

UNIVERSITY OF CAPE COAST

PRO-ENVIRONMENTAL BEHAVIOUR: AN EXAMINATION OF
ENVIRONMENTAL CITIZENSHIP AMONG JUNIOR AND SENIOR
HIGH SCHOOLS IN THE CAPE COAST METROPOLIS

BY

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DECLARATION

Candidate's Declaration

I hereby declare that this thesis is the result of my own original research and that no part of it has been presented for another degree in this university or elsewhere.

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Supervisors' Declaration

We hereby declare that the preparation and presentation of this thesis were supervised in accordance with the guidelines on supervision of thesis laid down by the University of Cape Coast.

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ABSTRACT

The study sought to assess the practice of environmental citizenship behaviour among Junior and Senior High School students in the Cape Coast Metropolis. Environmental citizenship is a concept that suggests that every citizen is an integral part of a larger ecosystem and that humanity's collective future depends on acting responsibly and positively toward our environment. It is a sense of responsibility that leads to actions that promote environmental conservation and sustainability. The study employed the mixed method approach. Quantitative data was collected from 292 Senior High School students, while qualitative data was collected from selected Junior High School students and relevant stakeholders within the metropolis.

The study found out that the practice of Environmental Citizenship behaviour was minimal among respondents. They were, however, predisposed in terms of their values, beliefs, norms and knowledge which are prerequisites for exhibiting environmental citizenship behaviours. Limited platforms such as environmental clubs in schools and the socio-cultural perception of young people among others, posed as challenges to young people taking environmental actions and hence engaging in environmental activism.

It recommended that young people's knowledge and awareness on environmental engagements should be boosted through environmental literacy. Environmental clubs in schools should be given a boost in order to help nurture affinity for nature as well as promote the platform for public sphere environmental actions; thereby promoting environmental citizenship behaviour among young people in schools and ensure environmentally sustainable behaviours in the Cape Coast Metropolis.

KEY WORDS

Environmental Citizenship

Environmentalism

Junior High School

Pro-environmental Behaviour

Senior High School

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DEDICATION

To all academic career mothers and young environmental activists

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LIST OF ABBREVIATIONS

AC	Awareness of Consequences
AR	Ascription of Responsibility
CB	Cultural Beliefs
CE	Community Expectations
CCMA	Cape Coast Metropolitan Assembly
CEPA	Centre for Environmental Impact Analysis
EAP	Environmental Awareness Programme
EBE	Environment Based Education
EC	Environmental Citizenship
ECB	Environmental Citizenship Behaviour
ECS	Engagement in Community Service
EIB	Environmentally Important Behaviour
EPA	Environmental Protection Agency
ESBs	Environmentally Significant Behaviours
FAO	Food and Agriculture Organisation
FC	Financial Constraints
FEARS	Frustrated Agency; Environmental Exclusion; Retributive Justice
FGDs	Focus Group Discussions
GES	Ghana Educational Service
GNC	Ghana National College
GSS	Ghana Statistical Service
HCS	Holy Child School
IEC	Incentives for Environmental Campaigns

IPCC	Intergovernmental Panel on Climate Change
JHS	Junior High School
LDC	Least Developed Countries
MAR	Metropolitan Assembly Regulations
M/A	Metropolitan Authority
MFS	Mfantsipim School
MTDP	Medium Term Development Plan
NCCE	National Civic Commission on Education
NEP	New Environmental Paradigm
NGOs	Non-Governmental Organisations
OCE	Opportunities for Civic Engagements
OSL	Opportunities for Social Learning
PEB	Pro-environmental behaviour
PEC	Participation in Environmental Clubs
PEPS	Pro-environmental Policy Support
PIF	Peer Influences of Friends
PIFM	Peer Influences of Family Members
PSE	Public Speaking on Environmental issues
PYD	Positive Youth Development
RI	Religious Influence
SEEDS	Social Agency; Environmental Education; Embedded Justice; Decentred Deliberation and Self-transcendence
SHS	Senior High School

SMART	Self-help; Market Participation; Children Encouraged; A priori Justice; Representative Decision Making; Technological Transformation
SR	School Regulations
S&T	Skills and Talents
UN	United Nations
UNCED	United Nations Conference on Environment and Development
UNEP	United Nations Environment Programme
UNESCO	The United Nations Educational, Scientific and Cultural Organisation
UNFCCC	United Nations Framework Convention on Climate Change
UNICEF	United Nations International Children's Emergency Fund
VBN	Values, Beliefs, Norms
WSSD	World Summit on Sustainable Development
WTS	Willingness to Sacrifice

CHAPTER ONE

INTRODUCTION

Background to the Study

The 21st Century is faced with a lot of environmental challenges of global concern such as global warming, biodiversity conservation, energy use, environmental health, land degradation, air and water pollution, as well as a host of environmental issues specific to urban settings like waste disposal, water and sanitation. The environmental stress is exacerbated by climate change as one of the biggest development challenges of the century.

Greenhouse gas emissions have committed the world to a range of adverse and potentially catastrophic effects that impact and will continue to impact human health as a result of declining water security, rising pressure on food production and long-term development (Lawler, 2011). Weather patterns are shifting, which is affecting ecosystems and living conditions worldwide. Intergovernmental Panel on Climate Change (IPCC, 2013) clearly shows that the planet is getting warmer and warmer.

Everywhere around us, we are witnessing signs of the gradual but rampant degradation of the environment with its associated adverse impacts on human life. These environmental problems have brought about changes in the atmosphere, in the oceans, and on land (the causes of which can be attributed directly or indirectly to human activities). These changes affect the natural metabolic cycles, the aquatic and terrestrial ecological systems as well as economies and societies (Simonis, 1998).

Developing nations where resilience to general environmental degradation and environmental shocks are low and livelihoods are often highly

dependent on natural resources, are worst affected (Venton, 2011) by the impact of environmental changes. These impacts of environmental changes are felt more acutely, especially due to the existing socio-economic vulnerability of their populations and their lower adaptive capacities. The result is food insecurity, increase in diseases like diarrhoea and malaria as well as loss of agricultural products and forest reserves.

The Food and Agriculture Organisation (FAO, 2013) identifies deforestation (large-scale felling of trees), soil degradation due to over-utilisation of soils for agriculture and pollution as some of the main environmental challenges facing the African continent. The situation is no different in Ghana with its peculiar problems of land management, water resources management, marine and coastal ecosystems, mining, forest and wildlife and human settlements.

The last two decades have seen an array of climate summits held by the United Nations (UN) in response to the degrading environment. Notable among the summits were the Conference on Environment and Development (UNCED) - Rio, the World Summit on Sustainable Development (WSSD) - Rio +10, and the UN Conference on Sustainable Development- Rio+ 20. The outcome of these summits produced various agreements, conventions and treaties and documents such as Agenda 21, Rio Declaration on the Environment and Development, Forest Principles, Convention on Biodiversity, Framework Convention on Climate Change (UNFCCC) and United Nations Convention to combat Desertification.

Discussions centred around sustainable development and more recently on climate change. These efforts, though very much welcome, have not been

able to fully address the environmental issues at the global level. While necessary, international environmental summits and accords are certainly not sufficient to address current environmental challenges. These international summits employ top-down problem solving approach. This approach, according to Walsh (2012), should not be the only option. The bottom-up approach to solving environmental problems also needs to be considered.

The shortcomings of the international conferences notwithstanding, outcomes have led to the need for nations to put in place and strengthen measures to face these environmental concerns. Most developing countries have established legislations and varying degrees of institutional capacity have been developed to address environmental problems. Nevertheless, concrete policies to address serious environmental problems are still limited in many cases. Implementation of these policies falls short of what is required to alleviate the problems; few have been successful in alleviating those problems (Bell & Russel, 2007). Some limitations faced by developing countries in implementing policies range from inadequate human capital, limited technical capacities, access to financial and human resources and, above all, ineffective institutions and lack of political will (Blackman, 2008; Puppim, 2008; United Nations Environment Programme [UNEP], 2011).

One of the most notable shortcomings of traditional forms of environmental regulation (state-led) is that, they have not successfully promoted the engagement of ordinary citizens in environmental debates and action. Giving people the chance to be responsible for and make choices about their environment produces environmental benefits that cannot be achieved through conventional regulatory approaches. This study therefore is situated in

the alternative development paradigm, which advocates for the engagement of ordinary citizens in environmental debates and action. Citizen participation in initiatives help develop the confidence and skills which enable them to take more effective action and become more aware of wider environmental issues (Barnett, Doherty, Burningham, Carr, Johnstone, & Rootes, 2005). In addition, the mobilisation of citizens around environmental issues is crucial in overcoming the problem with lack of political will.

Engaging people in environmental issues could significantly benefit the environment through taking opportunities to encourage actions that promote sustainability as well as engaging with complementary citizenship activity (Schlosberg, Shulman & Zavestoki, 2006). Increasing concerns over the need to involve ordinary citizens (citizenship engagement) in meeting environmental challenges and promoting environmental sustainability has given rise to the concept of Environmental Citizenship.

Environmental citizenship is an emerging concept, both in academic discourse and political practice. It is a highly contested concept that links environmental concerns with public and policy process (Latta, 2007). Environmental citizenship thrives on the idea that each individual is an integral part of a larger ecosystem and that humanity's collective future depends on each citizen embracing the challenge and acting responsibly and positively toward the environment. It embodies a sense of responsibility that leads to actions on behalf of the environment, thereby making environmental conservation and sustainability an important duty of citizenship (Bell, 2005).

An additional commonly noted feature of environmental citizenship is that it recognises that rights and responsibilities transcend national boundaries

and traverse generations. Operationally, it shares traditional elements of citizenship related to engagement in the public sphere (debating, protesting government policy, among others), but also seen to pertain to private actions that have environmental implications such as consumer decisions or energy consumption in the home. For these reasons, Dobson (2007) argues that it is a citizenship of private as well as public spheres.

Junior and Senior High schools in the Cape Coast Metropolis are categorised into public and private basic schools. Pro-environmental activities in the schools are normally in the form of environmental sensitisation, general cleaning of school compounds and environmental club activities.

Problem Statement

The concept of environmental citizenship entered the environmental policy discourse when it was first coined by Environment Canada (the Federal Ministry of Canada) and has since been gradually establishing itself as a distinctive way of linking environmental concerns, the public and policy process. Given that the notion entered into practice before being embraced in the academic discourse, what constitutes environmental citizenship, and the most effective tools and approaches for it are still emerging in academic discourse (Environmental Evidence Australia, 2012; Szerszynski, 2006). It, therefore, challenges academics to explore the idea and to place it in relevant theoretical framework and context (Bell, 2005).

There are gaps in literature on environmental citizenship, which this thesis seeks to address, as it applies the concept to the Ghanaian case. There is the preponderance of attention that has been given to the question of

environmental citizenship in the Global North, whereas the concept has been applied in only superficial ways to the distinct reality in the Global South. The empirical emphasis of academic work on environmental citizenship has been primarily focused on the Global North (Latta & Wittman, 2010) largely ignoring the realities of the Global South. Therefore, dominant concerns of existing literature are poorly aligned with the kinds of environmental and political context that characterise the Global South.

Lower levels of socio-economic development in developing countries have made environmental issues of low priority in the face of the immediate threats to livelihoods and survival. As a result, citizens in the Global South are less in a position of becoming environmental citizens through the dominant notions of environmentally responsible consumption or reducing household energy use. Instead, they are more likely to embody forms of environmental citizenship in terms of struggles to secure adequate access to water and sanitation, to conserve local environments in the face of encroachment of industrial agriculture, or to defend local livelihoods from the impacts of mining or other resource exploitation.

There is the need to promote research in the Global South where the impacts of environmental changes are more severe. This empirical focus on developed countries has tended to shape the analytical orientation of literature on environmental citizenship. Debates are on the concern for individual rights and obligations, relative to collective problems or “common good”; hence research articles tend to focus on the challenges of cultivation of “green” attitudes or behaviour in individual citizens, side lining questions of democracy and collective action (Latta, 2007).

It is widely agreed that significant behaviour change amongst individuals and organisations is needed to meet environmental sustainability objectives. Historically, policies aimed at changing behaviour have tended to rely on either the introduction of statutory legislation and fiscal measures (led by state), or market-based measures like green consumerism or carbon trading; in contrast, relatively less attention is paid to civil society, in which actors are seen as citizens rather than as consumers, and the possibilities for promoting PEB in this area. The unique potential for PEB change to be fostered within the realm of civil society, through the operation of environmental citizenship is under-explored (Dobson, 2010).

Generally, there is limited engagement of ordinary citizens in environmental debates and action, and a relative lack of attention to the agency of young people on environmental issues. Although some aspects of environmental citizenship literature address the subject of environmental education, little has been written about the potential capacity of young people to participate in defining and addressing environmental challenges. The current research tends to address these gaps, both in relation to the broader debates in literature on environmental citizenship and, more importantly, in the specific context of the environmental challenges faced by the people of Ghana.

Relative agency on environmental issues is more skewed towards adults with young people recognised as beneficiaries rather than actors. Of significant note is that discussions about the environment, including environmental citizenship, barely consider young people's participation. This lack of discussion around young people's role in environmental citizenship,

for Hayward (2012), is reflected also in broader discussions about environment, which often marginalise their experiences.

Polack (2010) also observes that young people are generally barely visible in terms of recognition of their rights, needs and capabilities in terms of their participation in society. Young people are increasingly calling for recognition and inclusion as participatory citizens (Koskinen, 2010), yet their status is not straight forward. The institution of citizenship has traditionally been clearly demarcated in terms of age, with persons only considered members of the political community (for instance, gaining the right to vote) after reaching a particular age. Hence, Lister (2007) buttresses the notion that citizenship is equated to adulthood, ignoring children who are portrayed as future citizens, citizens in waiting and in the making. This does not give young people their true credit as social actors who make a contribution to society.

Increasingly, recognition is being given to the value of young people's participation, on how it furthers their survival, protection and development, and how youth as rights-bearers actively contribute to society as a whole (Cook, Blanchet-Cohen & Hart, 2004). Allowing young people to participate would strengthen their sense of belonging as well as equip them with skills and capacities required for effective citizenship- i.e. facilitates their participation as political and social actors. UNICEF (2008) and PLAN (2005) have documented some instances of young people's agency that have contributed to sustainable environmental outcomes through addressing local development challenges in their communities, monitoring service provision at different levels and building relations between the state and society by collaborating with youth.

The rhetoric of participation has become prominent within policy and practice pertaining to young people. However, tensions and challenges (tokenism, lack of impact and consultation fatigue, and limitations of participatory methods) have been revealed as practice and policy proliferate. According to Tisdall (2008), a host of important questions surrounding the precise nature, politics and ethical status of participation remain largely unasked and unanswered.

Ghana is bedevilled with environmental problems such as climate impacts, deforestation, illegal mining (galamsey), improper sanitation management and water scarcity. At the national level, various attempts have been made to develop policies aimed at promoting sound environmental practices, but these have not seen much improvement in environmental sustainability. Responsibilities for implementation of these policies are scattered under various ministries creating overlaps and challenges with implementation.

