and traditionally excluded segment of Indian population. Mishra-Panda explained at a conference in Thailand dedicated to Gender and Collective Action:

> In India, there are several instances of people coming together at the community level to protect and develop land and forests or conserve and revive water sources. However, in such indigenous community-level institutions, women by and large have been accorded a secondary status with respect to their role in decision making and management of the resources, although in reality they may be active in different tasks related to the protection or conservation of the resource (Mishra-Panda 2005)

Pandya referenced the importance of Gandhi, whom she referred to using the endearing name Gandhiji, and his philosophies for SEWA. This is reflected in SEWA's webpage, which states:

> Gandhian thinking is the guiding force for SEWA's poor, self-employed members in organizing for social change. We follow the principles of satya (truth), ahimsa (non-violence), sarvadharma (integrating all faiths, all people) and khadi (propagation of local employment and self reliance).

Pandya further explained that SEWA always takes a grassroots, bottom-up approach, and never impose anything on the women. Pandya emphasized the importance of self confidence, self esteem, and self expression for the self-employed women. Ultimately she expressed faith that when women make decision to improve their lives and their livelihoods, the community and environment at large will benefit. Bhatt explained her faith in altruism in an interview, stating: "we only knew the words *sewa karo*, which

Gandhi*ji* taught us…It meant we had to give something to society without expecting anything in return." (Amin-Shinde 2006).

4.2.1 Discussion

SEWA is an organization primarily focused on economically empowering traditionally marginalized women. In an effort to achieve this goal, it has developed a variety of Education for Sustainable Development programs. Despite this work, the organization is largely unaware of the larger Education for Sustainable Movement. SEWA came to ESD primarily through a problem-solving framework.

The organic movement towards Education for Sustainable Development has been very bottom–up. Since many self-employed women in India face environmental problems and issues dealing with access to and management of natural resources, ESD has become a major issue for the organization.

Members of SEWA usually have little formal education, so the organization focuses on practical solutions to women's problems that can be implemented by even the most lowly and marginalized of women. Much of the strength of the projects comes from leveraging group size by organizing traditionally compartmentalized women in the informal labor market into blocks of women seeking to solve common problems. In this way, SEWA's approach to Education for Sustainable Development draws on models used by organized labor movements. In addition to issues of class and socio-economic status, issues of gender are central to the work of SEWA. SEWA acknowledges gender as an additional barrier, due to societal constraints based on gender on decision-making and access to resource management.

SEWA's approach to Education for Sustainable centers primarily on women's livelihoods. Women are not working towards abstract goals or a collective better environment, but they are contributing in ways that specifically reward them financially through market mechanism, such as the sale of products gathered in reforested areas, or through access to vital commodities like clean water or food, that they would otherwise have to purchase.

Because of the use of market mechanism directly relevant to the lives of its members to incentivize participation in sustainable development projects, SEWA's model has difficulty in directly addressing big picture problems, like global warming. However, several SEWA projects help reduce carbon emissions indirectly, for example, improved cooking stoves reduce the amount of money women must spend on fuel, such as firewood, and reduce carbon emissions. Although Climate Change as an issue is beyond the scoop of an organization like SEWA, it does deal directly with consequences of this larger issue, like the impact of irregular monsoon rain on food production.

4.3 University of Gujarat: Management Education Center - Climate Change

I met with Professor YT Jasrai on the main campus of the University of Gujarat in Amdavad. The school's ambitious revival architecture alludes to the optimism of the post-independence era, which gave birth to this institution of higher learning, but the buildings are all showing their age. With students everywhere, it is evident that the university's original scale fails to meet current demand. I find the botany department

tucked away in a generic wing that appears to have been squeezed in to accommodate India's growing desire for higher education. As Professor Jasrai and I chat and drink tea in the professor's cramped office students came in and out to get signatures on various documents. His excitement and optimism for addressing climate change is evident throughout our talk.

The tertiary level of education in India, like the secondary level, has a mandate to incorporate Education for Sustainable Development into its curriculum. In some ways colleges and universities have faced the same institutional, manpower, and general inertia difficulties as the secondary schools in regards to this ambitious mandate, although less documentation appears in the literature. However the higher education sector enjoys a greater degree of independence than the nationally centralized secondary school system, and has been able to produce a few independent success stories. The University of Gujarat's Management Education Center's program on Climate Change is one of the marquee examples.

Jasrai has been integrally involved with bringing about the cross-sectoral Climate Change program. The cross disciplinary nature of the program is evident in the official brochure, which encourages graduates with qualifications in fields as diverse as meteorology, hydrology, agriculture, marine sciences and engineering, construction / infrastructure, manufacturing, environment sciences / engineering / management, or professionals working in Non-governmental Organizations, Community based organizations, or in related fields to apply to the program.

As a botanist, Jasrai has seen and documented some of the negative affects climate change has had on biodiversity in India. He commented on the difficulties local farmers

have experienced with increasingly erratic weather patterns. Gujarat is already a semi-arid region, so farm production is vulnerable to any rainfall irregularities. Jasrai accredits his arrival to Education for Sustainable Development to these climate change related problems, stating, "Sustainability is about problem solving." Jasrai clarifies that he does not consider sustainable development his direct work, rather he identifies with specific projects, like climatic shifts, rising sea level, pollution, and loss of biodiversity.

Jasrai points out that students do not generally identify with the concept of sustainable development, but they are familiar with issues like climate change. Although unfamiliar with the exact terminology, students I talked with expressed interest in the concept of education for sustainable development, and the importance for both development and sustainable practices in India, once I explained what those terms meant. This observation relates to similar results found in a study conducted in England which concluded: "that a majority of student respondents think sustainability is a *good thing*, but their positive response did not particularly correlate with their degree of familiarity with either of the concepts of sustainable development or sustainability" (Kagawa 2007, page 317). In other words, students, at least those surveyed in Gujarat and England, generally believe sustainable development is a good thing, even if they do not know what sustainable development means.

Jasrai feels a responsibility to include new materials in classes, like the idea of sustainability, and use issues like climate change to make it applicable and of interest to his students. Jasrai also emphasized the importance of getting students involved in actual projects related to sustainable development, like his *Green Lungs* project, in which he takes students around the city to conduct a census of urban trees. The Climate Change

program brochure reflects this idea, quoting Kartikeya V Sarabhai: "Climate change education aims not only at creating awareness about the causes, effect and concept of climate change but also motivate people to take actions towards a more sustainable future."

Although Jasrai works primarily with students, he does not dismiss the importance of reaching out to other groups as well. In particular, Jasrai tries to debunk the stereotypes surrounding rural or less educated people as closed to sustainable development. He explains that many people believe that the rural poor are conservative when it comes to considering new ideas. However, Jasrai states that in his experience farmers have been willing to adopt BT [plants genetically modified to produce the biological pesticide bacillus thuringiensis] and other genetically modified crops that help mitigate the environmental impact of pesticide use in food production as long as they can improve their lives economically at the same time. Jasrai maintains that in India, "most interest in sustainability is pragmatic, not ideological." He cites the example of green farmers. "This was mainly a response to rising farm inputs. Fuel and fertilizer prices stimulate interest in organic solutions; increasingly expensive pesticides stimulate interest in IPM [Integrated Pest Management]. This is not necessarily driven by passion, but a desire to solve problems."

Jasrai highlights the importance of using appropriate vocabulary and teaching methods when trying to engage diverse populations. He states: "Sometimes traditional beliefs serve as an entryway to introduce the idea of sustainability to people in the rural areas and youth. It is very important to use appropriate language and packaging to reach different audiences, and not alienate people with botanical jargon. We want to use their

stories and promote traditional wisdom." He gives the example of the Bishnois, gods and goddesses associated with natural forces, maintaining that many people respect nature because they believe it is sacred, and this is a way wisdom concerning sustainable living has been transmitted from generation to generation in India. In thinking about sustainability, Jasrai harkens to the inter-generational definition produced by the famous Brundtland Commission. He states, "Sustainability is not about a decade, but generations; not for us, but for our progeny, and their progeny."

Jasrai laments that India has sacrificed so much in its rush for modernization. Now in response to new environmental and economic issues brought about by this modernization, Jasrai has observed a revived interest in the wisdom of the past. For example, Jasrai points out the increasing interest in herbal remedies in response to the high price or limited availability of western medicines. These however can spawn new problems, like the decline in certain plants due to unsustainable harvesting and sometimes-illegal export. As a professor, Jasrai prioritizes the use of the scientific method in producing new research. However, he is open to various philosophies and alternative sources of information. He wants to instill an appreciation in his students for modern science, but not at the expense of traditional/indigenous knowledge.

In addition to autochthonous sources, Jasrai expresses willingness to borrow strategies from foreign countries like the USA to catch-up, and optimistically hopes that India may leapfrog forward and produce new environmental insights or technologies which may benefit the world at large. This idea is echoed in the official program brochure in which Kartikeya V. Sarabhai proclaims: "We need to learn form the mistakes of the industrial revolution especially in term of waste creation, and leapfrog our way to a more

sustainable development." In this statement we also see a distancing from the Industrial Revolution, which is easy to read as a Western Concept.