The main challenges to compliance and enforcement are inadequate institutional and political will to see the environment as a priority area, inadequate resources for environmental management and the carrying out of compliance and enforcement activities (Blackman, 2008; Environmental Protection Agency [EPA], 2008; Puppim, 2008, UNEP, 2011). The EPA, which has the mandate to coordinate these environmental institutions, is challenged with inadequate human and material resources to properly monitor environmental activities. An overwhelming case is the increase of illegal mining which has led to the clearing of vast forest lands and pollution of fresh water bodies.

Discussions around environmental issues are adult centred with limited involvement of young people, although they bear the brunt of environmental degradation. There are some manifestations of young people promoting environmental awareness and engagement through voluntary environmental clubs at the 'basic' and 'high' schools as well as youth environmental movements, as a way of promoting environmental citizenship, but these are not widespread and, most times, not sustainable in an adult-driven society where young people are to be seen and not heard. The participation of young people mostly ends with information sharing.

The existence of a National Youth Policy, Ministry of Youth and Employment (2010) suggests and recognises the potentials of youth to national development. In terms of the environment, the 2010 policy recognises, among others, the role of the youth as active participants in the protection, preservation and improvement of the environment. However, there are virtually no better platforms to address the challenges confronting them as well as limited opportunities for their constructive political engagements. Meanwhile, young people are naturally creative and dynamic and must be considered as actors, players and partners in the development process, as espoused by the goal seventeen of the sustainable development goals (Partnership for Development).

There is therefore, the need to explore how their agency can be enhanced to promote environmental sustainability and contribute to sustainable development. Citizenship should involve a search for ways to alter the culture of adult practices and attitudes in order to include younger people in meaningful ways and listen and respond to them effectively (Lister, 2007).

The amount of political stability versus political change is determined by the degree to which the younger generation adopts the views of their elders or craft a distinct generational perspective. Thus, focusing on ways that younger generations negotiate salient social issues provides a lens on the future political landscape (Flanagan, 2009).

There are definitional overlaps regarding where childhood ends and when adolescence begins and at what point youthfulness commences (Ghana Statistical Service [GSS], 2013). The meaning of youth and how society perceives youth is subject to variations of time space and societies. Ghana's definition of a youth is informed by the United Nations and Commonwealth Secretariat. The Ministry of Youth and Sports (2010) defines youth as persons who are within the age bracket of 15 and 35 years. For the purpose of this study, the targeted young people were between the ages of 12 and 24 (young adolescents). During this adolescent period, young people acquire cognitive, social and emotional skills and abilities required to navigate life. Flanagan (2009) recognises this age period as the period when physical, social and emotional process occurs; it will, therefore, be suitable for the purpose of the study.

The thesis central argument therefore is that the exercise of environmental citizenship among Junior and Senior High schools is a prerequisite to promoting environmental protection and sustainability, particularly within the Cape Coast Metropolis. It assesses the capability of the students to exhibit pro-environmental behaviour.

Objectives of the Study

The general objective of the study was to assess the practice of pro-environmental citizenship behaviour among young people in Junior and Senior High schools in the Cape Coast Metropolis.

The specific objectives were to:

1. Describe the forms of pro-environmental behaviour among Junior and Senior High school students in the Cape Coast Metropolis,
2. Examine the predisposing factors of pro-environmental actions among Junior and Senior High school students in the Cape Coast Metropolis,
3. Assess the potentials for exhibiting environmental citizenship among Junior and Senior High school students in the Cape Coast Metropolis,
4. Examine the challenges to exhibiting environmental citizenship among Junior and Senior High school students in the Cape Coast Metropolis,
5. Explore strategies for promoting young people's environmental citizenship and
6. Make recommendations for promoting environmental citizenship among Junior and Senior High school students in the Cape Coast Metropolis.

Research Questions

The study was guided by the following research questions:

1. What are the forms of pro-environmental behaviour among Junior and Senior High school students in the Cape Coast Metropolis?

2. What are the predisposing factors of promoting pro-environmental behaviour among Junior and Senior High school students in the Cape Coast Metropolis?
3. In what ways do Junior and Senior High school students exhibit the potentials for environmental citizenship behaviour?
4. What are the challenges to exhibiting environmental citizenship among Junior and Senior High school students?
5. How can environmental citizenship be promoted among young people in schools in Cape Coast Metropolis.

Justification for the Study

While policies aimed at nudging individuals to change their behaviour rely on the provision of expert-informed choices, environmental citizens co-create the circumstances in which they act, resulting in lasting pro-environmental change and community benefit. Using incentives to change behaviour is risky in the sense that once the fiscal incentive is removed, people will often relapse into their previous behaviour. However, the PEB of environmental citizens is rooted in a commitment to the principles underlying it. It is less subject to the political and institutional willpower required to support fiscal measures (Dobson, 2010).

Young people deserve to be included in environmental citizenship because environmental change is often irreversible and they will inherit or bear the brunt of current environmental degradation. We cannot include the voices of those not yet born, but we can, at least, listen to the voices of the next generation that is already living as a way of promoting intergenerational justice and environmental sustainability.

Using environmental issues and encouraging action among young people in addition to empowering them (increases their critical thinking, enhances motivation, decision making, etc.) to provide a complexity of behaviours that are not common in discipline-bound books or through traditional teaching (Monroe, 2003); as well as predisposing them to discover the opportunities to develop PEB as older youth.

Accepting young people as members of a citizen community is partly contingent on them demonstrating their capacity to be participatory citizens. Allowing them to participate strengthens their sense of belongingness as well as equipping them with skills and capacities required for effective citizenship and facilitate their participation as political and social actors; participation beyond individual decisions about a child's own life allows for participation in wider collective-decision making.

Increasingly, mechanisms of varying degrees and effectiveness are being developed to enable such participation. Inclusion, consultation and delegation of responsibility to children and youth can have very practical benefits and young people can contribute unique and often unexpected and independent perspectives (Bartlett, 2005).

The incidence of environmental degradation, particularly improper sanitation and pollution of waters, in Ghana and the Cape Coast Metropolis calls for environmental citizenship of young people. Since local people best understand the social and cultural context in which they live, their active engagement in the design, delivery and evaluation of local projects for sustainable development is fundamental to their success. Willing participation and co-creation of practices and norms of individuals and communities, as

advocated by the Environmental Citizenship approach, are more likely to result in lasting PEB change and community benefit. In this way, Environmental Citizenship allows for social learning, which can extend far beyond the lifetime of particular projects or activities.

Limitations

The use of questionnaire administration and interviewing for the SHS and JHS respectively, could not allow for triangulation of the data. Questionnaires were used for the SHS because of their unavailability for interviewing. The school regulations could not avail them for interviewing. For the JHS students, interviewing was more suitable because according to Machi and McEvoy (2009), it provides the space for the children to feely express themselves and also ensures reliability of the data. Group interviewing was used instead of focus group discussions because the limits for the composition of numbers for the FGDs was intimidation for the younger students. They were more comfortable in a group interviews.

Organisation of the Study

The study is organised into seven chapters. Chapter One focuses on the background to the study, problem statement, objectives, research questions and justification for the study. Chapter Two discusses the review of related conceptual issues. Chapter Three comprises the theoretical review, empirical review and the conceptual framework that guides the study. Chapter Four is on the methodology for the study. It comprises the study area, institutions and organisations, the study design, target population, sampling, data collection

methods and data analysis. It also outlines the ethical considerations for the study.

The results and discussions of the study consist of three chapters; Chapter Five covers the forms of pro-environmental behaviour among Junior and Senior High schools in the Cape Coast Metropolis, Chapter Six focuses on the factors that influenced their exhibition of environmental citizenship behaviour, while Chapter Seven covers the challenges and strategies for promoting environmental citizenship behaviour among the respondents. The eighth chapter comprises the summary of findings, conclusions and recommendations for the study.

CHAPTER TWO

CONCEPTUALIZING PRO-ENVIRONMENTAL BEHAVIOUR AND CITIZENSHIP

Introduction

This chapter reviews literature on concepts such as Pro-environmental behaviour (PEB), environmental citizenship (EC), the social construction of young people, social change and young people's agency, and enabling factors to young people's participation in environmental citizenship and pro-environmental behaviour.

Structure and Agency

Structure and agency forms an enduring core debate in sociology. There is a standing debate over the primacy of structure or agency in shaping human behaviour. Mestrovic (1998) defines agency as the capacity of individuals to act independently and to make their own free choices, whereas structure is the recurrent patterned arrangements (such as social class, religion, gender, ethnicity, and sub-culture) which influence or limit the choices and opportunities that individuals have (Jones & Karsten, 2003).

The structure versus agency debate may be understood as an issue of socialisation against autonomy in determining whether an individual acts as a free agent or in a manner dictated by social structure. The two cannot be conceived apart from each other or treated separately; structures are neither independent of actors nor determining their behaviour, but rather sets of rules and competencies on which actors draw and which in aggregate they reproduce.

Agency is the capacity of an agent, a person or other entity, human or any living being in general, to act in a world. In sociology, an agent is an individual engaging with the social structure. Tanle (2013) regards the individual as knowledgeable and capable subject whose actions are mostly intentional and purposeful, although some actions could be unintentional. Agency may, therefore, be classified either as unconscious, involuntary behaviour, or purposeful, goal directed activity (intentional action). For Layder (2006), an agent typically has some sort of immediate awareness of his physical activity and the goals that the activity is aimed at realising. Human agency entails the claim that humans do, in fact, make decisions and enact them on the world. Agency is the basic human acts and resultant activities.

Giddens (1984) distinguishes between acts as a separate progression of action and action as a continuous flow of involvement by different and autonomous human agents. Action could be stimulated by the individual who wants to investigate what he or she is doing. Lamsal (2012) identifies Giddens' model of action as having three elements, reflexive monitoring, rationalisation monitoring and motivation of action. Each element has a specific role in the overall process of action or the ability to act by the agency is the fundamental element to create any sort of change. Through the decision to act, either consciously or not, creates changes within the agency and to the structure that one has influence on (Mestrovic, 1998).

The capacity of a human to act as an agent is personal to that individual, though considerations of the outcomes flow from particular acts of human agency. In certain philosophical traditions (Hegel and Marx), human agency is a collective, historical dynamic, rather than a function arising out of

individual behaviour. Here, humans are treated as social beings, organised to act in concert. Giddens (1989) views human agents as essentially knowledgeable about their actions. He argues that this may include "unconscious sources of cognition" as well as those at level of practical consciousness embodied in what actors know about how to 'go on' in the multiplicity of contexts of social life (Giddens, 1983) and at the discursive level, at which they are able to provide explanations for them (Jones & Karsten, 2003).

All human actions imply power, the capability of producing an effect, the ability to make a difference in and on social world, and of transforming the circumstances in which one finds oneself, are essential features of human action. The extent of one's influence is limited by the resources available at one's disposal. Power is relational, however, power is never an unlimited capacity, and subordinates always have some resources at their disposal with which they can attempt to alter the balance of their power relationship.

Power may not be equalised or even turned around, but, it also means people are never completely helpless when subject to the power and control of others; alterations of balance of power overtime and in changing circumstances as a result of attempts by subordinates to use the resources at their disposal. People are never simply the helpless playthings of social forces completely beyond their control (Layder, 2006).

Structure refers to repetitiveness or recursive rules and laws in societies that govern human behaviour (Tanle, 2013). Giddens (1984) distinguishes three kinds of structures in a social system. Signification produces meaning through organised works of language. Here, the role of the

actor is to be able to interpret and manipulate a structured language by interpretive meaning. Legitimation produces moral order via naturalisation of social norms, values and standards. When individual agents interact, they exhibit conscious, subconscious or unconscious meanings of their behaviour. This form of interaction shapes the current social norms and is weighed against the moral rules of the structures. Therefore, whether an action is considered legitimate in the social order is structured by this dimension of legitimisation (Jones & Karsten, 2003; Lamsal, 2012). Individuals, thus, possess the capacity to transform structures. Social structures do not exist independent of human action, nor are they material entities. Social structure is, therefore, seen as being drawn on by human agents in their actions, while the actions of humans in social contexts serve to produce, and reproduce the social structure.

Jones and Karsten (2003) conclude that structure is, thus, not simply an exogenous restraining force, but is also a resource to be deployed by humans in their actions: it is enabling as well as disabling. Giddens recommends that structures (traditions, institutions, moral codes, and other sets of expectations) are universally steady, nevertheless, could be changed mainly during the unintentional consequences of action (Lamsal, 2012). Humans are in a constant state of reflexive monitoring of their situation and the omnipresent potential for change (Jones & Karsten, 2003). The continuous opportunities for change are ascribed to the existence of our practical (ability to act in a knowledgeable way) and discursive (our incomplete explanations for those actions) consciousness.

The way forward in bridging the gap between “structure” and “action” approaches is to recognise that we actively make and remake social structure during the course of our everyday activities (Giddens, 2009). This duality of structure defines the relationship between structure and agency and how the interaction influences changes in society. As agents, young people’s behaviour towards the environment are governed by elements of structure (rules, policies, laws, and resources) and this relationship could facilitate or constraint their capabilities to take environmental actions.

Social Construction of Young People

Childhood is a social phenomenon and the social construction and cultural positioning of young people conceive them as vulnerable and incompetent. Childhood is a social institution constrained by adult society and seen as marginalised in adult-centred society. Young people experience unequal power relations and their lives are controlled and limited by adults. Complications arise from positions ascribed to children rather than their inabilities or misperceptions. They, therefore, wilt adult power over them and not used to being treated as equals with adults. Research with children, therefore, must confront this generational issue.

There are different discourses on childhood as a social phenomenon. The social structural child sees children as a structural category and interrelated with other structural forms in society, such as social classes, age groups; interrelationship changes according to social systems and social formation. This conceptualisation is universal and global in character rather than local. Children as social class perspective emphasises socio-economic

factors and children's possibilities for exercising power and control. They are presented, first and foremost, as rights-claimers, with the same as adult society; seen as minority group. The fact that children's agency is not generally acknowledged by the adult world is something that does not only contribute to children's minority social status, but also shapes children's subjectivities and, therefore, helps reproduce their relative powerlessness.

James, Jenks and Prout (1998) outline a schematic model that identifies the different ways in which both structure and agency have influenced how children are seen. In another real, Mayall (2000) explores agency in context of structures constraining influence, which shapes children's collective position as a minority group in society and their agency and ability to act as agents. Children, originally conceptualised as incompetent, immature and passive, as objects of a socialisation process is now being replaced with more interactive and constructionist frameworks that lead to rethinking children, their rights and their social status.

Lister (2007) is of the view that contemporary sociology of childhood construction view children as social actors with agency and varying degrees of competence; they, therefore, should be recognised as active citizens. Children, as citizens, see themselves as competent subjects, social actors with rights in society and have say in matters affecting their lives. It focuses on children's agency or collective action practiced within peer cultural contexts. Citizenship, as a tool to integrate children into the social structure of society, strengthens their influence and agency in society and educates them as future adult citizens (de Winter, 1997).

There is, therefore, the need to change to the new framework of seeing children active agents of social agents who play an important part in their own representation (Machi & McEvoy, 2009). Their agency must be seen as a function of their role as social actors.

Young People's Political Socialisation and Civic Action

Chawla and Cushings (2007) advocate collective political engagement as the most effective action for the environment because it is the force that moves major actors like businesses and governments to take responsibility for the environment. However, Lister (2007) draws attention to how children's subjectivities, as independent social actors within the social, moral, political and economic constraints, affect their political agency. Psychological and sociological theorists consider youth, a politically definitive period; it is a time in life for deciding about the direction of one's future. In the process, an individual tends to take stock of one's society, the transition to adulthood marked by the young person's greater self-determination and independence of thought (Flanagan, 2009).

Compared to adults, they are free to explore different perspectives on social issues and different possible selves. Politically, they should be more independent than their elders, undecided about party affiliation, and more open to joining alternative parties. By so doing, Lerner, Lerner, Almerigi and Theokas (2005) attest to the benefits to both their individual development and the welfare of the social context that supports the development of all.

However, freedom from role and other social constraints is not in itself enough to motivate exploration and consolidation of political identities.

According to Flanagan (2009), equally important are exposures to heterogeneous points of view such as exposure to progressive faculty perspectives or public issues. Freedom of youth may be wasted politically, if there are no pressures (whether historical or contextual) that motivate them to grapple with social issues and take a stand. For instance, being in college, institutions, groups, etc. or otherwise, brings about consistency to political beliefs. Not merely being associated with these institutions that produce civic benefits, but rather the exposure to different perspectives and pressure to come to grips with them that help the youth to crystallise their own views.

The United Nations Educational, Scientific and Cultural Organisation (UNESCO) (2012) further buttress that community is important to adolescent well-being by virtue of broadening networks and providing opportunities for interaction with others, often through local groups and activities. For civic engagement in one's youth to have lifelong effects, one has to actively wrestle with the issues rather than watch from the side lines. Variations in civic participation can be explained by several factors - citizens with resources can be active; those who are engaged are motivated to want to be active; those recruited often say yes when asked. Colleges and schools, therefore, offer structural opportunities for staying engaged. Dolan (2010) argues that civic engagement and democratic participation can represent a means by which young people can enhance their resilience and social support.

Political skills are gained as youth gather information and critically analyse issues, including political or power dynamics that underlie them and ultimately learn how to speak out on behalf of their group. Flanagan and Levine (2010) point out that during adolescence, young people chart a course

for their future and take stock of the values they live by and the world they want to be a part of.

Through such venues, they interpret meaning of citizenship and understand their role as agents of change. Institutional setting is one context in which political views and identities take shape. Historical context is another, if youth is a politically definitive time in the life course, then the historical events of the period when one comes of age provide fodder for political growth (Lister, 2007). Historical events that occur during one's youth have a greater formative influence than those same events occurring in one's adulthood (Flanagan, 2009).

A popular method for achieving pro-environmental change could be appealing to social norms to manipulate people to behave differently. Motivational power of agency, according to Flanagan and Levine (2010), sometimes advocates environmental campaigns that appeal to our better natures (adopting pro environmental behaviours as private individuals; dominated by self-interest but rejects politics), dominance of a psychological rather than political approach to solving environmental problems. The use of these psychological techniques to appeal to individual altruism is normally preferable to other less democratic options. These approaches have merits, but they narrow vision of citizenship and reduce the potential of political agency to aggregation of personal value choices, aspirations and psychosocial interactions with the natural world (Flanagan, Syvertsen & Stout, 2007; Lister, 2007).

Sustainability crisis should be a political concern (Hayward, 2012). Therefore, environmental citizenship should pay more attention to diverse

voices and; recognition that the practice of citizenship is about collective learning and transformative change. There is room here for understanding democratic practice as a space in which the parameters of environmental citizenship itself might be remoulded overtime (Latta, 2007).

Citizenship and Young People

A citizen is a member of a particular political community with a particular set of institutions and defined territory. Citizenship, according to Lister (2007), is a contested concept, with implications for the kind of society to which we aspire. To be a citizen establishes a predominant relationship with the state, usually expressed in terms of rights and obligations among members and between them and the state (Barnet *et al.*, 2005). A citizen, as defined by Walzer (as cited in Flanagan, 2009), is most simply, a member of a political community, entitled to whatever prerogatives and encumbered with whatever responsibilities are attached to membership.

Citizenship here is conceptualised with a youth lens, in the context of their experiences of non-membership in local groups, institutions and organisations and youth practice citizenship. Membership is a sense of belonging or bearer of rights and duties, citizenship in relation to identity and subjectivity as developed through political participation, which is, being countered as a member of a community.

In such context, young people can learn what it means to be a member of a group, to exercise their rights, have a say in the group's affairs and learn to be accountable to fellow members and to the mission of the organisation. By working towards a common goal, they also learn to be agents of social

change. Young people are also, at times, presented as single category (unified, homogenous, undifferentiated, etc.), but differences in race, ethnicity, gender, class, disability, class, poverty, among others, call for differentiation-centred theorisation of citizenship (Flanagan, 2009).

Arguments for increased participation of children favour older children; while capacities evolve with age. In practice, the actual age at which a child acquires competencies varies according to his or her life experiences- socio-cultural environment, nature of the competencies and situations in which the person has to exercise this capacity. Young people are increasingly calling for recognition as participatory citizens, yet their status as citizens is not straightforward.

Hitherto, citizenship has been equated to adults, ignoring children who are portrayed as future citizens, citizens in waiting and citizens in the making. This, according to Lister (2007), this perception does not give them their true credit as social actors nor recognise contribution of young people to society. Young people should realistically be seen as members of society too, with a legitimate and valuable voice and perspective. The UN Convention on the Rights of the Child (1989), therefore, sets out their rights to participate and focuses attention on how they can be encouraged and supported to exercise their democratic rights.

Environmental Citizenship

Definitions of citizenship (legal membership in a nation state) limit environmental awareness of individuals to act across national barriers to

address global environmental problems or support actions of distant others which impinge on their lives (Hayward, 2012). The UNEP defines Environmental Citizenship as a simple reiteration of a known fact – that the preservation of the environment is an obligation entrusted upon everyone and all governments by virtue of the inherent relationship between people and nature and between citizens and their governments (UNEP, 2005). For Dobson (2010), environmental citizenship refers to pro-environmental behaviour in public and private, driven by a belief in fairness of the distribution of environmental goods, in participation and in the co-creation of sustainable policy. It is about the active participants of citizens moving towards sustainability.

Environmental citizenship is a concept that links environmental concerns with public and policy process. It is premised on the notion that each citizen is an integral part of a larger ecosystem and humanity's collective future depends on acting responsibly and positively toward our environment. Environmental citizenship recognises the fact that self-interested behaviour would not always protect or sustain public goods such as the environment. It is a personal commitment to learning more about the environment and to taking responsible environmental action. It encourages individuals, communities and organisations to think about the environmental rights and responsibilities. In a nutshell, it is a sense of responsibility that leads to actions that promote environmental conservation and sustainability.

It is an area of emerging research which emerged out of a theoretical inheritance of green political thought and of growing interest for academics, Non-Governmental Organisations (NGOs) and policy makers. There are many

points of debate about the concept. There are issues about whether it is behaviour or a belief, whether it is about the consequences of an action or about what prompts it. Might there be developmental stages of citizenship such that it starts with understanding and recognition of environmental goods and how to bring it about, and then lead to “thoughtless action”? (Barnett *et al.*, 2005). These unresolved issues have implications for how best to facilitate citizenship actions.

The complexities in the meaning of the concept have led to different interpretations in the theoretical framework for understanding the complexities (Bell, 2005). The challenge for academics is to explore the idea and to place it in relevant theoretical framework and contexts because the concept entered the environmental policy discourse before it entered the academic discourse of environmental politics or environmental political theory (Bell, 2005).

Consequently, different authors have approached the meaning of the concept from divergent standpoints. Latta and Garside (2005) note that these could be categorised into attitude change, environmental ethics, education, gender, scale of ecological politics (local to global), rights and obligations, participation and the character of democracy, links between practice and environmental health and relationship between public and private spheres of action.

Most of the debates focus on concern for individual rights and obligations relative to collective problems or common good. Hence research articles focus more on the challenges of cultivating green attitudes or behaviour in individual citizens and less on questions of democracy and collective action (Latta, 2007). Though many varied definitions of

environmental citizenship can be found in the literature, it is used broadly to be a pro-environmental behaviour, in public and in private, driven by a belief in fairness of the distribution of environmental goods, in participation, and in the co-creation of sustainability policy (Dobson, 2010). Attitudinal change is key to sustainability, but there is the need for political engagement, and how individuals understand and manifest responsibility, obligations or duties towards the environment and the voices of political actors (Latta & Garside, 2005).

The different tenets notwithstanding, dimensions of environmental citizenship generally fall within the scope of private responsibility, which emphasise an individual's personal responsibilities and actions. This includes appeals to recycle more, reduce energy consumption, cycle to work, etc. The assumption here is that progress towards sustainability is achievable through incremental shifts in everyday personal behaviours (Horton, 2003); rights to environmental justice that are pursued by collective action. Based on rights of all people to clean air, water, etc., and challenges the structural inequities that infringe or compromise those rights. More applicably to socially and environmentally disadvantaged, e.g. poor and minority communities suffer a disproportionate burden of environmental hazards.

Understanding and encouraging environmental citizenship is increasingly becoming important. For Barnett *et al.* (2005), taking environmental citizenship seriously could significantly benefit the environment through taking opportunities to encourage actions that promote sustainability as well as engaging with complementary citizen activity. Giving people the chance to be responsible for and make choices about their

environment produces environmental benefits that could not be achieved through conventional regulatory approaches. It means looking beyond the satisfaction of our immediate interests to the well-being of the wider community or environment, while being mindful of the rights and needs of future generations. Citizenship provides important ways of promoting both ecological sustainability and environmental justice.

Environmental citizenship involves participation of diverse stakeholders (mostly ordinary citizens) in development, enforcement and defence of environmental policies. It is an area of public policy where public interest and participation are high with the need for greater levels of citizenship participation in rule making; however, the concept is not simply about participation, ideas of environmental citizenship and participation overlap. Environmental issues historically have been characterised by intense conflict and controversy, pitting environmentalists against economic interest (Schlosberg *et al.*, 2006).

Environmental Citizenship and Young People

Citizenship definitions are always skewed towards adults. It usually comprises sets of legal entitlements conferred on adults, rights, duties and expectations (voting, paying taxes, support from state in rough times, etc.). This interpretation overlooks ways in which young people identify with their communities, make demands and contribute to civic life as citizens. Very often, young citizens are perceived apathetic and cannot address long-term environmental and social problems, hence discussions about the environment often marginalise their experiences. They are cast as passive recipients of information about their natural world, or innocents who need to be rescued

from the perils of modernity through unmediated contact with nature (Hayward, 2012); however, they are complex actors with the ability to engage with and influence their environment (Hayward, 2012; Lister, 2007; UNICEF,2011).

Environmental sciences and eco-system services are not child-centred. Children's ecological reality is a complex series of nested interactive systems in which the child is embedded in a dynamic world of everyday micro level interactions and indirect, but significant macro level process, including economic, political, cultural and physical change (Hayward, 2012).

Little attention is paid to ecological issues that currently worry young people, let alone the ways in which macro-scale dangerous environmental change will exacerbate these problems. Their complex ecological reality of the world is seldom taken seriously. There is the need, therefore, to reconsider children's citizenship in environmental education. Hayward (2012) argues that addressing most difficult ecological and social challenges requires a democratic imagination and a new form of active ecological citizenship. To create sustainable futures, Hayward discusses three typologies (SMART-thin environmental citizenship, FEARS- non-citizenship, and SEEDS- strong ecological citizenship) of environmental citizenship among young people and demonstrates how these support the capabilities of young citizens to address these challenges and promote environmental citizenship among young people.

SMART implies self-help, market participation, children encouragement, a priori justice, representative decision making and technological transformation. Self-help involves taking personal responsibility for one's life, it encourages children to take personal responsibilities as

citizens to address environmental problems; but feeling of personal responsibility is not adequate for scale and complexity of future problems. Market participation equates good citizenship to active participation in market as green entrepreneurs. A priori justice involves children learning to equate just decision making with abstract or a priori rules and contractual agreements; but contractual and universal approach to justice education is not enough to agree to a set of given rules, citizens should learn to develop skills to challenge justice when it is encountered.

Representative decision making implies children routinely encouraged to participate passively as voters or citizen consumers rather than active decision makers. Technological transformation – here, citizens can and should take individual action to effect positive environmental change; desired environmental outcomes achieved through individual efforts in the market; helps young people address some symptoms of sustainability crises, but it leaves out the drivers of ecological and social justice unchallenged, it is too great an expectation of citizenship, an individual responsibility for change can be a recipe for ineffective action and anxiety, particularly in context of diffused global decision making power (Hayward, 2012).

FEAR implies frustrated agency, environmental exclusion and retributive justice. Children in developing countries have difficult challenge to exert full potential of agency in face of storms, severe droughts associated with climate change, particularly if they are also struggling with inequalities. Here, there is environmental exclusion, silenced imagination; environmental campaigns heighten children's fear about their immediate future. Campaigns

based on green authoritarianism and FEAR are unhelpful in environmental citizenship education.

SEEDS stands for social agency, environmental education, embedded justice, decentred deliberation and self-transcendence. To create sustainable futures, young citizens require critical thinking skills, ability to reason, reflect and communicate clearly, resources to enable mobilisation across place and time, and restraint to live within material limits. Citizens who want to make a democratic difference for sustainability will need the virtues of empathy, tolerance, cooperation, moral reasoning, determination and courage. These conditions in which citizenship is formed need to be nurtured. Hayward (2012), therefore, proposes SEED as the conditions that nurture the formation of ecological citizenship. Social agency is the ability to affect choice and act in collaboration with others.

For ecological citizenship to be effective in the face of large scale threats and challenges, citizens need to learn to collaborate with others. Environmental education (formal and informal) - informal opportunities for children to identify with outdoor space is very important for wellbeing, a vital foundation for pro-environmental citizenship because they would not want to destroy what they enjoy. Additionally there is substantive environmental education opportunities to learn skills to help them reason about justice. Embedded justice- ecological justice best understood as everyday practical reasoning about procedural and distributional fairness and responsibility to put right any harm that has been caused through our actions of others that have benefitted us.

Decentred deliberation- engagement in discussions across community boundaries enrich understanding and enable wider public opinions to begin to consolidate. Self-transcendence- thinking beyond own immediate concerns to emphasise needs of others and of the non-human world. Young citizens' understanding of their everyday citizenship is reinforced by their formal and informal citizenship. These interactions have implications for attitudes they express about decision making and the actions they may or may not consider taking. SEEDS, allows children to exercise their capacity for citizenship in a more sustainable way.

Environmentalism Defined

Throughout human history, environmental impact has largely been a by-product of human desires for physical comfort. In recent times however, environmental protection has become an important consideration in human decision making and this development has given environmentally significant behaviour an intent-oriented definition. The terms environmentalism, pro-environmental behaviour, environmentally significant behaviours, environmentally important behaviours are used interchangeably and defined as behaviour that is undertaken with pro-environmental intentions (Kollmuss & Agyeman, 2002; Monroe, 2003; Stern, 2000).