We can further see the interplay between India and the west in another quote selected in the official Climate Change program brochure, this one is from Prime Minister Dr Manmohan Singh at the General Debate of the 63rd UN General Assembly: "India has unveiled an ambitious National Action Plan on Climate Change. Even as we pursue economic growth, we are committed to our per-capita emissions of greenhouse gases not exceeding those of the developed countries."

These two examples illustrate an attempt to separate Indians from the blame, or at least minimize its culpability, for major planetary level environmental problems. At the same time the quotes illustrate a desire to be part of the solution and the underlying belief that India can come up with problem solving ideas and technologies that will benefit the entire planet.

We can see the interplay between admiration for the leadership the Western developed countries have provided on environmental issues and the North-South tensions contrasted to environmental blame in an article reporting on the inauguration of the Management Education Center on Climate Change in the *Times of India*. The article published in May 2009, simultaneously excoriates the administration of President Bush for failing to ratify the Kyoto Protocol and lauds California Governor Arnold Schwarzenegger for signing the executive order to create the California Global Warming Solutions Act of 2006. The article goes on to point out how, "Gujarat can show the world and, especially other developing countries, how we [Gujaratis] can be responsible global citizens," referring to the creation of the MEC-CC as a first and timely step

towards "a new paradigm of sustainable development, one which is also carbon-neutral…We need to move from SEZs [Special Economic Zones] to what we call SDZs, Sustainable Development Zones."

Likewise, the official MEC-CC brochure boasts international speakers as part of the program, indicating the prestige and appeal outsiders are still perceived to have within the Indian educative system. At the same time, Jasrai sited the importance of Gandhi's philosophy, and specifically mentioned Gandhi's family goat as an apt metaphor for sustainable development. Before our meeting ended, Doctor YT Jasrai gave me a copy of Gandhi's book, *The Story of My Experiments with Truth*, and emphasized again how linked Gandhi's philosophy and life example were to sustainable development.

I found websites advertising the Climate Change degree available from Gujarat University under headings like: "How to cash the green opportunity." Indian blogger Niti Sinha writes on the Earth Care Optimized site, "India is likely to generate millions of green job in the coming years. The opportunity for the young, eco-conscious professional to have a great career while contributing to the green cause is just beginning to open up. But do you have what it takes to be a *green collar boss*? Several *green* management courses are preparing young students to make the dream of sustainable development, a reality." She then goes on to mention the University of Gujarat program. Indeed, the official brochure describing the program uses language adapted for the modern competitive educational marketplace that is emerging in India. MEC-CC describes its courses as providing "value added education and training" and "the call for action is to deliver locally relevant solutions integrating state of art knowledge and tools."

4.3.1 Discussion

The University of Gujarat's Climate Change program is a much more formal example of Education for Sustainable Development than SEWA, yet, it still retains very practical aspects in its philosophical approach to ESD. It employs an inter-disciplinary and multi-sectoral approach, as recommended in so much of the Education for Sustainable Development literature.

The Management Education Center – Climate Change program presents global warming as a problem, which directly impacts the development opportunities, economic outcomes, and livelihoods of Indians. The issue is not politicized to the same degree as in the United States, where for political reasons some authorities still dispute the validity of Climate Change science in order to protect those who benefit the status quo. India as a nation has traditionally had very low per-person carbon emissions levels, and is particularly vulnerable to climate change, with a large coastal population susceptible to ocean level rise, areas vulnerable to either desertification or flooding, and dependency on Himalaya glacial ice for water security. Thus India disproportionately suffers from the consequences of global climate change, while does not benefit to the extent of fully industrialized countries from carbon emitting fuels. This stance may change as India continues to modernize its economy and increase its demand for carbon emitting industries.

Some of the MEC-CC content and curriculum is built on solving local environmental problems, although part of the curriculum is more theoretical and abstract than what we see in the other ESD projects examined. In addition, even though the program is oriented towards graduate level students, there is an emphasis on application for all segments of

the population and teaching students how to relate to and communicate with people from different educational levels and backgrounds.

Although the philosophy of Gandhi is not overt in materials, it is a strong driving force in the personal life of Professor Jasrai, who has also attempted to incorporate elements from India's history and traditional knowledge into the curriculum. However, it is clear that the university setting and the program specifically is very much in the mold of modern western education, with its use of text books, exams, and certification. This very formal type of education contrasts with less formal programs, such as those developed by Barefoot College and SEWA.

The program is also an example of collaboration between several types of organizations. Although it is housed at the University of Gujarat, it receives support from the Center for Environment Education, and organization also studied in this paper.

In line with the livelihoods approach apparent in other Education for Sustainable Development projects in India, the University Climate Change program emphasizes the potential job related or commercial applications available to students through this program. Furthermore, the program is tied ideologically to development and the greater India narrative.

4.4 Honey Bee Network: Society for Research and Initiatives for Sustainable Technologies and Institutions

I met Anil Gupta at the gates of the fortress-like Louis Kahn designed Indian Institute of Management, Ahmedabad, where he is a professor. Dressed in a simple cotton tunic,

his wise face adorned with a white beard and thin rimmed spectacles, he suggests I conduct the interview while we walk to a student action group he is meeting off-campus. Occasionally I need to ask for Professor Gupta to repeat a point due to traffic noise, or as he makes an unexpected turn down a short-cut, or fearlessly darts across a busy street. Gupta believes walking facilitates communication, and cites multiple occasions in which Gandhi used mass marches not only to demonstrate opposition to unjust laws, but also to provide his followers opportunities to talk, listen, and clarify their own philosophies. He tells me about how he regularly conducts multi-day walks through India's vast and varied rural regions as a means of meeting common people and learning from them. He laments how detached from ordinary people many powerful decision makers in India and the world have become.

Gupta has succeeded in institutionalizing his walking approach to learning at the Indian Institute of Management, Ahmedabad. He calls this component of learning: *Shodh Yatra* – journey of explorations. Gupta explains *Shodh Yatra* as a module during which students spend a week trekking through India's villages to unearth traditional knowledge and grassroots innovations that have simplified the lives of people and significantly contributed towards the conservation of biodiversity. The now15-year-old trek has covered 5,500 kilometers since it began and has become a favorite among students. Gupta believes Education for Sustainable Development should be further institutionalized by requiring graduates of his prestigious institute to live and serve in the rural communities of India, not only because Gupta believes these communities are the ground-zero for the emergence of new and creative solutions for sustainable development, but because he thinks tertiary education in general is to theoretical, and that

the entire system could benefit from a healthy dose of practical experience. Gupta states in an interview: "It is compulsory for doctors in India to serve in rural areas before they receive their final degree. This should be done for engineers and managers also…you realize that sustainable development does not end with a statement. Rather you have to live it every day."

Gupta deeply believes that the poor working people in India hold a vast store of innovative ideas useful to society at large. He believes that documenting, cataloging, and disseminating these innovations has the potential to increase the productivity of India's large informal sector and even boost aspects of the formal economy. He maintains that the dire daily circumstances of the poor force them to innovative, but that many of these innovations go unnoticed or are copied and stolen by more privileged individuals. Gupta's passion is to recognize innovations and protect the intellectual property and dignity of the usually neglected poor inventors, and to stimulate sustainable development by connecting working individuals with productive ideas.

Gupta keeps a wealth of anecdotes highlighting successful innovations from the poor workers at the tip of his tongue and easily recites an impressive list during our chat: a coconut tree climbing apparatus, an amphibious bicycle, a bicycle plow, a micro-windmill battery charger, a pedal operated washing-machine, are just a few he rattles off of the more than 150,000 cases that have been documented so far by the Honeybee Network, an organization he helped found nearly 25 years ago in 1986. He doesn't want to spend too much time explaining this project because he says anyone can read all about it on the Honeybee Network website.

Gupta emphasizes repeatedly that in any relationship, first you must give, then you can take. The Honey Bee Network encapsulates this symbiotic relationship. Gupta relates the relationship the network strives to cultivate with grassroots innovators through the metaphor of a honeybee.

1. Just as flowers don't complain when their nectar or pollen are taken away, people should not complain when their knowledge is documented by outsiders. They should be acknowledged by their name and address and their intellectual property rights should be respected.
2. The bees perform a very important function of cross-pollination thereby enriching diversity and maintaining nature's cycle. Unless we communicate in local languages and in a manner that people can understand, people to people linkages will not be established. We should ensure that opportunities for people to people learning are given first priority in any social knowledge exchange.
3. Whenever any wealth is generated by disseminating the knowledge through commercial or non-commercial channel after adding value or without it, a fair share should go back to the people whose knowledge has made that wealth possible.
4. Before disseminating people's knowledge or bringing it in public domain, their prior informed consent should be taken.

The Honeybee philosophy turns the tables on conventional development work by stating: "It is a model of poverty alleviation and conservation of natural resources which builds upon particular resources in which poor people are often rich i.e. their knowledge. In many cases, the insights learnt from local innovations can even extend the frontiers of modern science." Gupta explains that a great asymmetry in power relationships exists in this world; between formal and informal sectors of science, technology and economic enterprises, and that organizations like the Honeybee Network help ameliorate these imbalances.