Much earlier research on pro-environmental behaviour presumed it to be unitary and undifferentiated but Stern (2000), Kollmuss and Agyeman (2002) and Monroe (2003) have distinguished several types of environmentally significant behaviour determined by different causal factors. These include Environmental activism, active involvement in environmental

organisations and demonstrations. Non-activist behaviours in public sphere include environmental citizenship (petitioning on environmental issues, joining and contributing to environmental organisations), support or acceptance of public policies. Private sphere environmentalism refers to purchase of major household goods and services that are environmentally significant in their impact (Dobson, 2010).

Similarities in motives or opportunities to encourage PEB and outcomes distinguishes behavioural types; environmental activism (actively participating in or leading environmental initiatives), non-activist political behaviours (joining an organisation, voting, signing a petition, or writing a check), consumer behaviours (purchasing “green” products, recycling, reducing energy use, and altering consumption habits), ecosystem behaviours, other behaviours in the workplace.

There are some similarities between these categories. Peer pressure may help inspire non-activist political behaviours or ecosystem behaviours more than some of the other behaviour categories. Environmentally significant behaviour is dauntingly complex, both in its variety and in the causal influences on it. Possessing environmental knowledge or awareness, however, does not necessarily lead to actions on behalf of the environment. There are various gaps or constraints between possessing environmental knowledge and displaying pro-environmental behaviours (Chawla & Cushing, 2007; Hungerford & Volk, 1990). The VBN approach offers a good account of the causes of general predisposition toward pro-environmental behaviour.

Causes of Environmentally Significant Behaviour

As indicated earlier, because environmental intent and environmental impact are not necessarily automatic, theories explaining environmentalism are insufficient in explaining how to change environmentally important behaviours (Stern *et al.*, 1998). ESBs could be matters of personal habit or household routine, others are highly constrained by income or infrastructure and for others, and environmental factors are only minor influences on major actions. Sometimes, people may act in ways that are pro-environmental in intent, but, in fact, have little or no positive environmental impact. Environmentally beneficial actions may also follow from non-environmental concerns (DeYoung, 2000; Kaplan, 2000); and environmental concerns may fail to lead to pro-environmental actions for various reasons. Environmentalist predispositions can, therefore, vary greatly with the behaviour, the actor and the context.

Stern (2000) advances the Attitudinal variables, Behaviour and Contextual factors (ABC theory) to explain the causes of environmentally significant behaviour. He again identifies four causal variables, including attitudinal factors- including norms, beliefs and values. Pro-environmental behaviours could be affected by personal commitment and the perceived personal costs and benefits of particular actions as well as by behaviour-specific beliefs and personal norms. ESB can also be affected by non-environmental attitudes such as attributes of consumer products that are correlated with environmental impact or about waste, etc. Contextual factors include interpersonal influences, community expectations, other legal and

institutional factors and various features of social, economic and political context.

Personal capabilities- knowledge and skills required for particular actions, the availability of time to act and general capabilities and resources such as literacy, money, social status and power. Socio-demographic variables such as age, educational attainment, income, etc., may be proxies or indicators for personal capabilities. Although these variables have limited explanatory power for ESBs, they may be important for behaviours that depend strongly on particular capabilities. Many studies on socio-demographic variables and environmental perception have helped in understanding people's views and thinking about the environment (Ifegbesan, 2009, 2010). Age, education and gender have shown strong and consistent relations with environmentalism (Raudsepp, 2001). A study by Stern *et al.* (1998), however, showed that demographic variables were found to be unrelated to consumer behaviour and policy support when socio-psychological variables were held constant, but environmental citizenship was found to be positively associated with income and white race.

It reflects the fact that the efficacy of environmental citizenship depends on an individual's social and economic resources. Also, environmental activism for which attitudinal variables had very little explanatory power was significantly associated with age and income. Habit or routine is another distinct type of causal variable. Behavioural change often requires breaking old habits and creating new ones. Different causal variables work differently in influencing behaviour. For instance, certain attitudinal factors create a general predisposition to act, which may be shaped into

specific action largely by personal capabilities and contextual forces. A new context may make old habits untenable and lead someone to consider his or her attitudes and values explicitly in developing new ones.

From the discussions above, what shapes pro-environmental behaviour is complex and cannot be visualised in a single diagram. However, the various models have some commonalities, contradictions and omissions. Kollmuss and Agyeman (2002) distinguish these into demographic factors, external factors (institutional, economic, social, and cultural) and internal factors (motivation, environmental knowledge, awareness, values, attitudes, emotion, locus of control, responsibilities and priorities).

Demographic Factors

Gender and years of education have been found to influence environmental attitude and pro-environmental behaviours. Women usually have less extensive environmental knowledge than men but they are more emotionally engaged, show more concern about environmental destruction, believe less in technological solutions and are more likely to change (Ifegbesan, 2009, 2010; Lyon & Breakwell, 1994; Raudsepp, 2001). In terms of education, the longer the education, the more extensive is the knowledge about environmental issues. More education, however, does not necessarily mean increased PEB (Kollmuss & Agyeman, 2002; Mensah & Whitney, 1991).

External Factors

PEBs can only occur, if the necessary infrastructure is provided. The poorer such services, the less likely people are to use them. These institutional barriers can be overcome primarily through people's actions as citizens

(indirect environmental actions) (Stern, 2000; Kollmuss & Agyeman, 2002). People act in economically rational fashion. The economic factors that play into people's decisions are very complex. If a person decides between two possible items, one energy-efficient and the other not, the energy efficient one will be chosen only, if the payback time for the energy saved is very short. Economic incentives could be used to influence people's pro-environmental behaviour. Economic factors are very important in designing new policies and strategies that are meant to influence and change behaviour, but these have to be intertwined with social, infrastructural and psychological factors in order to reveal the whole picture about PEB. Social and cultural factors or norms play a very important role in shaping people's behaviour.

Internal Factors

Motivation is the reason for behaviour or a strong internal stimulus around which is behaviour is organised (Kollmuss & Agyeman, 2002; Nordlund & Garvill, 2002). Motivation is shaped by intensity and direction. Motives for behaviour could be overt or hidden (conscious or unconscious). Motives could be primary (the larger motives that let us engage in a whole set of behaviours, e.g. striving to live an environmental lifestyle) or selective (motives that influence one specific action). Internal barriers to pro-environmental behaviour usually are non-environmental motivations that are more intense and directed differently; primary motive with environmental values are often overridden by selective motives of personal comfort. Kollmuss and Agyeman (2002) hypothesise that primary motives such as altruistic and social values, are often overshadowed by the more immediate, selective motives which evolve around one's immediate needs, including:

Environmental knowledge

Environmental knowledge and awareness per se is not a prerequisite to pro-environmental behaviour. Motives for PEB or non-PEB seem to be situational factors and other internal factors. However, people need to have some basic knowledge about environmental issues in order to be environmentally conscious. Other incentives such as economic and socio-cultural values could motivate people to act pro-environmentally without having concern for the environment. But, this may be unsustainable because once such incentives are removed; people may start acting negatively to the environment.

Values

Values are responsible for shaping our intrinsic motivation. What shapes ones value is complex. Fuhrer, Kaiser, Seiler and Maggi (1995) propose that a person's values are most influenced by the microsystem (immediate social net such as family, neighbours, peer groups) as well as the macrosystem – the cultural context in which an individual lives. Chawla (1999) explored retrospectively what factors influenced people's environmental sensitivity (a predisposition to take interest in learning about the environment, feeling concern for it, and acting to conserve it) and found no single experience but a combination of factors including, in decreasing order of relevance, childhood experiences in nature, experiences of pro-environmental values held by family, pro-environmental organisations, role models (friends, teachers), education. Experiences of natural areas and family were most influential during childhood; during adolescence and early

adulthood, education and friends; and during adulthood, pro-environmental organisations.

Attitudes

Attitudes are defined as the enduring positive or negative feeling about a person, object or issue. Closely related to attitude are beliefs which refer to information (knowledge) a person has about a person, object or issue (Newhouse, 1991). Environmental attitudes have been found to have a varying, usually very small impact on pro-environmental behaviour. Diekmann and Preisendoerfer (1992) explain the discrepancy by proposing that people choose the pro-environmental behaviours that demand least cost, including the time and effort needed to undertake a PEB.

People with high levels of environmental awareness, therefore, might not be willing to make bigger lifestyle sacrifices, but will be more willing to accept political changes that will enhance PEB. Attitudes can indirectly influence PEB. Many barriers are responsible for the gap between environmental attitudes and PEB; nevertheless, values and attitudes clearly play an important role in determining PEB. Environmental awareness is defined by Kollmuss and Agyeman (2002) as knowing of the impact of human behaviour on the environment. It has both a cognitive, knowledge-based component and an affective, perception-based component which sometimes serve as constraints. Cognitive limitations of environmental awareness include non-immediacy of many ecological problems, slow and gradual ecological destruction, and complex systems.

Most environmental degradation is not immediately tangible and, most times, go unnoticed by lay persons. There is a time lag in perceiving

environmental degradation. Because the degradation is not immediately tangible, the information about environmental damage is not immediately tangible, the information about degradation has to be translated into understandable, perceivable form. Preuss (1991) stresses that this may further intellectual understanding without making a link to our emotional involvement. Often, environmental change is slow and gradual making it difficult to be perceived unlike drastic and dramatic changes. Again, most environmental problems are intricate and immensely complex. This prevents deeper understanding of the consequences of environmental destruction and leads to underestimation of the extent of the problem.

Emotional involvement is the extent to which we have an affective relationship with the natural world. Such an emotional connection, according to Chawla (1999), seems to be very important in shaping our beliefs, values, and attitudes towards the environment. Emotional involvement is further seen as the ability to have an emotional reaction when confronted with environmental degradation. Women tend to react more emotionally to environmental problems; the stronger a person's emotional reaction, the more likely that person will engage in PEB.

Locus of control represents a person's perception of his or her ability to bring about change through his or her own behaviour. People with a strong internal locus of control believe that their actions can bring about change. People with an external locus of control, on the other hand, feel that their actions are insignificant, and feel that change can only be brought about by powerful others. Such people are less likely to act ecologically.

Responsibility and priorities

Our feelings of sense of responsibility are shaped by our values and attitudes and are influenced by our locus of control. Our responsibilities are often prioritised; most important is our personal well-being and well-being of our families. When PEBs are in alignment with these personal priorities, the motivation to do them increases; if they contradict the priorities, the actions will less likely be taken (Abrahamse & Steg, 2009; Rickner, 2010).

Barriers to Exhibiting Pro-environmental Behaviour

There are limitations to using single variables to explain changing behaviour. Several variables interact to bring about the exhibition of ESB. Often, the nature of the interaction can be well described in terms of barriers or limiting conditions to behavioural change (Gardner & Stern, 2002). Whether or not people take actions in line with their values and concerns depends to a large degree on the scale of the barriers they face in terms of time and resources that action will cost. Many barriers are structural, or built into the fabric of everyday life through government regulations, business practices or the physical forms of human settlements.

Blake (1999) points out that most PEB models are limited because they fail to take into account individual, social and institutional constraints and assume that humans are irrational and make systematic use of the information available to them. Blake identifies three barriers to action: individuality, responsibility, and practicality. Individual barriers lie within the person, having to do with attitude and temperament. These barriers are influential in people who do not have a strong environmental concern. Environmental

concern is, therefore, outweighed by other conflicting attitudes. However, a strong environmental concern could also be overcome by other stronger desires and needs.

The second barrier, responsibility, is similar to psychologist's notion of locus of control. People who do not act pro-environmentally feel that they cannot influence the situation or should not have responsibility for it. People's lack of trust in institutions often stop them from acting pro-environmentally since they are suspicious of local and national government, they are less willing to follow prescribed actions.

The third barrier, practicality, is defined as the social and institutional constraints (lack of time, lack of money, lack of information) that prevent people from acting pro-environmentally regardless of their attitudes or intentions. Blake's model is useful in combining both internal and external factors, but it does not account for social factors such as family pressures and cultural norms and their underlying psychological factors.

Gardner and Stern (2002) have noted that whether or not people take action in line with their values and concerns for the environment depends largely on the scale of barriers in terms of time and resources. Collective political action helps to minimise these barriers to sustainable life styles (Chawla & Cushing, 2007). UNESCO (2012) further identifies some challenges to young people's civic engagements as inequalities, societal attitudes to young people and adult control.

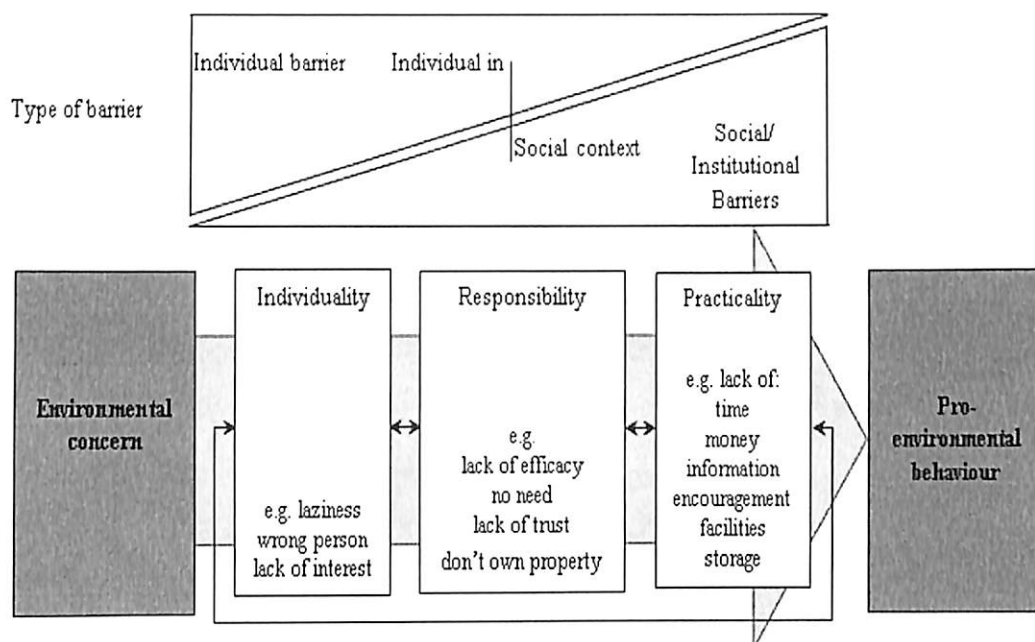


Figure 1: Barriers Between Environmental Concern and Action.

Source: Blake (1999)

According to Flanagan and Levine (2010), people with lower income and education levels are less likely to take part in civic organisations. Therefore, young people who do not attend school are less likely to engage in citizenship activities (Hart & Atkins, 2002). It is also argued that young people, especially adolescents, have low expectations regarding their ability to contribute to society in a positive way. They believe their participation is not valued, hence their reluctance in engaging in social issues (Hart, 2009; Melbourne, 2009).