Another part of Gupta's philosophy is simple living, and this brought out some pointed criticisms he had for the affluent world. "Not everyone is feeling the realities of resource constraints," he mentions in reference to consumer societies like those found in United States and Europe, and even some segments of the Indian population, "but the correction is unavoidable, we will all need to learn simple living." The "correction" Gupta refers to is an inevitable reduction in consumption due to the finite constraints of Earth's resources. Gupta believes that world demographics make it impossible to imagine the planet sustaining the resource intense lifestyles that many people have come to enjoy thanks to their unsustainable consumption of the planet's finite environmental resources.

Gupta continues his criticism of what he sees as hypocritical efforts promoted as green or environmentally friendly. He points to the organic food industry. Many of the goods touted as 100% organic wealthy consumers are buying in fancy supermarkets are actually dependant on manures derived from an unsustainable cattle industry. He claims that a historical debt exists in the world if you analyze how the prosperous nations obtained their positions of prominence, not only with the poorer nations of the world during the exploitation of colonialism, but with the natural world through a continuing systematic and unsustainable exploitation of natural resources. Gupta did not shy away from the North-South debate by pointing out that the total amount of greenhouse gases emitted currently and historically by the rich developed nations far outweighs those of the poorer nations, and the imbalance is even starker when considering per capita emissions.

Quoting from Gandhi, Gupta reminds me that, "Earth provides enough to satisfy every man's need, but not every man's greed." Gandhi's influence is evident throughout

the Honeybee Network. Raghunath Anant Mashelkar, chairperson of the National Innovation Fund, an organization set up by the Indian government to support and strengthen the efforts of the Honey Bee Network and the Society for Research and Initiatives for Sustainable Technologies and Institutions, speaks directly of Gandhi's legacy on the organization. In a TED talk given in November 2009, Mashelkar reinterprets one of Gandhi's teachings, explaining, "I would prize every invention of science made for the benefit for all…You must get more from less and less and less, so that you can share it for more and more people, not only the current generation, but the future generations."

Mashelkar also forays into the North-South debate trying to address the perceived balance of trade in world ideas which traditional interpretation tends to tip in favor of the North. Mashelkar maintains that the South has already contributed greatly to world development. He makes this point rhetorically saying: "India gave a great gift to the world. What was that? [In the] 20th century, we gave Gandhi to the world" (Mashelkar 2009). He goes on to push the point by implying India has even greater contributions to make in the present field of sustainable development, and its future: "The 21st century gift, which is very, very important for the whole world, whether it is global economic meltdown, whether it is climate change − any problem that you talk about is gaining more from less for more and more − not only the current generations, for the future generations. And that can come only from Gandhian engineering. So ladies and gentlemen, I'm very happy to announce, this gift of the 21st century to the world from India, Gandhian engineering."

Gandhian Engineering, as defined by Mashelkar, emphasizes improving the lives of the poor by not by giving products away, but by providing quality affordable goods to more and more people to purchase. Mashelkar summarizes this as, "Getting more, from less, for more." It is similar to the approach advocated by Coimbatore Krishnarao Prahalad in his 2004 book, *The fortune at the Bottom of the Pyramid: Eliminating Poverty through Profits*. Mashelkar points to how through this Gandhian Engineering, Indians have been able to produce an ultra low cost car, the Tata Nano, and countless ultra low cost medications. By ultra low cost, Mashelkar explains, "[I am] not talking about affordability, [I am] talking about extreme affordability…for the four billion people whose income is under two dollars a day."

Gupta sees Gandhian Engineering emerging from all segments of society, and reinforces the need to acknowledge and protect the intellectual property of the most vulnerable innovators. He believes that it is only with the aid of this great, and mostly untapped, reserve of problem solving capacity will we be able to tackle the planets most vexing threats. Gupta believes that the ultimate solutions to achieving sustainable living in India will come from the Indian people themselves. He explains this while expressing his pessimism concerning the global Education for Sustainable Development movement promoted by so many international agencies: "I am not very optimistic about these platforms. The solutions to India's development needs will not come from Rio but from strong leadership within the country. Education for sustainable development has the potential to bring this change and our universities can play a significant role."

4.4.1 Discussion

Honey Bee Network retains strong ties to Gandhi, both historically and philosophically. Anil Gupta and Raghunath Anant Mashelkar mentioned Gandhi repeatedly. They both emphasized the relevance of Gandhi's philosophies and their potential for aiding the world at large.

The Honeybee Network again provides very strong support for self-sufficiency and provided mechanisms for the poor to bring about their own betterment. In this way the network is an example of a bottom-up approach to poverty alleviation. Also, the mechanisms favored are compatible with a larger capitalist framework that supports monetary compensation for innovations and values intellectual property. In this case the Honeybee Network wants to extend some of the laws and practices that protect and promote innovation and intellectual property in the formal economy and the world of business, to the lowlier segments of society. Gupta and Mashelkar do not advocate for a rupture with the current economic system, only a modification to guarantee fair participation to everyone, especially those who have been traditionally exploited by the powerful through overlooked bending of the rules.

The Honeybee Network consists of a mix between erudite university trained professors and professionals and working class Indians with minimal formal education. Part of the mission of the network is to highlight contributions from people typically labeled undereducated and ignored.

Mashelkar differs in his background than the typical prototype I saw in other projects. Whereas many organizations were founded and lead by conscientious members of the upper classes, Mashelkar emerges from a very humble origin. It is through his own

studies and public schools and scholarships that he rises to great heights and is able to make his contributions to Indian society.

Gupta does not shy away from the very politically charged debate concerning North-South relations. However he does not dwell on the past or make demands for retribution, instead he likes to illustrate how the tables can be turned and countries like India can help drive future innovation.

Parts of Gupta's advocacy of the simple life seems somewhat romanticized, and it is unclear what mechanisms would encourage people to adopt this lifestyle before an actual demise of natural resources occurs.

4.5 Centre for Environment Education

The Center for Environment Education is a national institution engaged in developing programs and material to increase awareness and concern, leading to action, regarding the environment and sustainable development. The Center for Environmental Education is the reason I chose to do my study in Gujarat. Although it was not featured as a case study in the World Conservation Union's tome on Education for Sustainable Development, it was commended for its teacher education for sustainability program in over 70 colleges (Tilbury et al. 2002).

When the Center for Environment Education was founded in 1984 it was on the very outskirts of Ahmedabad, but over the past three decades urban growth has totally engulfed the large green campus, leaving it as an isolated oasis surrounded by sprawl. The low rising buildings are surrounded by botanical gardens and trees, and peacocks are frequently heard or seen showing off their flashy feathers. Although it started in

Ahmdebad, its projects' national scope and goal to change at least one school in every district of the country have required satellite offices which are now found in every region of the nation. The Ahmdebad office remains the nerve center for the entire operation, due in no small part to the presence of Kartikeya Sarabhai, founder of CEE and son of legendary Scientist Vikram Sarabhai, the Father of the Indian Space Program and one of the nation's most preeminent scientists during the early post-independence era.

Karitkeya Sarabhai, the charismatic founder and director of CEE is highly connected with the international Education for Sustainable Development movement; he is often photographed and has an extensive web presence, making him one of the most recognized environmentalists in India. I was able to interview him during a conference held at the CEE headquarters, but due to his busy schedule I was not able to go in depth, so I worked more closely with one of the younger professionals in the organization, and Sarabhai's extensive written and recorded material.

The Center for Environment Education is one of the most interconnected organizations with the greater transnational world of Education for Sustainable Development. Sabrahai expressed this openness in an interview with Silver Dollar Cameroon on *The Green Interview* stating: "[The CEE] may look large from the outside, but considering the problems-per-capita, it is nothing, a drop in the ocean. So we have to rely on partnerships and relationships, with other people, other organizations, other governments. You can connect two people anywhere in the world. Every time I go somewhere I pick up one or two ideas."

The Center for Environment Education is different from the other organizations I visited in its approach to the environment. For one, it was the most overt advocate of directly experiencing nature. Its web site clearly advertises this fact:

> CEE has several programs on experiencing nature, guided by a strong belief in the value of learning through direct exposure, enhancing appreciation of the beauty and interrelatedness of nature, and promoting learning by methods that are inherently fun. It sharpens observation, brings fresh insights to the familiar and the obvious, compelling revision of popular beliefs and dispelling common misconceptions. Many individuals, having undergone such exposure, are inspired to embark on their own voyages of discovery about the environment.

The CEE was also the only organization to clearly and directly reference Education for Sustainable Development and contextualize its organization within the world ESD movement. The Center for Education and Environment is the main partner of United Nations and UNESCO in promoting the Decade for Education for Sustainable Development in India. The website repeatedly references world Education for Sustainable Development benchmarks, like Agenda 21 and the Earth Charter, and assumes a familiarity in its readership with these documents and the concepts behind them. It is no surprise that the inaugural conference of the Decade of Education for Sustainable Development was held in Ahmedabad at the Center for Environment Education from January 18-20, 2005, bringing together more than 900 participants from over 50 countries.

The CEE sees itself as a leading advocate for Education for Sustainable Development in the South. In 2007 it started a journal devoted solely to this topic, the Journal of Education for Sustainable Development. It was designed to provide a forum for the voices from the south that were often missed in the North. This journal stated in its

mission statement: “We solicit articles from academics and practitioners in the developing world, along with those in the industrialized world. This focus on developing world research sets JESD apart from the other leading English-language academic journals, which focus mainly on the United States, Australia, UK, and Canada.”

There is some confusion at the CEE between the terms Environment Education and Education for Sustainable Development. The website uses the terms at times interchangeably and at other times slightly differently, although it never puts them in conflict. Prashod Sharman, one of the young professionals I interviewed confessed, “It is difficult to see the difference in all the terms, like Environment Education and Education for Sustainable Development. It is something we are talking about currently and I still can’t completely answer that question. The way I see it, the environment was the highlight and economics were more subtle, but now that is changing.” Indeed, the website also alludes to Environmental Education as the pioneer behind much of the work in Education for Sustainable Development, implying that ESD is simply a more complete outgrowth of EE. The website also states that Environmental Education becomes Education for Sustainable Development when it intersects the areas of economics and social sciences.

Of course when the Center for Environment Education was started back in the 1980s the term Education for Sustainable Education did not exist, so by choosing the name Center for Environment Education, the term Environment Education has been preserved and is thrust into usage perhaps more often then it would if the organization had taken some other name and allowed the term to organically morph through different forms as it

has at so many other agencies I visited. The Center has retroactively inserted Education for Sustainable Development into its moment of genesis. On the website we read:

> The original proposal for creation of CEE submitted to Government of India in December 1983 stated its objectives as follows:
>
> > Unless Environmental considerations are built into development plans, the latter's long term viability is at stake. This can only be achieved through widespread awareness and understanding of environmental issues and the interdependence of man with his environment. Against this background, the creation of an institution specifically devoted to environment education would be a far-sighted and significant action. The setting up of such a Centre, while giving a unique opportunity to mobilize and direct the national environmental education effort also places a tremendous responsibility on it. Its tasks become all the more challenging given the enormity of the problem and the economic constraints of the country.
>
> Sustainable Development and Education for Sustainable Development was, thus, very much a part of CEE's objective.

This version was corroborated with an employee who stated, "We have always talked about cost benefit analysis and the economic implications of Environment Education, since the beginning." At a conference I participated in, Sarabhai made a comparison between the environmental movements in different parts of the world: "In India we have inherited a Gandhian vision, which attempts to address many objectives and goals. In the West there is a more McKenzien drive to maximize single variables, like GNP growth." The generalization portraying Indians as willing to approach problems more holistically than Westerners was repeated several times during my stay at the CEE.

While discussing the terms Environment Education and Education for Sustainable Development, Sharman brought the argument back to the history of the development of the environmental movement in India as compared to the United States. "Environment

Education in Western countries is different than Environment Education in India. EE took different paths of emergence. In the West, there was much more emphasis on nature education and wilderness protection, in India the emphasis was always on people's immediate living space environment…We have never had anything like wilderness here, India has always been populated, throughout history." Speaking in very broad terms, he went on to explain how the Indian people-centric vision of the environment differed from the Western nature-centric version. "In India, the components of Education for Sustainable Development have always been present. We began with issues like drinking water, sanitation, and rural development. For us Environment Education has always been broadly defined…Here in India, Environment Education was linked to issues of poverty from an early stage." This discussion seemed to echo Indira Gandhi's famous words connecting poverty and pollution from the 1972 Stockholm Conference.

As I talked with more and more people at CEE it became evident that there were differing views on the advantages and disadvantages of different terms, however, the general consensus was that there was too much work to be done to get bogged down in external conflicts. I participated in a Civil Society Consultation serving as a follow up to Rio '92, Agenda 21, and the Johannesburg Plan of Implementation, in which the moderator specifically implore participants not to waste the day's session debating semantics, and to focus on issues of substance. What followed was a nuanced debate concerning the Green Revolution in India, desertification, food security, watershed management, and echo-technology, without a single mention of the differences between Environment Education and Education for Sustainable Development.

The results of this session would be passed on to the official Indian delegation for future negotiations at the next Education for sustainable Development conference. The Center for Environment Education often plays this role. I was told by a man sitting next to me, "We [CEE] play a role in informing decision-makers in Dehli of the perspectives of various stakeholders whose voices are not always heard at such high levels. We are part of civil society. You can't see all of the problems when you're sitting at a desk in a big building in Dehli." The CEE website reflects this view: "The methods employed [by the CEE] include working with communities, sharing knowledge with policymakers, and capacity building at sub-national, national and transnational levels. These have yielded opportunities to meaningfully bring learning and insights from the grassroots to bear on policies and actions." Sharman would also mention this important aspect of CEE's role in Indian society, "We want to host open forums and facilitate dialogue, we believe in democratic principals, India is, after all, the world's largest democracy."

On the world level, CEE hopes to affect international agendas, but at home, they would really like to see stronger laws enacted and enforced. Sharman explained: "On issues pertaining to sustainable development we demand laws with teeth, not just notifications. There are a lot of people making lots of money in India; we need mechanism that will get them to follow the rules."

Despite some of these more high profile CEE accomplishments, ultimately, what the CEE wants is for people to bring about change on their own. For this to happen, Sharman points to the importance of education as the foundation for all the work the CEE is trying to do:

> Everything starts with education. We don't want to dictate to people which side to take in today's debates, we want to empower people

> with information so they can make their own decisions and understand the consequences of their choices. For example, it is not up to us to tell a family that buying a Tata Nano is good or bad for sustainable development.

Sabrahai, echoing Frerian thought, reemphasized the need for a new kind of education in order to achieve the aims of education for Sustainable Development. He said: "We here in India have a tradition of seeking gurus to convey to us their wisdom. We have had a very hierarchical view of education from guru to disciple. To achieve our goals we need a new kind of education. What we need is an integrated way of thinking, what we need are empowered citizens."

Sharman expressed his difficulties in getting people to connect their action to environmental problems, and even more difficulty in achieving behavioral change: "A great challenge with Education for Sustainable Development is getting people to see the connection between cause and effect, especially over the long term, and even more so when you're talking about intergenerational links between cause and effect… It's easier to educate youths who are at influential age; this is the importance of reaching out to schools." Sarabhai also mentioned this difficulty and framed it as a dissonance between competing time horizons, the long view versus the short term: "People's relationships with the environment are changing quickly, especially in rapidly developing areas like Gujarat. That's why CEE has programs dedicated to what it calls urban sustainable development."

Sarabhai uses the metaphor of an Indian sori to explain how Education for Sustainable Development can work across India's vastly diverse population. He explains that the sori is just a piece of clothe any Indian can wear, it is the user who brings the

personality to the garment, wrapping it in the way they feel most appropriate to their circumstances.

4.5.1 Discussion

The Center for Environment Education was the only organization in this study to directly associate with the larger global Education for Sustainable Education movement. The CEE has been connected to and reflected the historical lineage of the world environment movement trajectory. The CEE has even reinterpreted its own past through the lens of ESD to show how even in the era predating Education for Sustainable Development its mission was in tune with what it now considers ESD.

The CEE enjoyed the most direct ties with the Indian national government and international intergovernmental bodies, like UNESCO. Consequently the rhetoric produced by the Center for Environment Education closes parallels world trends, and staff commonly uses ESD vocabulary.

Like many of the Indian Education for Sustainable Development case studies, the Center for Environment Education provides innovative approaches to ESD, which have been studied and documented internationally. In addition, CEE actively participates in the development of ESD philosophy, publishing a journal dedicated to the topic, hosting international conferences, and sponsoring scholarly research in the field of ESD.

The Center for Environment Education benefits from a celebrity-type director in Sabrahai. His ability to communicate using various types of media, including print, television, and internet, project the reach of CEE, which in turn strengthens the overall financial security of the organization. A strong champion figure seems to be a trait

common in the organizations I studied, although the strong champion figure may have made these organizations more visible, leading to my choosing them for the study.

Despite its size and large bureaucratic structure, the scope and variety of ESD projects offered by the Center for Environment Education exceed that of any of the other case studies in this paper. CEE even has some nature-based projects, focused on the enjoyment and protection of natural areas, which differs from the livelihood focus of most projects I examined. The organization also has a special focus on education youth and instilling sustainable development values at an early age. This differs from most of the other organizations I examined which mostly target adults and working individuals.

Despite some emphasis on nature-based projects, the overall aim of CEE remains very people-centered and focused on solving environmental problems that impact Indians' lives. The Center for Environment Education also recognizes the difficulties inherent in a developing country like India and the increasing consumer aspirations from an emerging middle class. Furthermore, the CEE acknowledges the issue of population growth, but remains divided on how best to approach this issue. Both of these problems expose some of the deeper tensions inherent in emerging economies like India's, and the solutions that emerge could prove useful to the poorer nations seeking development models to emulate.