Enabling Factors and Changes to Young People's Participation

Often participation policies are cursory, with the young person having little if any real voice in discussions and decision making. A critical theme that cross-cuts the idea of participation is ensuring that young people's voices are heard, that they are taken seriously, and that young people are given real opportunities to direct each stage of a project, from planning, to

implementation and through to the evaluation phase (Ashenden and Sasse, 2013). Youth participation means young people have a role in the structure of an organisation (or project, etc.). It can appear in many different forms, but essentially means consultation, decision-making, and representation which value the role of young people.

Youth participation ensures that programmes and services are relevant, engaging, and responsive to young people's needs. For the young person, it gives them the opportunity to have a say about what is important to them, to take control of decisions that affect their lives, to increase their skills, and to build their confidence and connections to their community. For the organisation, it means campaigns and programmes are more effective in reaching young people, attracting their interest and representing their views and needs. It helps to ensure effectiveness, emphasises strengths rather than weaknesses, and can help to raise the profile of the organisation within the community. It has also been linked to national democratic, social and economic development.

It is imperative to improve the image of the youth, both amongst themselves, within the community, and within society in general. Public celebrations of successes, on-going communication with the community through media and events, and focusing on young people's strengths are key activities to improve the perception of young people. The spaces, structures and institutions in which youth participation occurs must be youth-friendly, actively supporting the unique talents and strengths of young people. Structural barriers often hinder youth participation; facilitative structures,

protocols and policies at all levels of the organisation will help to ensure young people have a genuine voice (UNESCO, 2012).

Increased recognition of the skills and talents of young people, and improved ways to incorporate their perspectives and ideas into organisations and programme will greatly improve results at an individual, community, national and international level. Youth participation is increasingly recognised as a vital part of any organisation, and particularly those working with marginalised or disadvantaged groups. Young people know best their own needs, and are in the best position to know what solutions will be effective.

Opportunities for Civic Practice

Participation in organisations in one's youth is a precursor to civic engagement in adulthood (Flanagan, 2009). Opportunities for engagement vary by age and class. Engagement in extracurricular and community based organisations in adolescence does predict civic engagements –involvement in community service, public speaking, debates and performance, religious affiliations, among others. Youth organisations that demand time commitments and that concern service, political activity and public performance have most significant positive relation to long-term political participation.

Once in an organisation, an individual is likely to get recruited into other organisations and civic activities. Thus, engagement as a youth sets one on a recruitment trajectory (Flanagan & Levine, 2010; UNESCO, 2012). Although social rewards are the reasons most youth initially join organisations, overtime, they are likely to develop an affinity and identification with the organisation and its mission and feel a sense of

coherence between their own values and views of those of others in the organisation.

Solidarity and identification with a group or organisation, working with a group to achieve a goal, leads one to experience a sense of collective efficacy- the belief in the capacity of the group to achieve something together. Since political goals are achieved through collective action, this is an important constituent for sustaining engagement.

Forms of Youth Political Activism

Youth are less likely than their elders to engage in conventional politics (Flanagan, 2009). They are more likely to act on their beliefs in unconventional ways through public demonstrations, actions of civil disobedience, or even more disruptive forms of political action. The inverse relation between age and choice of militant strategies may pose personal risk. Often this has resulted in public and media disdain and dismissal both of the message and the youth. However, this impatience and penchant for militant action has invigorated organisations and political movements.

Mainstream community organisations are also, re-invigorated when youth's perspectives are taken seriously. Young people are assuming leadership roles in public policy consultations, community coalitions for youth development, and NGOs. These models reflect a new focus on youth development i.e. Positive Youth Development (PYD) which frames youth as assets rather than risks to their communities (Lerner, 2005). They also necessitate a new partnering style between the youth and adults in the organisation.

Increase in youth civic engagement has occurred as a consequence of the institutionalisation of community service or service learning in secondary and post-secondary education (Flanagan, 2009). Engaging in quality service results in a growth in student civic skills, democratic dispositions and sense of efficacy in addressing community issues. Preparing youth for responsibilities of adulthood also means enabling them to assume their roles as citizens. Many new forms of youth activism reflect transnational reality- focus on justice, labour, environmental issues, among others.

Organisational style, in contrast to centralised, hierarchical structures of political parties, horizontal, loose networks with flexible membership and dispersed leadership are more typical. They take advantage of the democratic potential of new media to share information, increase diversity of opinion and mobilise political action.

Allowing young people to participate, therefore, strengthens their sense of belongingness as well as equipping them with skills and capacities required for effective citizenship, that is, facilitate their participation as political and social actors as well as participation beyond individual decisions about the child's own life to participation in wider collective-decision making. Inclusion, consultation and delegation of responsibility to children and youth can have very practical benefits and young people can contribute unique and often unexpected and independent perspectives (Bartlett, 2005).

Increasingly, mechanisms being developed to enable such participation; of varying degrees and effectiveness, e.g. tokenism. However, simply establishing participatory structures and opportunities is no guarantee for effectiveness. Such structures should allow scope for meaningful action.

Education in the values and skills of citizenship is most effective, if children can actually use these skills to make a difference (Neale, 2004). Without due recognition and respect, participation may become an empty exercise at best a token gesture, or and at worst, a manipulative or exploitative exercise.

Citizenship should involve a search for ways to alter the culture of adult practices and attitudes in order to include young people in meaningful ways and listen and respond to them effectively. Adult behaviour and manner of relating to children, therefore, are very important. Bynner (2001) argues, for instance, that volunteering among young people is encouraged by adults because it is “safe” and places them under the control of adults. Adults have the primary responsibility of developing participatory structures and cultures that genuinely include young people. Participation represents both a citizenship practice and a moral right (Lister, 2007).

There is need for political engagement, how individuals understand and manifest responsibility, obligations or duties toward the environment and the voices of political actors (Latta & Garside, 2005). When people participate to improve their local quality of life, they develop the confidence and skills which enable them to take more effective action and they become aware of wider environmental issues.

Barnett *et al.* (2005) outline the processes of building citizenship, scales of environmental citizenship, where individuals can be given opportunities to act as environmental citizens in different contexts in relation to local area, national or global considerations. Local initiatives have particular potential to deliver environmental improvements. Local projects that address social and environmental issues together offer particular promise for

local social renewal and environmental sustainability. Participation of this nature can not only bring environmental improvements, but also help tackle social exclusion, improve democracy and involve people in making decisions that will affect their lives.

Local projects, however, have minor direct ecological impacts of individual projects. They have indirect environmental and social effects for sustainable development through environmental promotion, education and awareness-raising, engaging and involving people with environmental and sustainability issues in their daily lives, changing the attitudes of local policy makers with regard to environmental issues, developing and promoting new services and ways of working that helps meet the goals of sustainable development. Local engagement may, therefore, help build trust and foster a broader sense of citizenship.

In terms of what policy instruments might promote environmental citizenship, there is widespread agreement that environmental citizenship should occur through a process of extending personal responsibility into environmental arena; but no clear agreement exists on how best to facilitate this (Darnton, 2006). Any attempt to promote environmental citizenship should take into account the characteristics of the population under consideration. Different approaches may be appropriate for different sectors of the population (gender, age, ethnicity, social class, religion, education, etc.) and these affect how people respond to policy instruments and the types of citizenship initiatives that are likely to affect them (e.g. range of young people).

Environmental citizenship could be encouraged through providing information. Information can be given to people for different reasons and with different desired outcomes. Sometimes, the aims could be to change peoples' awareness; stimulate interest, desire affected and new action in line with information given. In relation to environmental citizenship, it presumes that individuals are provided with information which they then internalise. This awakens a sense of environmental responsibility, then acting through a sense of responsibility, they make rational choices to change their consumption pattern; but this model of behaviour change is not that simple. People's behaviour and motivations are much complex; there is a gap between what they know and what they do (Kollmuss & Agyeman, 2002), particularly more complex in environmental issues.

Environmental citizenship could also be encouraged with appropriate language, through cultural interventions (e.g. storytelling, street, theatre, music, etc.), with toolkits- participatory methods; web based toolkits. More systematic and reflexive models of how citizenship action might become established are still emerging. Encouraging citizenship by providing opportunities for social learning has several dimensions; changed behaviour and actions, new actions generated through interdependence and limitations e.g. role models- parents, peers.

Networks are key to the process of social learning. It involves interactions between multiple but interdependent individuals. Through networks, individuals and groups spread good environmental practices through peer groups. Collective efficacy emphasises shared belief, active sense of engagement; through network hubs- new behaviours spread through the

influence of people at the hub of the networks e.g. opinion leaders, animators, protagonists, new persuaders. These have the skills to carry and circulate ideas. They are trusted by those linked to them in the networks.

Environmental citizenship could also be encouraged through action-driven research. Citizenship cannot be taught, but only learnt. Action research provides opportunities for growth of environmental citizenship. Here, both problems and possible solutions will be derived through co-production; increases participation through recognising, supporting and facilitating existing initiatives. Working with other organisations, or linking with groups, volunteers.

Avenues for Promoting or Encouraging Conservation Behaviours

There is widespread agreement that solutions to environmental problems must involve the public (Monroe, 2003), hence, effective strategies must engage people in enduring conservation behaviours. How can environmental literacy be built to prepare people to adopt environmental behaviour. Behaviours could be direct or indirect and may operate at individual or societal levels; because there are different motives and rewards for exhibiting PEBs, it becomes rarely impossible to change conservation behaviour with only one tool (Chawla & Cushing, 2007; Hungerford & Volk, 1990; Stern *et al.*, 1998). PEB refers not only to the specific actions, but to an approach to seeking information, making decisions, and valuing a stewardship ethic (Stern, 2000).

The role of education, family, experience, organised religion and community may be important in cultivating willingness to change or maintaining a new conservation behaviour ethic, known as environmental

literacy. Environmental literacy means having knowledge, attitudes, skills and behaviour to be competent and responsible (Disinger & Roch, as cited in Stern, 2000). People who are environmentally literate can be identified by their behaviours, they make choices that are environmentally appropriate.

A specific behaviour is usually thought to be a product of an opportunity and intent (a product of knowledge and attitudes). Ajzen and Fisbein (1980) suggest three elements that make up an intent to act: the attitude towards the behaviour, which is a product of salient beliefs that performing the behaviour will lead to a predicted outcome, and a positive evaluation of that outcome; the perception of the social pressure regarding the behaviour, which is a product of beliefs that important other people think the behaviour should or should not be practiced, and the motivation to comply with these expectations; the perception that one has the ability to perform this behaviour, which is a product of beliefs about personal control over the behaviour and actual control. This factor affects not only intention, but also, directly influence behaviour by preventing intention from becoming realised.

Various forms of cultivating environmental literacy occur based on the type of behaviour and the target audience. Consumer behaviours are normally achieved by employing a variety of social marketing techniques which target specific audience or individual behaviours. Social marketing uses commercial marketing techniques to promote an idea or behaviour that benefits the individual or society, or change a selected behaviour in a carefully targeted audience. This form of persuasive communication usually provides specific information about the behaviour, the consequences of action, and the benefits of those consequences. Social marketing aligns more with adult audiences.

People are also more likely to engage in environmental behaviours when they are aware of the negative consequences and when they believe they have some responsibility for changing the problem (Stern, 2000). The Environmental Citizenship Behaviour framework suggests some category of variables which work in concert to predispose someone to responsible actions and hence build environmental literacy. Hungerford & Volk (1990) classify them to include entry-level variables, ownership variable and empowerment variables. Entry-level variables seem to be pre-requisite to environmental literacy. Environmental sensitivity is an empathetic perspective and has been shown to have a dramatic relationship to future behaviours. Ownership variables are those that personalise environmental issues: in-depth knowledge of environmental issues, including the implications of action and personal investment in issues built out of prior activity or extensive knowledge. Empowerment variables are those that give people a sense that they can take actions that will help resolve environmental problems including perceived skills in taking action, knowledge of action strategies, locus of control, and intention to act.

The EC framework bears similarities to the VBN model (Chawla & Cushing, 2007). Environmental sensitivity could be a measure of biospheric and altruistic values, and beliefs, perceived skills in action taking is similar to perceived ability to reduce environmental threat. Personal investment which is an ownership variable increases the likelihood that the sense of obligation (personal norm) will lead to action. Table 1 shows the similarities in pro-environmental behaviour models.

Table 1: Pro-Environmental Behaviour Variables

Pro-environmental behaviour	VBN Theory	EC behavioural model
Entry –level variables - predisposes people to take actions on behalf of the environment	Values- people need to value the protection of the environment for their own sake or because they understand the benefits for human society	Environmental sensitivity- biospheric, altruistic values
Ownership variables- personal investment in certain environmental issues; making oneself knowledgeable about them	Enough Knowledge about environmental issues to understand consequences for themselves, and the people and places that matter to them- AC	Knowledge of ecology and issues- belief- ecological worldview In-depth knowledge- belief- AC
Empowerment variables- skills in using environmental action strategies and belief that one can be successful.	Need to believe that they can have an effect on these issues and that social norms prescribe that they should act- AR; NORMS	Perceived skills in action- ability to reduce threat- AR Locus of control- knowledge of action strategies

Source: Hungerfolk and Volk (1990); Stern (2000); Chawla & Cushing (2007)

The model was designed and most often used by educators. It makes sense to label the variables that can be influenced by an educator as determinants of youth behaviour. Some might label the activity of practicing an action as behaviour itself. If empowerment variables are formed and strengthened by practicing the behaviour in a classroom context, the activity of conducting the behaviour with the support of peers and supervisors may lead to increased ownership and more positive attitudes. Thus the behaviour itself may influence the determinants. The development of environmental literacy

should enable people to make appropriate decisions in a wide variety of contexts over time (Hungerford & Volk, 1990).

The skills of seeking information, comparing opinions, sorting through complexities, and determining environmentally appropriate course of action should be transferable to a variety of contexts. Enhancing biospheric values, a sense of personal obligation, personal investment, and perceived skill should make it more likely that these skills will be used, and used to promote appropriate environmentally significant behaviour. In this respect, cultivating literacy may be a more efficient long-term strategy than investing in a multitude of campaigns to change specific behaviour.

Stern (2000), Nordlund and Garvill (2002) and Rickner (2010) all argue that a common assumption when seeking the sources of environmentally responsible action is that since environmental behaviours are often inconvenient, expensive, or result in loss of social status, the values that prompt conservation behaviours must include altruism- selfless action for the good of society or environment. DeYoung (2000) and Kaplan (2000), however, counter this assumption with the hypothesis that those who perform environmental behaviours may be in fact acting out of self-interest, not altruism. People might derive other types of rewards that are related to satisfaction, feeling needed, sense of identity and social group approval.

Strategies to nurture and enhance environmental literacy are numerous (Chawla & Cushing, 2007; Monroe, 2003). Anything to promote environmental knowledge, enhance biospheric and altruistic values, while decreasing egoistic values, or creating lasting belief structures about environmental change and solutions could be used (Dobson, 2010; Nordlund

& Garvill, 2002; Rickner, 2010). Prescribing educational tools for building environmental literacy is challenging because the time period between an educational event and the opportunity to practice conservation behaviours is often so long that a huge number of other variables have exerted their influence, undermining whatever educational residue might have existed. Carlsson and Jensen (2006); Chawla and Cushing (2007) opine that, if the period is shortened and youth are involved, in particular behaviours, questions of whether the influence of the teacher or peer group is more responsible for the behaviour than the education arises.