4.6 Barefoot College, Tilonia Social Work and Research Centre (SWRC)

Barefoot College is found in an arid region of Rajasthan, the Indian state bordering the northeast of Gujarat. The main campus is isolated with no public transportation. I arrived on a local train to the small village of Tilonia and then walked the last mile and a half to the college on a dirt path. It was April, the end of the long dry season, so the only moisture to be found was the sweat dripping from my brow. Then I arrived at Barefoot College, an oasis in the barren landscape. I later learned that a large cistern feed by a rain-harvesting scheme during the monsoon designed by a barefoot engineer sustained the lush green throughout the dry season.

Established by Bunker Roy in 1972, the Barefoot College is a Non-Governmental Organization that describes its mission as, "providing basic services and solutions to problems in rural communities, with the objective of making them self-sufficient and sustainable. These *Barefoot solutions* can be broadly categorized into solar energy, water, education, health care, rural handicrafts, people's action, communication, women's empowerment and wasteland development." While I was at the Barefoot College, Bunker Roy was on a multi-national trip, so I was not able to interview him. I was able to interact with him via email, and had access to several recorded interviews and written material. In addition, I interviewed several staff members and barefoot students during my four-day stay at the college.

The Barefoot College originated form a small group of determined urban Indians from upper middle class backgrounds, who sought out alternative ways of living during

the 1960s. With little resources and no long-term ideas, they chose to start a process of re-learning from the people in different rural parts of the country by living in remote villages. There was no fixed agenda. Their philosophy of Education for Sustainable Development grew organically out of these non-defined learning experiences in the rural villages of India.

The village is integral to the Barefoot College. The official website states, "For any rural development activity to be successful and sustainable, it must be based in the village as well as managed and owned by those whom it serves." The College reaches the remote villages through a network of extensionists, "All Barefoot initiatives whether social, political or economic, are planned and implemented by a network of rural men and women who are known as *Barefoot Professionals*." This term was inspired by the Chinese health workers who were villagers trained to assist their own rural communities in the 1960s. Again, the website explains: "The name [*barefoot*] emphasizes the organization's commitment to poor, neglected and marginalized sections of society."

Development workers at the college explain to me that their focus is trying to find out the needs and priorities of village communities to improve their standard of living and quality of life. Self-sufficiency is a major goal, and the College tries to emphasize this with its own example. The Tilonia campus provides all of its own electricity through solar panels and collects all of its own water through a system of rain harvesting. All of this I was told was designed and built by barefoot professionals, villagers with no formal degrees or training. The college champions "local skills to achieve people-centric and participatory development that was sustainable rather than intimidating them by using knowledge from outside."

Bunker points out what he perceives to be the difference between the Barefoot College approach and that of traditional development agencies: “The approach that big donors and Western-conditioned experts have taken to reach the poor – forget about letting the poor develop themselves – has been patronizing, top-down, insensitive, and expensive” (Bunker et al. 2008). In terms of the terminology, a worker at the college, S Srinivasan, commented in a 1995 interview on the progression of descriptive terms used over the years: “In the early 70s we saw usage of the term *viability*, then came *accountability* - NOW we have *sustainability*” (O’Brien 1997, page 29). Despite the semantic twists and vocabulary used in the development community, Barefoot College has remained committed to its approach to sustainable development.

Gandhi and his philosophy’s are fundamental to the Barefoot College ethos. The institution claims to be, “one of the few places in India where Mahatma Gandhi’s spirit of service and thoughts on sustainability, are still alive and respected.” Simple living is emphasized by the campus’ comfortable but simple facilities. Everyone eats simple nutritious meals together using their hands sitting on the floor of the refractory, and everyone cleans their own plates. The Barefoot College boasts, “[We have] adopted the Gandhian ideas into [our] lifestyle and work ethics, holding it true and relevant universally even in the 21st Century.”

Bunker Roy described Barefoot College as a college for the poor and wanted it to reflect the needs and values of the poor. Upon designing the college, Roy sought the advice of the village elders, who requested, “Please, don’t bring anyone with a degree and qualification into your college.” I was told that initially locals misunderstood the College as a religious missionary organization with intentions of converting. Even

though it has no religious affiliation, the Barefoot College does espouse a new and sometimes radical philosophy. Roy, in an argument reminiscent of Ivan Illich, repeatedly emphasizes his belief of the overvaluing of formal certifications and diplomas. He claims that Barefoot College "is the only college in India where, if you should have a Ph.D. or a Master's, you are disqualified to come. You have to be a cop-out or a wash-out or a dropout to come to our college. You have to work with your hands. You have to have a dignity of labor. You have to show that you have a skill that you can offer to the community and provide a service to the community" (Roy 2011). So Roy argues that Barefoot College is redefining professionalism: "You are certified by the community you serve. You don't need a piece of paper on the wall to prove you are an engineer."

Barefoot College staff strongly resists the notion that their process can be 'packaged' in a model and replicated to produce sustainable societies (O'Brien 1997). Still, it has trained barefoot foot professionals from around the world to work in a variety of circumstances. One of Roy's objections to diplomas is the rural-urban brain drain. He argues that as soon as people get formal education that want to go to the city or abroad to get jobs and money. In his attempt to bring sustainable development to villages and rural areas he maintains the need to provide skills specifically for these tasks relevant to improving rural life. He also targets women, and specifically grandmothers, as those most likely to stay in the village and work towards its betterment (Roy 2011).

The week I was at Barefoot College, a large group of women from various African nations including the Gambia, Mali, Sierra Leone, Senegal, Ethiopia, Mozambique, Benin, Cameroon, and Djibouti, were training to become barefoot solar engineers. There was no common language of instruction, so everything was taught through example and

repetition, with interspersed pantomiming. They were expected to replicate what they had learned upon their return home to electrify their far-flung communities. At the moment their major concerns were how much they missed their families and hoped they were managing without them, and how much indigestion they were suffering with the fishless desert diet served in the communal dining hall. I also visited an all night children's parliament, in which youngsters worked out their problems diplomatically, and then bonded in a slumber party, watching movies in a giant tent powered by solar energy. I also visited a night school for working girls, taught by a slightly older young woman, which revolved around a single slate chalkboard and a single solar powered lamp. All these projects embodied the principles I had heard about from the Barefoot staff and read about in the large campus library dedicated to archiving the Barefoot College experience.

4.6.1 Discussion

The loose affiliation of Barefoot College with the terminology of Education for Sustainable Development seemingly continues the trend emerging in a majority of the case studies conducted for this project. The choice of words has changed over the decades reflecting world trends and the particulars of the Barefoot College's own philosophical focuses.

The origins of the Barefoot philosophy, like so many other Education for Sustainable Development movements in India, draws intellectually and spiritually from village life and the experiences of the poor. These experiences parallel the philosophical origins of many American environmental movements, which often draw from non-defined learning experiences carried out in natural areas, removed from mainstream society. The common

factor being the seeking out of alternative or marginal ways of being separate from the mainstream realities of the dominate classes; a major difference being in the United States nature is often seen as a spring of inspiration while in the much more densely populated India, people have often looked for inspiration in the villages and rural life. Again, the Barefoot College provides another example of a significant institution for the poor emerging from the concerns of a privileged member of the Indian upper class. Some aspects of its philosophy may reflect an idealization of rural life and romanticizing simplicity, a sentiment stronger in the ethos of the upper class than amongst the poor rural people.

As in most of these case studies, in what appears to be emerging as a significant trend, Barefoot College draws heavily on the example and teachings of Gandhi. Barefoot College boosts of its strong philosophical ties with Gandhi. The name Barefoot College also hints at inspiration from socialist movements, especially Maoism, however this was underplayed, and I found no overt links to communist philosophy. This seems to fall within the general pattern of advocating Education for Sustainable Development goals while avoiding specific political alliances within the Indian government system.

The ample reach of Barefoot College in its ability to train women from various continents sets it apart from some of the other case studies which focus their Education for Sustainable Development more locally. Also, the ability for Barefoot College to transcend cultural and linguistic barriers in its trainings was impressive and almost unbelievable.

Barefoot College approaches Education for Sustainable Development in a problem-solving approach and embraces a truly grass-roots path to development. The Barefoot

philosophy readily condemns top-down programs as paternalistic and anathema to real development and poverty eradication. Furthermore, Barefoot College is very attentive to issues of poverty, class, gender, and local resources. Significantly, the Barefoot College resists efforts to scale-up their projects, even though they have grown organically, at their own pace, during the decades since its inception in1972.

Despite the overall sense of egalitarianism on the campus and of the touting of horizontal organizational structures, which allow information to flow freely from villagers and staff alike, there were hints of a cult of celebrity surrounding the figure of Bunker Roy, which might undermine some of these ideals. Some staff hinted that it is his personality and contacts which are able to get international recognition and support, and his charisma and presence that can make projects actually happen on the ground. One visiting scholar even referred to Roy's lifestyle as "jet-setter," something this scholar deemed useful for the current reality of the institution, but perhaps detrimental in the long run. Indeed, Bunker Roy is a celebrity in the development world and his face and voice are all over Barefoot College materials and the many media reports concerning the organization. The extent to which this is a criticism is difficult to evaluate, since something like this would be difficult to avoid in the media driven globalized world with which Barefoot College is forced to coexist.