Cultivating environmental literacy, therefore, is so vague and difficult to measure with consistency and with certainty. Monroe (2003) explores two dimensions for which research is promising- significant life experiences and environment-based education as strategies that may help build environmental literacy. Some common themes from research by Chawla (1999) on significant life experiences of noted environmentalists expose certain pre-disposing factors that influence their PEBs. These include childhood experiences of natural areas, family members, both siblings and adults, who valued the environment, pro-environmental organisations, experiences of the destruction or loss of environment, school-based education, particularly opportunities to take action.

Generally, the predisposing factors commonly mentioned among environmental activists are: positive experiences in natural areas, adult role models, environmental organisations, education, negative experiences of environmental degradation, books and other media and on-the-job experiences. However, people could still have these exposures, but may not be

committed to the environment, while there may be conservationists who may have had few formative experiences.

This notwithstanding, Chawla and Cushing (2007) advocate that the unique accumulation of experiences both in school and out of school, particularly among young people, is important in shaping people's knowledge and values. Young people may have a natural affinity to nature, developing relationships with natural places will help them to grow to feel empathy for nature (Hart, 2009). Using environmental issues and encouraging action among young people will, therefore, evolve into environmentally responsible actions when older youth discover the opportunities to develop PEB.

Environment-based education is also another avenue for promoting PEBs. Environment-based education, cited in Monroe (2003) by NEETF, refers to those projects that are situated in the real world and engage youth in exploring problems and taking action. Environment-based education increases critical thinking and enhances achievement motivation (Athman & Monroe, 2004; Hart, 2009) by engaging young people in planning activities, solving problems in projects they are involved in and experiencing success.

Their engagement in something real, in addition to empowering them with a sense of purpose, provides a complexity that is not common in discipline-bound books (Monroe, 2003) or through traditional teaching. The components of choice, responsibility, participation in decision making, feedback with results, and clarity that are integral to EBE have been used to empower learners, engage participants and create appropriate development projects (PLAN, 2008; UNESCO, 2012; UNICEF, 2008). If these long-term real world, action-oriented educational projects can demonstrate improved

academic skills that contribute to lifelong success, it would be interesting to learn the extent to which conservation information and a sense of responsibility for the environment are also conveyed.

Project-based learning programmes may enhance self-efficacy, which may be an important ingredient of environmental literacy, through a connection to a perceived ability to reduce a threat (VBN theory), or through locus of control (ECB model) (Chawla & Cushing, 2007; Hungerford & Volk, 1990; Stern, 2000). Thus, a group activity to identify, plan, and perform a community service or solve a local problem, according to Carlsson and Jensen (2006), and Hayward (2012) has the potential of teaching not only knowledge, but also building a can-do attitude that may enable youngsters to rise to future challenges. The challenges to this type of education is to offer educational programmes and learning opportunities with mentors and families that are strong enough to support biospheric values and the formation of an ecological world-view in young children.

As children grow and are developmentally able to engage in complex issues, a variety of environment-based participatory programmes could provide a chance to convey information about environmental issues, build self-efficacy, and develop skills in problem solving, decision making and action taking.

Building environmental literacy, however, is not limited to youth education. Young people are merely easier to reach through required formal education and non-formal youth groups. In summary, Monroe (2003), advocates strategies useful in cultivating environmental literacy that can become an internal guide to enhancing conservation behaviour. These include:

interesting stories, case studies, and success stories of peers, environmental heroes and community leaders; participation in project-based environmental problem solving; reinforcement for environmental values from family, school, youth groups, and community programmes.

Other avenues (Chawla & Cushing, 2007; Dobson, 2010; Flanagan, 2009; Flanagan & Levine, 2010). include frequent and sustained experiences in nature, starting in early childhood; opportunities for children to explore and creatively play in nature; partnerships with experts, mentors, older students, and leaders; investigating issues and working on their resolution; persuasive encouragement and support for actions to build efficacy; information about the environment, environmental issues, and the consequences of human actions; making connections between and among the various aspects of an issue or action to more thoroughly understand the choices and consequences; acquisition and practice of action skills, both political and ecological .

Promoting Environmental Citizenship among Young People

What constitutes environmental citizenship, and the most effective tools and approaches for implementing environmental citizenship, are still emerging. Recent literature classifies environmental citizenship tools into 'new tools' and 'old tools' (Dietz & Stern, 2002). As Dietz and Stern explain, old tools are described as 'command and control' and 'market-based policies', while new tools are considered to be 'education', 'provision of information' and 'voluntary measures'. Other additional new tools that should be incorporated into environmental citizenship framework include using community champions to motivate and encourage others, establishing social

and professional networks and providing funds to undertake activities (Environmental Evidence Australia, 2012).

Today's environmental problems are structurally anchored in our societies and our ways of life. Solution requires fundamental changes at societal as well as personal levels, hence education is key (Carlsson & Jensen, 2006; Dobson, 2007). How should environmental education be? Should it be theoretical and hypothetical, or practical with students now in decisions and actions that affect their environment? Is it possible to build students' capacity for environmental action without enabling them to engage directly in environmental action? What are the barriers and problems, if students - as part of their education - take action in society? Carlsson and Jensen propose environmental citizenship should be operationalized closely related to the notion of action competence.

Education for sustainable development should ensure developing people's skills in and commitment to effective participation in democratic and other decision-making processes that affect the quality, structure and health of environments and society and explore values that determine people's actions within society, the economy and the environment (Dobson, 2007). Dobson (2010) further suggests for policy action to include the provision of greater opportunities for individuals to take part in local environmental decision-making, the creation of opportunities for civic engagement and volunteerism and the creation of new tools for promoting community connection to ensure sustainable environmental behaviours.

CHAPTER THREE

THEORETICAL PERSPECTIVES AND CONCEPTUAL FRAMEWORK

Introduction

This chapter reviews literature on related theoretical and empirical studies, as well as the conceptual framework for the study. It outlines the theoretical framework. The main theory guiding the study is the Values, Beliefs and Norm (VBN) theory of environmentalism (Stern, 2000). It is supported by Giddens (1984) structuration theory and Mannheim (1952) generational theory which justify the ability of young people to engage in environmental actions within society despite the social construction of young people.

Theoretical Perspectives

Kollmuss and Agyeman (2002) define pro-environmental behaviour (PEB) as a behaviour that consciously seeks to minimise the negative impact of one's actions on the natural and built world. What constitutes PEB is complex and cannot be explained by one single framework. Various theories have been advanced to explain the relationship between people's knowledge or awareness of environmental issues and how this translates into actions or environmentally significant behaviours. Kollmuss and Agyeman (2002) have reviewed some selected frameworks for analysing PEB. These include the US linear progressing model (Figure 1), which assumes that educating people about environmental issues would automatically result in more PEB. It assumes that more knowledge will lead to more enlightened behaviour. However, in most cases, this has proven not to be so. Increases in knowledge

may not necessarily lead to PEB. Hungerford and Volk (1990) and Chawla and Cushing (2007) indicate that the antecedents of action are more complex than knowledge alone.

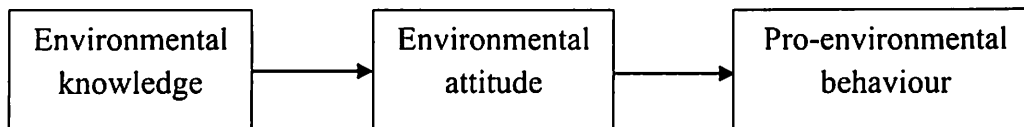


Figure 2: Early Models of Pro-environmental Behaviour.

Source: Kollmuss and Agyeman (2002)

Altruism, empathy and personal behaviour model have been used to explain the discrepancies between attitude and behaviour. Some factors that influence pro-environmental behaviour advanced here include 'direct' versus 'indirect' experiences (Shove, 2010), with direct experiences having stronger influence on people's behaviour than indirect experiences. Normative influences such as social norms, cultural traditions and family customs influence people's attitudes (Sutton, 2002). People's attitude, however, change over time and there are inconsistencies in responses that occur when data collection for attitudes and for the action lie apart causing temporary discrepancy. Attitude-behaviour measurement also leads to discrepancies in results because often attitude is much broader in scope than the measured actions.

Measurement flaws in behaviour-attitude models of PEB are addressed by the theory of reasoned action (Ajzen & Fisbein, 1980). Ajzen and Fisbein maintain that people are essentially rational, in that they make systematic use of information available to them and are not controlled by unconscious motives or overpowering desires; neither is their behaviour capricious or thoughtless. Attitudes, therefore, do not determine behaviour directly; rather

they influence behavioural intentions which in turn shape our actions. Intentions are also influenced by social (normative) pressures. Although the model has its limitations with the assumption that people act rationally, it is useful because of its clarity and simplicity.

The theory of planned behaviour derived from Ajzen and Fishbein predicts behaviours from attitudes as well as explains the process through which the two are linked. For Oreg and Katz-Gerro (2006), intra-individual processes are central when trying to understand why and when individuals act in favour of the environment. Nevertheless, a more complete model of pro-environmental behaviour should consider the social context within which the social-psychological processes occur.

The model of responsible environmental behaviour (Hines, Hungerford & Tomera, 1987) builds on the theory of planned behaviour by identifying variables associated with PEB. These include: knowledge of the issues – familiarity with the environmental problems and its causes. Knowledge of action strategies – knowing how to act to lower one's impact on the environmental problem. Locus of control – perception on one's ability to bring about change through his or her own behaviour. People with strong internal locus of control, believe their actions can bring about change (Nordlund & Garvill, 2002, Poortinga, Steg & Vlek, 2004; Stern, 2000); those with external locus of control, feel their actions are insignificant and hence change can only be brought about by powerful others.

According to Kollmuss and Agyeman (2002), strong pro-environmental attitudes are likely to engage in PEB yet the relationship between attitudes and actions is weak. Verbal commitment – communicated

willingness to take action also gives indication about the person's willingness to engage in PEB. Individual sense of responsibility – people with greater sense of personal responsibility are more likely to engage in PEB. The identified factors do not sufficiently explain PEB; there is weak relationship between knowledge and attitude, attitudes and intentions, and intentions and actual responsible behaviour are weak.

While Hines *et al.* (1987) identify situational factors which influence PEB as economic constraints, social pressures and the opportunities to choose different actions, Stern, Dietz & Guagnano (1998) stress the importance of considering the social structure within which individuals are embedded, based on the belief that social structures shape individuals' experiences and ultimately their personal values, beliefs, and behaviours. To truly complement social-psychological variables such as attitudes and beliefs, new variables that are considered should be external to the individual.

PEB is also explained by Fietkau and Kessel (1981), using sociological and psychological factors. These authors identified variables that influence PEB either directly or indirectly and which are independent of each other and could be influenced and changed. These include attitudes and values, possibilities to act ecologically (external, infrastructural and economic factors that enable or hinder people to act ecologically), behavioural incentives (internal factors that can reinforce and support ecological behaviour), perceived feedback about ecological behaviour (could be intrinsic or extrinsic), and knowledge which acts as a modifier of attitudes and beliefs. These contextual forces, according to Nordlund and Garvill (2002), Stern

(2000) and Verplanken and Aarts (1999), are very important in determining PEB.

Psychological models, however, fully fail to address the gap between attitudes and behaviour (Value-Action gap) because of the assumption that humans are rational and make systematic use of the information available to them (Kollmus & Agyeman, 2002). In actual fact, people's values are negotiated, transitory and sometimes contradictory. According to Blake (1999), the models fail to take into account individual, social and institutional constraints. To attempt to address the limitations of the various theories on pro-environmental behaviour and address the gap between people's values and actions, the VBN theory of environmentalism (Stern, 2000) (Figure 2) was used to guide the research. VBN theory, when compared with other prevalent theories, offers the best available account of support for environmentalism (Stern *et al.*, 1998).

Value-Belief-Norms (VBN) Theory of Environmentalism

According to the VBN theory, pro-environmental behaviours stem from acceptance of particular personal values, beliefs that things important to those values are under threat, and beliefs that actions initiated by the individual can help alleviate the threat and restore the values (Oreg and Katz-Gerro, 2006; Stern *et al.*, 1998).

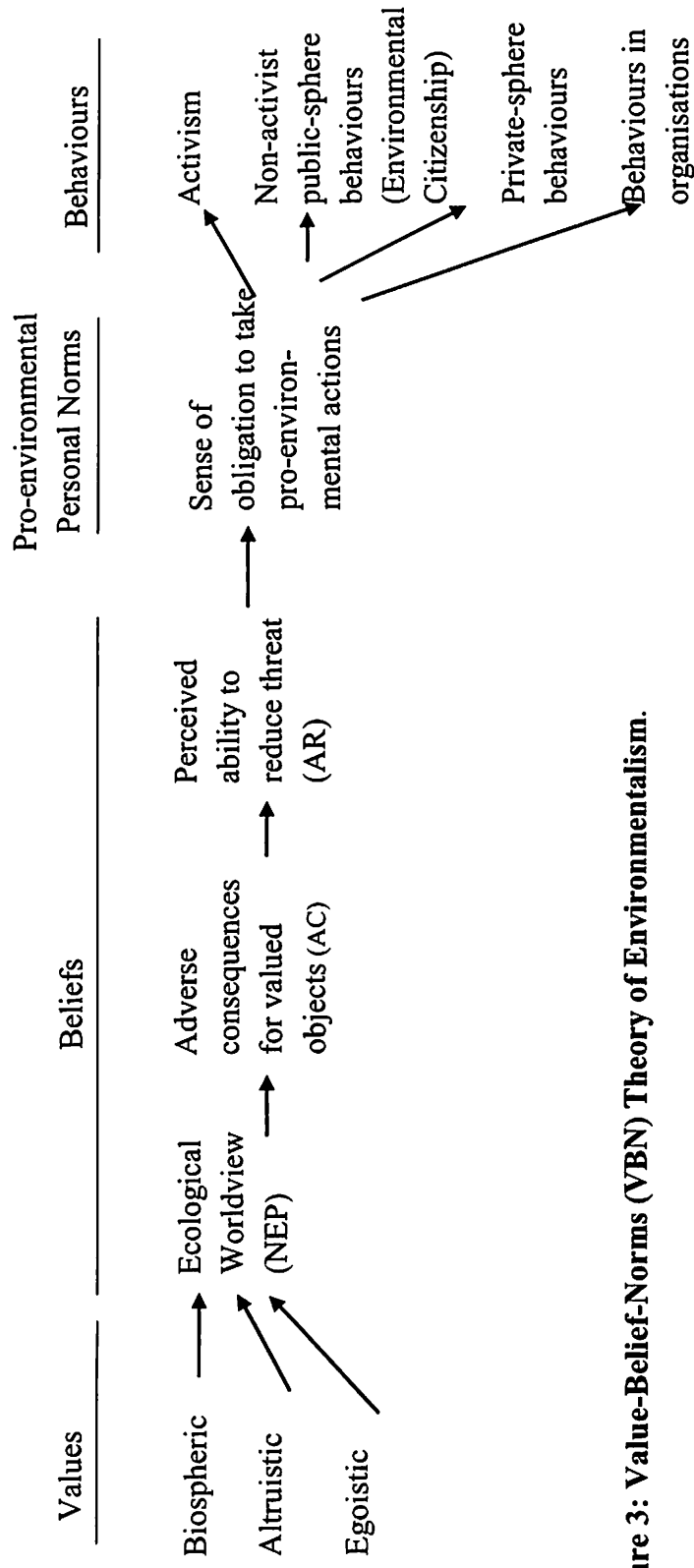


Figure 3: Value-Belief-Norms (VBN) Theory of Environmentalism.