Although several of the case study organization examined in this project targeted population groups with low levels of formal education, Barefoot College was the only one to reject formal education philosophically. The line of argument resembles the critiqued postulated by maverick educator Ivan Illich during the 1970s. Despite the rhetoric dismissing formal education, the staff were very welcoming to me and my study

and the Barefoot College has a long history of collaboration with scholars from institutes of higher learning in India and around the world.

4.7 VIKSAT, Vikram Sarabhai Center for Development Interaction

VIKSAT was founded as one of India's first institutions oriented towards what the current director Dilip Surkar calls "sustainable livelihoods." VIKSAT is part of the Nehru Foundation, a public charitable trust founded by Vikram Sarabhai in 1966. Sarabhai was born in a prominent Amdavad business family and was one of newly independent India's most recognized scientists, considered the father of the Indian space program. He drew inspiration from Jawaharlal Nehru's belief in the vital role of science in development. Sarabhai envisioned the foundation as a way to "create substantial participation of people in thinking and developing ideas/proposals relating to the problems of development." The Nehru Foundation for Development (NFD) remains committed to this original vision, but has expanded it to encompass a wide range of sustainable development aims. Official literature now states: "the strength of NFD lies in facilitating community driven, people-centered sustainable development, through creating innovative models, village level institution strengthening, capacity building, demonstration projects, training, education, documentation, information dissemination and policy advocacy."

In a definition similar to Brundwalt, VIKSAT defines sustainable livelihoods as follows: "A livelihood is sustainable when it can cope with and recover from stresses and shocks and maintain or enhance its capabilities and assets both now and in the future,

while not undermining the natural resource base. As an organization we understand that it is important to make people partner in growth and that is only possible when they contribute equally not depend on the grants alone."

VIKSAT initially worked on participatory management of natural resources focusing on forestry projects, tree nursery, and reforestation and defined its main goal as environmental conservation. During the past twenty-nine years of its existence, VIKSAT has made five clear strategic shifts keeping in tune with the external dynamic development environment. VIKSAT still believes in the primacy of involving the local stakeholders. As stated in the 2008 Annual Report: "The goal of sustainability in NRM [Natural Resources Management] can be achieved only through decisive participation of the communities who constitute the primary stakeholders of the resources" (VIKSAT 2008, page 1) Hence, VIKSAT articulates its people-centric approach as follows, "our mission is promoting and strengthening people's institutions through interactions, for an equitable, gender sensitive, sustainable development and management of natural resources."

The concept of sustainability is clearly important to VIKSAT, one of their main goals is to: "Promote Sustainable Natural Resource Management through People's Institutions." Their 2008 annual report was titled: "Towards a Sustainable Future," and one of their four major project focuses is *Sustainable Livelihoods*. The other three being: *Forestry*, *Land & Water*, and *Institution & Capacity Building*. Under the Sustainable Livelihoods umbrella, VIKSAT conducts projects such as seed distribution, arid fruit tree cultivation, animal husbandry programs, and improved agricultural methods training courses.

Despite the prominence the word sustainable received in official literature, the young professional employee I interviewed at VIKSAT did not seem to have a deep grasp of the concept. VIKSAT is found on the same verdant campus as the Center for Environmental Education in a series of round, rustic looking offices. VIKSAT was the last organization I visited during my study. I met with a low-level program officer named Suman Verma. Like many young professional women, Verma was smartly dressed in a modern looking Punjabi suit, checking her cell phone frequently as she typed-up an evaluation reported and chatted with me, exhibiting no problems with this type of multi-tasking. Verma came from a creative writing and advertising background, but was attracted to the NGO sector by her empathy to do good for India's poorer sectors. She explained that she did not have any particular affinity for the environment or natural resource management, but felt more connected to the people VIKSAT helped, especially the women and children. Verma had already been with VIKSAT for a couple years, but was already looking to move on to another NGO, and was fairly inquisitive as to my own possible connections to international employment opportunities. Verma did not have a deep understanding of the history of the term Education for Sustainable Development or where it came from, although she had seen it in some of the literature she worked on for VIKSAT and even used it herself.

4.7.1 Discussion

VIKSAT provides another example of an organization born from the forward-looking designs of individuals from India's most elite class. In this case it takes the form of a large government foundation that aims to foster a field esteemed valuable to the national

development of India. The organization was founded with much of the optimism associated with the Independence era, and confidence in the ability of science to achieve progress. Given its age, which spans several generations and political and economic transformations, it has also undergone several stages of metamorphosis, something some of the younger organizations have not had to endure.

VIKSAT still draws inspiration and philosophical guidance from the famous independence era Indian statesman Jawaharlal Nehru, much like many of the other organizations I examined drew on the teachings of Gandhi.

The efforts of VIKSAT to achieve behavioral change have been more top-down when compared to some of the other case studies, which for the most part prize the bottom-up approach to change. VIKSAT has made efforts to incorporate bottom-up mechanisms into its structures, although these are at times in conflict with the organization's original architecture.

In my interactions with a young professional working in Education for Sustainable Development, I learned some of the young professionals in this sector are just like young professionals everywhere trying to make it in life, and that sometimes they use ESD as a stepping stone, even though they may not always be ideologically wed to or motivated by the ideas associated with Education for Sustainable Development.

4.8 Discussion of the Results

Although my research is based only on a small sample of purposefully chosen case studies, certain trends emerge from the data collected, which I will discuss in this section of my dissertation. An initial observation is how diverse Education for Sustainable

Development organizations are in my sample. I found grassroots initiatives, government fostered programs, organizations built largely from the ideas of a few key individuals, and academically driven programs. This is due in part to my attempt to draw a representative sample of organizations reflecting this type of variations.

Within the great amount of variation, analysis of the six organizations revealed some general trends that merit recognition. Some examples of these trends include: the relative disconnect between the global Education for Sustainable Education movement and actual projects, the unfamiliarity with academic debates and terminology amongst many practitioners, the importance of the indigenous knowledge and local history in ESD projects, the powerful theoretical framework provided by the teachings and life example of independence Hero Mahatma Gandhi, the centrality of livelihoods to ESD, the limited importance of traditional academic divisions which separate fields such as environmental studies and economics to the work of practitioners, the ability to implement ESD in resource constrained environments, the ability of non-educated people to bring about innovative solutions to problems in the field of ESD, and in general the great variety of successful ESD programs currently existing in Western India.

The motivations and concerns of practitioners of Education for Sustainable Development in the organizations I studied vary and exhibit nuanced differences, but again, within this variation some generalizations can be drawn out. The centrality of livelihoods was a dominant theme mentioned by everyone I talked to, as was empowering marginalized groups such as women, the urban poor, and rural people. This was done in part by recognizing innovation in unconventional places, engaging with marginalized groups, and the willingness to reject conventional wisdom by thinking outside of the box.

These are all themes found in the literature for Education for Sustainable Development. However these themes often appeared as secondary topics or were underdeveloped in the literature, whereas in the experiences of the practitioners involved in my study they were central. Given the wide scope of ESD, the importance of prioritization is great. The number of critiques appearing in the literature focused on how themes within ESD have been emphasized demonstrates the importance of prioritization within this field.

Many of the academic debates most prominent in the literature play only minor roles in the experiences of practitioners. Practitioners generally took a pragmatic approach to solving sustainable development problems. The debates concerning terminology and the definitions of academic fields were not relevant to most, but not all, of the practitioners I interviewed. These same practitioners found other of the academic debates highly relevant, such as the North-South tensions within ESD, the role of social justice within ESD, and the possible hijacking of ESD by consumerist interests.

Among the different organizations, there was ultimately a faith in the people. Various organizations went to lengths to show how the poor and marginalized groups of India had much to offer the Education for Sustainable Development movement. For from being risk adverse, conservative, and opposed to adopting change, the organizations in my case studies showed how this groups were fountains of innovations in the field of sustainable practices. This belief is reflected in the bottom-up approach to sustainable development found in the organizations I studied, and skepticism of top-down models.

This trend of valuing the ability for common people to bring about solutions in Education for Sustainable Development also emerges with the importance of rural life to ESD in the organizations I studied. Much as nature and wilderness have played a crucial

role in the development of ESD in the United States, the villages of India and the experiences and traditional wisdom of rural people inspired all of the organizations in my sample. This has led to people-centric models of Education for Sustainable Development, with less emphasis on nature education or the protection of wilderness found in more nature-centric models which evolved in America.

Chapter 5: Conclusion

5.1 Review of the Research Questions

> How do practitioners see and interpret their own efforts in Education for Sustainable Development? What are their motivations and concerns?
>
> How do the academic debates on Education for Sustainable Development relate to the realities in the field for practitioners who are implementing this new type of education?

In reviewing the research questions, it is worth re-examining the limitations of the case study method used in this study. The work of methods experts warns us about the dangers of drawing generalizations from the basis of case studies (Yin 1994). Some experts posit forms of generalization that can be reasonably drawn from case studies. Robert Stake, for example, theorized that *naturalistic generalization* (Stake 1978) could be created from the analysis of case studeis. In the *Encyclopedia of Case Study Research*, Sherri Melrose (2010, page 599) defines *naturalistic* generalization as: a process where readers gain insight by reflecting on the details and descriptions presented in case studies." Melrose explains that unlike objective scientific generalization, with external validity, naturalistic generalization only generates the possibility of for transferring knowledge from a specific case study to a wider field. Lincoln & Guba describe the information drawn from case studies as *working hypothesis* (Lincoln & Guba1985) that can only be generalized in terms of comparing how well the hypothesis may *fit* with other cases. Roger Gromm and his colleagues in their authoritative text on case studies conclude that generalizations within the social sciences are open to debate, since most observed phenomena do not arise from naturalistic laws, but rather is the product of complicated interactions of countless variables (Gromm et al. 2009). In the

succinct aphorism of Lincoln and Guba, "the only generalization is that there is no generalization" (Lincoln & Guba 1985, page 110) on applying results from case studies to other scenarios or to a field at large. In addition to the theoretical limits to generalization just mentioned, I found that a variety of perspectives exist on ESD within the organizations I studied, which also makes generalizing undesirable.

Informed by this discussion, I will limit any generalizations in this concluding section. Instead I will attempt to answer my research questions based on the rich data from my case studies looking for general trends and for the contradictions that emerge within my sample. After months of research it became clear that my research questions themselves were limited. Some of my findings do not totally align with the original intent and phrasing of these questions. However, it is in the fluid nature of research to adapt and improvise as the facts dictate, at times shifting focus to explore the most fruitful avenues as they present themselves (Marshall & Rossman 2011). In this light, I will re-examine the questions I originally postulated for this research and answer them as fully and directly as possible.

In organizing my research, I asked how practitioners see and interpret their own efforts in Education for Sustainable Development. One of the trends to emerge from my interviews and observations with Indians working on the ground in the field was the general unfamiliarity with the terminology of Education for Sustainable Development. The exception to this unfamiliarity is the Center for Environment Education, where the term Education for Sustainable Development emerges frequently. The CEE also publishes a journal with ESD in the title. The University of Gujarat program also displayed familiarity with ESD terminology; Professor Jasrai was clearly familiar with a

wide array of academic literature. However, none of the other organizations I visited used the term ESD frequently and in some cases it was not used at all. In many cases, activists, employees, and staff members could not recall ever hearing of Education for Sustainable Development, and did not know what this term meant. Most were unfamiliar with the debates and shifts in emphasis occurring at the transnational level that brought about the existence of Education for Sustainable development.

The term *Sustainable Livelihoods* was a popular alternative I heard frequently, especially at SEWA and VIKSAT. SEWA also used the term *Eco-regeneration*. The Barefoot College frequently used the term *barefoot* as a proxy for appropriate technology and generalizable to ESD. All of the organizations used the word *sustainable* on its own frequently. The word *development* was used infrequently, perhaps due to the unpopular connotations still associated with the colonial-era, modernization, or periods of more paternalistic development, as suggested by Akhil Gupta (1998). Only the CEE used the term Education for Sustainable Development frequently. This is probably due to the CEE's close association with the UN and UNESCO, and its prominent role in the Decade for Education for Sustainable Development.

Regardless of the explanations of why certain groups use certain terminology, none seemed strongly ideologically wed to their terms. This finding correlates with the results documented by Stephen Murcott based on focus group sessions held at an Education for Sustainable Development conference held in Durban, South Africa in 2007. Those involved in ESD projects in the field were more often motivated by results and solving environmental problems impacting the

lives of their constituents than the terms or academic debates associated with Education for Sustainable Development.

In terms of the motivations and concerns expressed to me by the organizations I met during my time in India, they took very pragmatic, problem solving, approaches to Education for Sustainable Development. This was stated explicitly several times in the interviews I conducted, specifically at SEWA and the Gujarat University program. Considering the academic nature of the University program, it was of note that the underpinnings were pragmatic. In general, theoretical frameworks seemed to be less important than actual field experimentations and results. Approaches were most often selected on their merits concerning specific problems, which took precedence over theoretical models.

Another important concern to emerge was the overall acceptance of the connection between environmental issues with economic issues. Every organization emphasized the importance of livelihoods, and approached the environment for a people-centric perspective. Only the CEE mentioned wilderness protection and nature education at all as components of Education for Sustainable Development. Although people I talked to expressed weariness concerning business interests, and the potential industrialization and development have towards environmental degradation, everyone recognized the need to jointly address issues of the environment and the economy. Organizations described their projects in terms of livelihoods, and rarely emphasized nature or wilderness preservation, but rather emphasized the management of natural resources. Nature and wilderness prevention was sometimes advocated for directly by organizations in my case studies, but when this was done, it was always presented in a way that highlighted the material

benefits of this preservation, such as the increased availability of clean water or the ability to harvest forest products for home consumption or sale.

None of the organizations explicitly advocate for a major overhaul of the prevailing economic system. The organizations rather suggested different ways in which the current economic paradigm could be used to encourage sustainable existence. This is in contrast to various of the major criticisms of Education for Sustainable Development in the literature review, which advocated for an overall reorganization of the dominant economic framework.

A major motivation to the organizations I visited was the importance of self-sufficiency. In the case of SEWA, this idea emerged as the goal of personal or family self-sufficiency; SEWA advocates for members through empowerment and collective environmental action. In Barefoot College it emerged in the attempts to build communities that could produce their own power, food, and water, through the use of local resource management. This affinity towards self-sufficiency may be a reaction to colonialism, or the dependency fostered in post-colonial countries; an attempt to recover an idealized pre-colonial independence; or a political inheritance of Gandhi's self-sufficiency and Nehru's non-aligned politics.

Despite the affinity to self-sufficiency, most organizations were open to reaching out to different external sources to solve their problems. Examples of this approach include: borrowing ideas from Western nations, entering into international cooperation agreements, receiving international scholars and delegations, and accepting international aid and funds. Organizations also received national and local resources as well, from the

Indian National Government, donations of money and labor from wealthy, middle-class, and poor Indians.

Proponents of Education for Sustainable Development in these case studies often embrace the mechanism of capitalism to provide incentives to the participants in programs. Instead of relying on traditional charity or government-facilitated redistribution of goods, the organizations rely largely upon social entrepreneurship to sustain their programs. Thus, the Barefoot College teaches grandmothers skills they can then use to provide services in exchange for money or goods in their villages. SEWA uses reforestation projects to generate resources women can later harvest and use or sell. The Honey Bee Network seeks to reward individuals, via compensation for the use of their intellectual property, who create resource saving innovations. Although the mainstream literature often views commercial mechanisms with suspicion, in the case studies I conducted it was often seen as one more tool to harness for the Education for Sustainable Development cause.

Gandhi was mentioned at every organization I visited. Some organizations, like Barefoot College and the Honey Bee Network, use Gandhi as the major undergirding philosophy for their organizations. The Honey Bee Network even employs the term Gandhian Engineering to describe its innovative approach to problem solving. The others, SEWA, Center for Educational Management on Climate Control, and the Center for Environment Education, and VIKSAT, also prize Gandhi's teachings and refer to them frequently, although to a lesser degree than Barefoot College and Honey Bee Network. VIKSAT also draws on India's first president Jawaharlal Nehru, and his philosophies, for their guiding principles. Gandhi is used as a symbol of simple living,

collective action, non-violence, and compassion. In extolling Gandhi, it seems as if organizations are reinforcing India's ability to contribute to the world. Ramesh Mashelkar stated this explicitly, calling Gandhi "India's gift to the world." Mashelkar promises more Indian contributions of the same caliber for the 21st century.

Organizations exuded with confidence and pride in being Indian. People I interviewed would often reference other areas of Indian success in terms of economic growth or innovative solutions to business problems, and overall creativity and work ethic. Organizations were quick to point out ways in which India was not only conducting South-South cooperation, but ways in which India could teach the developed Western countries. Many of the organizations alluded to the idea of leap-frogging technologically, without necessarily having to follow all of the steps towards sustainable development that have emerged thus far.

My second research question sought information concerning the relevance of academic debates in the field of Education for Sustainable Development and the realities in the fieldwork taking place in India. The most relevant debate I found in India was the North-South tension evident in the literature review I conducted in preparation for my study. Many participants were quick to distance themselves and India from the blame for major ecological disasters. More commonly, the environmental activists I interviewed fixed the blame on industrialized consumer nations of the North for issues like resource consumption, carbon emissions, and a whole host of environmental problems. Another trend that emerged was the belief that rich nations had benefited from an easier path to development due to the relative resource abundance available during the industrialization phase of their economic growth, and that poorer nations were now unfairly prohibited

from benefiting in the same way from the environmental commons. These arguments were similar to many that emerged from the literature on Education for Environmental Education.