Source: Stern (2000)

The VBN theory of environmentalism links a variety of theories [value theory, norm-activation theory, and the New Environmental Paradigm (NEP) perspective] through a causal chain of five variables leading to conservation behaviour; personal values (especially altruistic values), ecological worldview NEP (ecological paradigm which sees human activity and a fragile biosphere as intrinsically linked), adverse consequences for valued objects (AC), and perceived ability to reduce threat (AR) beliefs about general conditions in the biophysical environment, and personal norms for pro-environmental action (Figure 2).

The theory incorporates Schwartz's norm activation model (Schwartz, 1977) which suggests that people are more likely to engage in environmental behaviours when they are aware of the negative consequences and when they believe they have some responsibility for changing the problem. In other words, pro-environmental actions occur in response to personal moral norms about such actions and that these are activated in individuals who believe that environmental conditions pose threats to other people, other species, or the biosphere (awareness of consequences or AC) and that actions they initiate could avert those consequences (ascription of responsibility to self or AR). Each variable in the chain directly affects the next and may also directly affect variables farther down the chain.

Personal norms to take pro-environmental action are activated by beliefs that environmental conditions threaten things the individual values and that the individual can act to reduce the threat, such norms create a general predisposition that influences all kinds of behaviour taken with pro-environmental intent. In addition, behaviour-specific personal norms and other

socio-psychological factors (such as perceived personal costs and benefits of action, belief about the efficacy of particular actions) may affect particular pro-environmental behaviours.

The model begins with three types of variables: biospheric, altruistic, and egoistic values that form the basis of environmental attitudes and behaviours. Three beliefs are included; a worldview about the role of humans on the planet, beliefs about the threat of environmental conditions, and beliefs about whether actions might alleviate environmental threats. If these beliefs trigger a sense of obligation to take conservation actions (the personal norm), conservation behaviour may result. The norm-based actions flow from three factors: acceptance of particular personal values, beliefs that things important to those values are under threat, and beliefs that actions initiated by the individual can help alleviate the threat and restore the values.

Stern (2000) postulates that personal norms are activated by perceived adverse consequences to whatever the individual values (AC). Thus, for young people to exhibit PEB, they should be concerned about environmental conditions that threaten valued environmental resources, just as altruists who care about other people will be concerned about environmental conditions that threaten their health or wellbeing. Values that focus concern beyond a person's immediate social circle (self-transcendent or altruistic) are stronger among people who engage in pro-environmental activities.

An important element of the VBN theory is that the link from values to environmentalism is mediated by particular beliefs such as beliefs about which kinds of people or things are affected by environmental conditions (AC) and about whether there are individual actions that could alleviate threats to valued

persons or things (AR). Thus, environmentalist personal norms and the predisposition to pro-environmental action can be influenced by information that shapes these beliefs.

Generational Theory

The social construction of young people limits the extent to which they can contribute to social change. They are outside the cultural politics of any society, so the things that they do, either as individuals or as a group, may not have an impact upon society or instigate processes of social transformation as well as social or cultural reproduction. However, their ability to instigate social transformation is explained by the generational theory.

The Theory of generations (or sociology of generations) is a theory propounded by Karl Mannheim in his 1923 essay, *The Problem of Generations*. According to Mannheim's theory, people are significantly influenced by the socio-historical environment (in particular, notable events that involve them actively) that predominates their youth, forming, on the basis of that experience, social generations that in turn become agents of change and give rise to events that shape future generations. Intersection of historical era with developmental timing has been the focus of sociologists and political scientists in the tradition of generational theory.

The theory proposes that as increasing numbers of younger generations replace the declining numbers of their elders in society, the political landscape is bound to change (Carpini, 1989). The amount of political stability versus political change is determined by the degree to which the younger generation adopts the views of their elders or craft a distinct generational perspective. Thus, Flanagan (2009) postulates that focusing on ways that younger

generations negotiate salient social issues provides a lens on the future political landscape. Mannheim (1952) defined a generation as a group of individuals of similar ages whose members have experienced a noteworthy historical event within a set period of time. Social consciousness and perspective of youth reaching maturity in a particular time and place (what he termed "generational location") is significantly influenced by the major historical events of that era (thus, becoming a "generation in actuality").

The notion of generation, according to Pilcher (1994), is perceived in everyday language as a way of understanding differences between age groups and as a means of locating individuals and groups within historical time. The theory shows the relationship between biology and the social and socio-psychological connections of language and knowledge. It theorises the nature and significance of biological age groupings for processes of social change and continuity. Generational theory makes sense of the differences in age groupings in society and locates individual selves and other persons within historical time. Bengtson, Furlong and Laufer (1974) recognise the theory as the most systematic and fully developed treatment of generation from a sociological perspective. It highlights that the key period in which social generations are formed are the formative experiences during their youth.

According to Flanagan (2009), generational theorists contend that younger generations have a "fresh contact" with their society, i.e. they objectively see similar issues and events from the perspective distinct from adults. Stewart and McDermott (2004), on the other hand, argue that different forms of political engagements (conventional versus protest) and the amount of political continuity or change are shaped by different generations' relative

tendency to identify horizontally (with peers) or vertically with the parents' generation. If the period of one's youth intersects with a historical time of social discontinuity, it increases within generation identity such that they could participate either through fighting or through intergenerational avenues such as religious, traditional and indigenous organisations.

Generation is a location in the historical process. Belonging to the same generation or age group endows the individuals sharing in them with a common location in the social and historical process. More than a location, Aboim and Vasconcelos (2012) are of the view that generation also shares an integrated combination of historical responses to this location. So the location and the historical conditions in which individuals are socialised, functions as a structure of opportunities which might be translated into a real generation sharing a common culture. A key point, however, is that this major historical event has to occur, and has to involve the individuals in their young age, thus, shaping their lives, as later experiences will tend to receive meaning from those early experiences.

Mannheim (1952) stressed that not every generation will develop an original and distinctive consciousness. Whether a generation succeeds in developing a distinctive consciousness is significantly dependent on the pace of social change. Mannheim also notes that social change can occur gradually, without the need for major historical events, but those events are more likely to occur in times of accelerated social and cultural change. The contemporary members of a generation are further internally stratified in terms of their location, culture, class, etc. Thus, they may view different events from different angles and are not totally homogenous. Even with the "generation in

actuality", there may be differing forms of response to the particular historical situation, thereby stratifying by a number of "generational units" (or "social generations"). In effect, Pilcher (1994) stresses that the actual participation in the social and intellectual currents of their time and place, and their differing responses to a particular situation may develop opposing generation "units".

Mannheim's theory of generations has been applied to explain how important historical, cultural and political events of the late 1950s and the early 1960s educated youth (of the Baby Boon Generation), of the inequalities in American society such as their involvement along with other generations in the Civil Rights Movement, and have given rise to a belief that those inequalities need to be changed by individual and collective action. This has pushed an influential minority of young people in the United States toward social movement activity.

On the other hand, the generation which came of age in the later part of the 1960s and 1970s was much less engaged in social movement activity because - according to the theory of generations - the events of that era were more conducive towards a political orientation stressing individual fulfilment instead of participation in such social movements questioning the status quo. The devastating and downward spiral of the current environmental degradation being experienced in Ghana should instigate young people to take up the challenge to redress the situation since they would ultimately bear the brunt of the impacts of environmental degradation.

In contrast to generational replacement theories, as the theme for social change, socialisation theory concentrates on intergenerational continuity, arguing that adult agents pass on to younger generations, a set of principles

that sustain the system (Flanagan, 2009). Here, less attention is paid to politics as a contestation of power or to the development of political consciousness in marginalised groups like young people. Socialisation theory is also less compelling in the context of rapid social change when there is considerable discontinuity between the principles that organised society during the parents' formative years and the principles that dominate as their children come of age.

The theory assumes that a person's location in the socio-historical structure sets the parameters of their experience and that the significant period in this respect is the exposure to events and experiences in the formative years. This assumption is reliant on the validity of the relationship between stages of the ageing process and key periods of socialisation: people are "fixed" within a socio-historical world that predominated in their youth and they carry this with them throughout their lives. As observed by Pilcher (1994), therefore, each social generation, although contemporary with other social generations, has a distinctive historical consciousness which leads them to experience and approach the same social and cultural phenomena differently.

A generation in actual sense is likely to be stratified by a number of "generational units". Youth experiencing the same concrete problems (e.g. environmental degradation) may be said to be part of the same actual generation. The theory argues that it is likely that the frequency with a generation's potential is realised is closely connected to the tempo of change, the trigger action of the social and cultural process. In times of accelerated social and cultural change, basic attitudes need to change more rapidly than the continuous, but more gradual change brought about by the "fresh contact" with culture experienced by the new generations. In times of accelerated social

change, when normality is disrupted, the new generations have even greater opportunity and access than the natural, gradual change over of generations allows (Aboim & Vasconcelos, 2012; Lahire, 2010; Pilcher, 1994,).

The usefulness of Mannheim's essay as a basis for social scientific research is highly contested (McCourt, 2012). For some, it is an undervalued legacy that demonstrates the importance of generations in social life (Pilcher, 1994); for others, it fails to define the generation with any great precision. For Allerbeck (1977), Kertzer (1983) and Schuman and Scott (1989), they conflate the impact of generations with age-and cohort-effects leaving underspecified the links between generations and other social factors such as class (Wright, 1963). The concept of generations has been routinely used in the study of youth cultures; nonetheless, the analytical grounds for studying generations and intergenerational change in contemporary sociological theorisation remain a poorly developed domain (Edmunds & Turner, 2005; Eyerman & Turner, 1998; Pilcher, 1994,).

The conceptualisation of 'age' and 'time' has been an object of a myriad of theoretical approaches which have often highlighted the complex and hazy character of the term "generation" (Adam, 1990; Pilcher, 1994). The difficulties surrounding the concept even increase further when the analysis is not centred on birth cohorts and the succession over time, but rather on historical generations (Alwin & McCammon, 2003, 2007).

As Pilcher (1994) also notes, Mannheim's intergenerational change can only be understood, if mediated by the structures of meaning. In other words, there are plural sites of experience which bring about different worldviews (Aboim & Vasconcelos, 2012), even if these views are related to

space-time locations rather than to the embodied experience of agency of individuals. Though representing a theoretical change by itself, Wolf (1971) contends that the comprehension of Mannheim's approach to the "problem of generation" remains limited, if not linked to his wider sociological project which he developed in a political historical and intellectual environment in which he personally suffered the influence of world-shaking historical events.

In sum, there is the need to overcome the conceptualisation of generational identity with regard to its potential to explain different patterns of attitudes and practices beyond mere description of macro-social change or the organisation of ideological political struggles. Aboim and Vasconcelos (2012) propose that there is a theoretical need to move from a strictly political or intellectual to an enlarged social understanding of generations. They argue that Mannheim's understanding of time (the link between knowledge and history) produces a paradoxical duality in his casual explanation of the emergence of generations, thereby promoting voluntary agency as the decisive and creative factor of true generations.

Mannheim, however, argues that it is likely that the frequency with which a generation's potential is realised is "closely connected with the tempo of change"; the "trigger action of the social; and cultural process". In times of accelerated social and cultural change, "basic attitudes" need to change more quickly than the continuous, but more gradual change brought about by the fresh contact with culture experienced by the new generations and the dying off of older generation (Pilcher, 1994).

In giving an ascendant role to historical discontinuities in socio-cultural change, for Mannheim (1952), there may be moments where no

generation rises from its historical location; when no critical events occur during a certain time span and continuity prevails. Nonetheless, Aboim and Vasconcelos (2012) argue that continuity and reproduction are substantial social phenomenon made up of a plethora of significant events that have lasting impact on people's lives and worldviews. They, therefore, counter Mannheim that there cannot be an absence of generational phenomena in an enlarged sociological perspective because there is never an absence of social agency or agents, even if they are objectified and constrained to consent. The structuration theory makes up for this possible historical discontinuity.

The generational theory is again critiqued for excluding all forms of agency other than conscious intellectuality. Mannheim's concept of generational units (small, organised, ideological and engaged groups), as the only time generations, is too narrow and limited to account for wider and effective generational differences. His concept of generational units is useful in analysis of political and organisational fields, but Aboim and Vasconcelos (2012) are of the opinion that it leads to an empty vision of generations and intergenerational change. It excludes almost everyone from agency and implies a degree of self-awareness that surpasses the reflexivity and structures of meaning of the majority. Without doubt, generation units can be a very useful concept to account for intra generational differences, particularly when the focus is on the political, ideological and artistic or any tangible social groupings and movements.

Braungart (1976) and Dunham (1998) allude to the relative utility of the concept for analysing more or less organised groups and social movements. If ideological struggles alone are taken as defining events,

actualities can easily be forgotten or even reduced to their hypothetical or potential generational units. The theory is built on theory of stratification of experience and points out the agency of the youth. The stratification of older generations, according to Mannheim (1952), cannot be the same as that of younger generations, though they share the same historical environment. It is, therefore, the sharing of the same formative years that forms generational consciousness. Demartini (1985) counters Mannheim's view of youth as the leading agent of political innovation, in that political socialisation serve as catalyst in tying different generations together.

Mannheim's tripartite definition; location, actuality and units, however, provide the elementary conceptual tools to approach the problem from a multi-dimensional perspective. For a generation, therefore, to fulfil its potential for social change, it must integrate, several units, each one representing a particular but interconnected vision of the generational. Thus, individual units not only by structural historical commonalities (location), but by common culture worldwide view (actuality), propels them to engage collectively in transforming agency, a unit opposed to others (Mannheim, 1952; Pilcher, 1994). Edmunds and Turner (2002) see generations as continuations of societal norms, rather than as sources of opposition, challenging existing societal norms and values and bringing social change through collective generational organisation.

The critiques notwithstanding, White (2013) argues that the generational theory shows signs of being an emergent master-narrative on which actors of different persuasions converge as they seek to reshape prevalent conceptions of obligations, collective action and community. The

cultural perspective, spearheaded by Mannheim, argues a more complete understanding by using interpretive features, particularly shared experiences that is marked by experiences (Corsten, 1999; Kerzter, 1983; White, 2013). Willetts (2010) connotes generations as drivers of change. Generations also act as a moral language to identify injustice (Howker & Malik, 2010) and seek its rectification. Generations of the present and future are cast mainly as objects rather than subjects.