Individuals, and to some degree organizations, especially in the case of the Barefoot College, embraced the debates concerning ESD's complicity with a larger consumer culture, and questioned its ability to bring about a new type of world economy. Practitioners I interviewed were especially aware of the hypocrisy between Education for Sustainable Development, and the often affluent lifestyles of people and organizations promoting Education for Sustainable Development. Most activists and practitioners in Education for Sustainable Development I met with in my study advocated simple living. However, even when espousing simple living, concomitant economic mechanisms to promote this type of living were not explained, leaving it unclear why Indians would continue to live simply as more materialistic options emerged, or why those already living more luxurious lifestyles would adopt simple living.

The diversity of Education for Sustainable Development I encountered in India provides a response to the debate concerning the possibly deterministic and limited nature of ESD. Since many Education for Sustainable Development projects emerged from specific responses to local environmental issues, practitioners did not use ESD as a proscriptive rubric. Practitioners merely attempted as best as possible to solve their problems drawing on many disciplines and examples. Mechanical means of applying Education for Sustainable Development was evident in the literature review in the formal schools, but this was not an observed phenomenon in my case studies.

As stated earlier, the debates concerning terminology, or the place within the larger academic fields were relevant only to the CEE, and even in the CEE problem solving and pragmatism usually trumped semantics. The other organizations I worked with were either unaware of these issues or did not consider them relevant to their work.

All of the organizations I visited were founded by individuals from the upper classes of Indian society. VIKSAT and CEE emerged from the Nehru foundation, pioneered by the preeminent scientist, and wealthy businessman, Vikram Sarabhai. The CEE is still led by his son Kartikeya Sarabhai. Bunker Roy, founder of Barefoot College, came from a family of privilege and attended St. Stephen's College, one of India's most prestigious institutes of higher learning. Ela ben Ramesh Bhatt, founder of SEWA, also came from a family of privilege. Only Ramesh Mashelkar came from poverty and rose through his studies. India has a strong tradition of innovators and advocates coming from the upper classes, like Gandhi and Nehru. There is also a strong tradition of social responsibility to the poorer classes. The field of Education for Sustainable Development is still seen in some ways as a type of charity for the betterment of the masses. Until recently there was only a very small middle class, and educational opportunities were only available to a small elite, so these historical constraints have probably restricted the possibilities for many Indians in terms of entering the field of Education for Sustainable Development. SEWA, Honeybee Network, and Barefoot College have each successfully brought in many segments of the populations which would otherwise have been ignored by Education for Sustainable Development.

In all the organizations there is a strong historical trend to move towards the empowerment of the poor and marginalized and away from simple service delivery to

these groups. Indeed, many of the organizations see poverty as an asset in that it encourages innovation and problem solving. In parallel, the organizations have migrated to a more bottom-up approach to implementing change. Even the organizations that were conceived as more top-down structures, like CEE and VIKSAT, have partially changed their structures in accordance to this trend.

Women have taken an active role in Education for Sustainable Development in many of my case studies. SEWA was founded by a woman and is still made of and managed almost exclusively by women. SEWA applies feminism directly to some of its projects, with for example its *Feminine Forests.* The Barefoot College focuses mainly on working with and training girls, women, and grandmothers. Traditionally the environment was a field open to women in India, as seen in Chipko, the historic tree hugging movement. However, the structures have remained very masculine and men have historically controlled leadership roles. This makes SEWA and its all-female hierarchy exceptional in India.

These responses to my research questions, generated after three months in the field, and countless hours of analytical work in various settings attempt to respect the limitations delineated at the beginning of this section, while making the most of the rich data produced during my case studies.

5.2 Implications for Policy

This study uses case studies to enrich our conceptualization of Education for Sustainable Development. In doing so, it encourages us to look deeper into what is

actually happening in the realm of ESD in the field. Compendiums like the IUCN's *Education and Sustainability: Responding to the Global Challenge* do offer informative vignettes highlighting successful programs, but much more needs to be done to assess the true impact of Education for Sustainable Development.

Initiatives such as UNESCO's Decade of Education for Sustainable Development have done much to promote the idea of ESD amongst a group of conscientious global actors and inter governmental agencies, but to what degree have these ideas trickled down to the grassroots levels, or to actual implementation in the field where practitioners are found interacting with communities? Considering the disconnect with the international Education for Sustainable development movement found in several of the case studies, perhaps we should reevaluate the effectiveness or the role of global campaigns via conferences and publications.

Greater access to best practices is needed in the field. Efforts such as Honey Bee Network attempt to document, share, and protect the intellectual property of innovators in the field of sustainable development. This could be expanded to a global level. Even though many of the successful cases of Education for Sustainable development depended on the particular circumstances of a community, certain ideas can transfer or inspire solutions outside of their immediate context.

Practitioners of Education for Sustainable Development could benefit from stronger networks. These networks would contribute to the exchange of ideas and greater penetration of theoretical work elaborated at the global level.

In Western India, Education for Sustainable Development efforts were always linked to the goal of poverty reduction. This idea is also found in the academic literature, but

perhaps needs to be spotlighted in a more active way. This could help bolster the credibility of ESD efforts in poor communities or in the Global South and help counter the many attacks of elitism or subservience to consumer agendas leveled against ESD in the literature.

Another major policy ramification is how has scaling-up affected the operations of these programs? Scaling-up is often mentioned as a crucial aspect of Education for Sustainable Development in the academic literature. Indeed, if ESD is to reorient the entirety of the man-earth relationship, some degree of scaling-up will be necessary. Some organizations, like the Center for Environment Education has been able to successfully achieve an increase of operational scope, now reaching all of the states in India. However, some organizations, like the Barefoot College have specifically critiqued the traditionally idea of scaling-up, although they have also expanded the scope and range of their activities over their 40 year history.

Ultimately, the realm of policy has much to learn from the lived experiences of successful Education for Sustainable Development programs. Too often policy relies on the information generated by the expertise of trans-national organizations disseminated through major conferences, which has been very helpful in many ways. However, this cannot be done at the expense of the lessons taught by practitioners and successful grassroots initiatives.

5.3 Implications for Further Research

Every study, no matter how thorough raises more questions than it answers. This is especially applicable for my study given its limitation in scope. One obvious way to

build on the work I have done would be to use a broad research method, such as a survey, to engage many organizations in the field of ESD to verify to what extent the trends I identified from six case studies can be generalized. In addition, I would like to list some questions germane to the field of Education for Sustainable Development which emerged from my study in the field and subsequent data analysis.

How do trends in Education for Sustainable Development in India compare to those in Developed countries like USA? How do these trends compare to those in even poorer countries, like Mozambique for example, where I spent two years working in the education sector and saw very little evidence of any ESD projects at all?

The findings demonstrate the importance of livelihoods to Education for Sustainable Development in India. How does the importance of this aspect of ESD vary in countries and communities across the world, and is there a correlation with the economic realities of each particular setting? Given the recent global economic crises, are there new opportunities for livelihood focused ESD programs in parts of the world where they have not been previously found?

What degree of reach do these programs have into the population at large of countries like India? My study was a case study of successful Education for Sustainable Development projects, so naturally the people I met where highly involved in issues concerning ESD. However, in my daily interactions in the market and on the street, many people have thought very little about ESD. Is there a way to document the penetration of Sustainable Development ideas that has occurred through programs individually and cumulatively? In addition, it would be useful to compare the results of

various Education for Sustainable Development projects to ascertain the strengths and weaknesses of each program.

The influence of Gandhi, his life, and his philosophies has been profound on Education for Sustainable Development in India. Nearly everyone involved in every project I studied referenced him, most of the times directly. There are some indications in the literature that Gandhi has had a major impact on ESD internationally as well, especially in the *Deep Ecology* movement. Further study could document how much influence Gandhi has had outside of India, and how much potential his philosophies have for ESD worldwide.

5.4 Epilogue

It is becoming increasingly obvious that the opulent resource intensive lifestyle promoted by the United States and wealthy European nations is not sustainable, especially if it is adopted by the now more than 7 billion inhabitants of this planet. Rapidly developing India provides evidence of this as millions of aspiring middle class Indians consume more and more resources making it difficult to postpone the debate on Sustainable Development.

In general, the grand narrative of human development on this planet has been a story of exploitation and depletion of the natural resources of this planet, with only small episodes of concern and action for the preservation of resources for future generations or restraining consumption to levels that natural systems can replenish. It is easy to become discouraged when examining the numerous examples of mismanagement, destruction, waste, and disregard. This dissertation stands in contrast to this grand narrative by

identifying case studies of successful Education for Sustainable development projects which have contributed towards solutions to man's relation with the earth.

It is far from clear whether humanity will be able to organize its economic systems and collective lifestyles in time to prevent a major decline in the standard of living people in wealthy nations have come to expect, or even to prevent the extinction or mass reduction in population of the human race. However, Education for Sustainable Development is emerging as a powerful tool to avoid this doom, and the case studies examined in this dissertation offer beacons of hope.

I will close quoting a reference made by Swaminathan, the chairperson of the council of management VIKSAT, who explained the quest for sustainable development with a metaphor from Indian poet Rabindranath Tagore:

> With your mind intent,
> Cross this sea of chaos
> And sail to that shore of new creation

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