Generation-talk may, thus, be seen as inspired by pressing real-world concerns, and by the fear that people under value these concerns. Demographic change and newly emerging environmental challenges provide evident opportunities of generationalism (White, 2013). The generational concept is a likely appeal to those looking for social change. Generationalism contains resources for universalism, a means to undermine national boundaries and evoke global commonalities of experience. Wohl (1979) and Edmunds and Turner (2002, 2005) emphasise that it cannot substantiate any given set of political boundaries, but can put ethnic and class divisions in softer focus. Arguably, the generational concept is being adopted as a new language of collectivism, a way to speak to those presumed no longer reachable with class vocabulary. White (2013) and Flanagan (2009), therefore, allude to the fact that it is one of the few instances where a sense of political possibility is projected onto the young.

The criticisms of Mannheim's view of units as the real generation is a poor conceptualisation of agency based on intellectual knowledge of individuals, instead of a more complex version of agency, which neither fall into agentialism nor structuralism, is augmented by the Structuration theory.

Structuration Theory

Societies have undergone various changes in their values, knowledge and physical systems, as a result of various entities acting upon other actors, institutions or classes. Prestigious sociologists like Karl Marx, Emile Durkheim and Max Weber have formulated theories and laid the basis of discussion for contemporary theorists. According to these sociologists, the human element in the social world has taken various positions in each theory (micro and macro) (Lamsal, 2012). Social theories generally align with two in philosophical schools of thought: structural functionalism and

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According to Layder (2006), whereas structural functionalism view of social analysis gives priority to the concept of structure (institutional analysis, objectivism, macro and society) which limits or constrains the forms of action and meaning in which people engage, the interpretive view (interpretative analysis, subjectivism, micro and individual) takes the individual as the centre point of analysis. Structuration theory (Giddens, 1984) may be seen as an attempt to resolve a fundamental division within the social sciences between those who consider social phenomena as determined by the influence of 'objective', exogenous social structures and others who see them as products of the action of human 'agents' in the light of their subjective interpretation of the world (Jones & Karsten, 2003).

Indeed Giddens (1984) structuration theory appears to be unique in balancing the elements from both sides- that is the relationship between structure (external forces) and agency (internal motivations) or macro versus micro. In the main theories, the role of the human agent was either solely

based on volunteerism, where human action was unconstrained by social factors (interpretivism), or that it was too deterministic that humans are solely restricted by their social structure (structural functionalism) (Lamsal, 2012).

Giddens' (1984) structuration theory, however, proposes that social theory should produce theoretical accounts of actual behaviour and social experience and the way humans rearrange their social circumstances, suggesting a duality of structure instead of dualism. The theory relates structure intrinsically to action and vice-versa. It purports that the things people regularly do form part of the social fabric of their lives (Layder, 2006) and for Giddens, both points do not give proper attention to the actors themselves in producing their social reality. He believes that humans act as knowledgeable objects in conjunction with the social order to change their social reality. He redefines the role of structure by realising that it can be both a constraining and an enabling element in human actions.

Tanle (2013) identifies the six key elements of the theory as agency, structure, duality of structure, institutions, dialectic of control, and time/space relations. The basis of the Structuration theory involves the identification of the relationship between the individuals and the social forces that act upon them. It balances the role that action plays with their limited choice of position in history and in the social fabric they find themselves (e.g. young people).

Lamsal (2012) connotes that people do not have entire preference of their actions and their knowledge is restricted; nonetheless they are the elements that recreate the social structure and produce social change. Giddens (2009) specifies that 'structure' and 'agency' cannot be separated, they are connected to one another in what he terms as the "duality of structure". This

means that all social actions presume the existence of structure; but at the same time, structure presumes action, because “structure” depends on regularities of human behaviour.

Giddens attempts to 'square this circle' by proposing that structure and agency be viewed, not as independent and conflicting elements, but as a mutually interacting duality. The duality of structure is the core of the structuration theory and is the basis for which the dualisms in social theory may be overcome, resolved or somehow brought together (Jones & Karsten, 2003; Layder, 2006; Lamsal, 2012). The duality of structure refers to the essential recursiveness of social life, as constituted in social practices. It tackles the twin issues of social production (the way in which social life is produced or created by people as they engage in the social practices which are the substance of their lives and social experiences) and reproduction. Whereas human actors are the elements that enable creation of our society's values and norms that are reinforced through social structure, structure refers to modalities, a set of rules and resources that engages human action. Structure is both medium and outcome of the reproduction of practices.

Jones and Karsten (2003) emphasise on structuration as an on-going process rather than structure as static property of social systems; with systems reproducing the relations between actors or collectivities organised as regular social practices. Structuration conditions govern the continuity or transformation of structures and reproduce social systems. Structuration is hence the process of structures reproducing systems (Lamsal, 2012). Human beings create meaning and social reality from within social settings and,

therefore, social forms such as institutions and structures have no existence apart from the activities they embody.

According to Giddens (1984), our unique personalities, styles of behaviour and experiences tend to permeate our actions with a distinct flavour. Thus, social practices reflect the ability of humans to modify the circumstances in which they find themselves, while simultaneously recreating the social conditions (practices, knowledge and resources). Structure in social life should be seen both as the medium and outcome. The current environmental degradation facing Ghana as a nation requires actions to mitigate the environmental degradation. Young people who are the future custodians and who bear the brunt of environmental impacts need to play a role in mitigating environmental degradation.

The main strength of structuration theory is its concern with the individual in social analysis which promotes human agency, that is, the degree to which individuals are capable of changing the circumstances in which they find themselves and responding creatively to social constraints (Jones & Karsten, 2003). Human agency expresses the power of human beings to transform their social circumstances. This ability reflects the intrinsic powers of human beings as social agents. According to Layder (2006), the greatest strength of the theory is its attempt to incorporate the full force of human ability to make a difference in the social world, while recognising the limitations imposed by the social context.

The strengths notwithstanding, structuration theory is criticised for several reasons; institutions or structures cannot be understood entirely independent of social activities (agency) that brought them into being;

however, exactly how this mutual implication can be understood, not only as a theoretical model, but also as an adequate account of empirical reality is not clear.

Bernstein (1989) describes Giddens structuration theory as foxlike and the tendency to introduce a plethora of distinctions and schemes which fail to be sufficiently specific about the criteria of their applicability. Although at first sight, this distinction might seem to provide some clarification, Thompson (1989) is typical of a number of critics in arguing that the theory "generates more confusion than it dispels and tends to obscure some important issues", drawing attention to ambiguities and Giddens' concern with a general notion of structure at the expense of specific features of social structure. Another limitation of the theory is its over emphasis on rationalism by the human agency without considering that human beings could be irrational with unintended actions (Tanle, 2013).

Giddens (1989) does not accept these criticisms, however, arguing that they reflect a misunderstanding of his usage and that structuration is capable of explaining both individual and institutional features of social life. One particular implication of Giddens' conceptualisation of structure is that it is a 'virtual order' of transformative relations that exists, as time-space presence, only in its instantiations in reproduced social practices and as memory traces orienting the conduct of knowledgeable human agents (Jones & Karsten, 2003). However, New (1995) challenges this criticism, arguing that Giddens' view that structure is causally generative implies that it is real. Layder (1987) suggests that Giddens' anti-objectivism is both unnecessary and theoretically problematic, implying that structuration need not be incompatible with

realism, it remains the case that, as Giddens himself presents it, the rules and resources constituting structure exist only in the agents' heads.

Layder (2006) again stresses that the notion that structure can never be separated from people's reasons and motivations reveals a tendency to emphasise agency rather than structure. Overemphasis of impermanence or continuous process in social life understates the relative durability of structural patterns and elements. It has difficulty in capturing the sense in which structural characteristics endure overtime. While it is important to stress the impermanence of social institutions because they are human constructs, it is equally important not to suggest they are in constant state of flux.

Critics of Giddens' treatment of agency also question the view that social order is produced and reproduced entirely through individual action. Focusing on the dependency of social structure on agency, some authors such as Harré (1983), suggest that in well-ordered institutions, such as monasteries and social rules may dominate social reproduction and that, individual structural agency is, thus, insignificant or even absent. Others argue that all aspects of structure may not be equally amenable to agency, suggesting that there may be a "differentiated (and thus limited) topography for the exercise of agency rather than an endlessly recursive plain" (Storper, 1985, p.419), or that some structural constraints may be "relatively independent" (Layder, 1987).

The theory is driven away from the notion of society as a coherent and relatively enduring structural pattern, somewhat independent of the reasons and motives of people. The idea that there is structural domain that has varying degree of independence from routine everyday lives of people is lost in the theory (Layder, 2006). Also, it is difficult to analyse the way in which

structural features may predominate in certain areas at certain times; while the creative and transformative activities of people may come to the fore at other times and places. The simultaneous constitution of structure and action hinders one's ability to assess the relative impact or influence of the different social orders. Their effects tend to be compacted into one time frame, rather than seeing structural conditions as constructed orders that exist prior to the on-going activities and which are the immediate focus of activity.

The shared bond between individuals and exterior forces brings Giddens' theory of saturation together. Humans are constantly in action through monitoring of one's own actions or of others' actions, developing an understanding for such action, yet day-to-day activities are not directly motivated, but through reflexive monitoring the individual can rationalise their actions (Giddens, 1984). Therefore, human routines are based on rational thought, not on the often hidden motivations that drive our actions. In the theory, agency does not have complete power, but is constrained by the second modality of the structure which is the societal rules that limit human freedom.

An actor's routine behaviour has influenced the structure of society. The concept of routinisation is, therefore, vital to the structuration theory. When agents settle, they tend to connect with people of similar shared experiences. For Jones and Karsten (2003), the relationship that actors share across any dimensions, not just class, adds to the collective bargaining power of the group. For instance, land and housing cost may limit access of actor's settlement patterns, but as a result of settlement, collective bargaining can be established and used as a resource for agents with similar views, norms and values. This thesis is premised on the assumption that the negative impacts of

the current environmental degradation on young people could be used as a rallying force for practicing environmental citizenship behaviour and engaging in environmentalism.

Empirical Review of Pro-environmental Behaviour Studies

Various studies have been carried out in relation to exhibiting pro-environmental behaviour. A study by Chawla (1999) on life paths into effective action, examined what motivated people to take action to protect the environment; their sources of commitment to action, giving credit to childhood learning as a source of commitment to action. The study compared backgrounds of environmentalist in two countries- US and Norway, assessing formative influences, including both the significant experiences they reported and the sequence in which they occurred; to reconstruct the life paths to dedicated and effective action.

Psychoanalytical theories on how a child's inner life accounts for adult personality and behaviour; socialisation theory on how childhood socialisation forms a model for later life patterns, were used for the study. In terms of research design, a phenomenological approach was used to describe people's own understanding of the sources of their commitment to environmental action and the meaning that these experiences held for them, based on the assumption that action is guided by intention and that people's intentions reflect their past experiences and future goals. The use of memory has contestations.

Questions around the use of autobiographical memory such as the degree to which memories conform to objectively established records of the

past; memories are fallible, but studies on autobiographical memory has shown that although memories are often inaccurate about the precise details of what happened, they are usually accurate about general course of events. Events of high personal importance produce significantly more vivid memories than events of low importance.

Phenomenology knows and acts upon the world through our consciousness of it, and therefore, consciousness itself requires attention and description. Chawla (1999) therefore, explored environmentalists own self-awareness of the experiences that have led them to their sense of connection to the environment and dedication to protect it. The study targeted adults whites, well-educated, middle class respondents whose lives demonstrated their commitment to protect or improve the environment. These citizens had demonstrated amply their informed and responsible activism. Snowball sampling was employed. Structured open-ended interviews were used to elicit information.

Indicators and variables used in addressing the issues raised included: time and place of growth, school, parents occupation, vocations and environmental activities; most important environmental efforts, sources of commitment, suggestions on how to work most effectively, description of their own vision for wise development, what strengthened them to continue despite periods of commitment. Explanations were also sought on sources of commitment to environmental protection, what personal experiences have turned them in the direction and the source of inspiration for continuity. Further indicators included experience of natural areas, family, organisations, negative experiences –habitat destruction, pollution, radiation, education,

influence of friends, vocation, sense of social justice, books, principles or religion and concern for children and grandchildren.

Frequency distribution and composite ideal types of participants were used to reconstruct their sources of activism. According to Weber (as cited in Chawla, 1999), this is a form of interpretation in social research that presents an idealised scheme with which real situations or action can be compared. The findings from the study was analysed according to ages and it was concluded that during childhood, the major sources of motivation was from experiences with natural areas and family, followed by education and organisations; during university years, the most significant sources were education and friends, whereas during adulthood, joining organisations were most significant, followed by vocation.

Researches on PEB, usually focus on predictors on one specific level of abstraction, such as general values, environmental values, attitudes or norms, but Nordlund and Garvill (2002) in a study on Value Structures Behind Pro-environmental behaviour, tested the hierarchical model of the effects of psychological factors on different levels of abstraction such as general values, environmental values, problem awareness and personal norms on pro-environmental behaviour. The model starts with the effects of the relatively stable structures of general values and moves towards effects of more specific environmental values, environmental problem awareness and personal norm. The assumption was that a personal norm should mediate the effects of values and problem awareness on pro-environmental behaviour. The model was derived from Schwartz's norm-activation theory which makes personal moral

norm the basis for individuals' general dispositions for pro-environmental actions.

The study by Nordlund and Garvill (2002) was conducted as a mail-back survey of 2,500 randomly selected residents between the ages of 18-65 years in Sweden. The response rate was 56 per cent, hence data from a sample of 1,400 individuals was used for the analysis. Schwartz's Value Inventory scale was used to assess the general value orientation (self-transcendence and self-enhancement). Using likert scale, questionnaires consisted of statements that assessed environmental values (ecocentric and anthropocentric), problem awareness and norms. A factor analysis was performed to test the model. The results supported the overall pattern of relations between values and pro-environmental behaviour in the proposed model.

General values did influence environmental values, problem awareness and personal norm. In addition, the predicted effects from environmental values and problem awareness on personal norm were confirmed. Self-transcendence positively affected ecocentrism and problem awareness and had the expected positive effect on personal norm. Self-enhancement had the expected negative effects on ecocentrism and problem awareness. Again, the results showed that the effects of general and environmental values and problem awareness on pro-environmental behaviour are mediated by personal norms and that personal norm could be viewed as an important general predisposition to act in a pro-environmental manner. However, the variance (0.21) indicated that there was still a large amount of unexplained variance in PEB. This could be because Nordlund and Garvill (2002) focused on only the attitudinal factors. To get a more thorough understanding of what influences

environmentally significant behaviours, the interaction between attitudinal factors, contextual factors, personal capabilities and habits should be studied.

The study by Lucas, Brooks, Darnton, and Jones (2008) was on promoting PEB, through policy, political and institutional leadership. It was aimed at assessing the most appropriate processes, mechanisms and policy instruments to achieve changes in behaviour towards the environment. Specifically, it employed the use of secondary data to establish how government departments could best encourage PEB amongst different audiences, through analysis of policy interventions and initiatives designed to encourage PEB. It also tested the extent to which key messages from theories and models of behavioural change were being recognised by policies working at individual, organisational level or at whole system.

The theory employed for the study included PEB theories (Darnton, 2006), process models, theories of change, socio-psychological models and needs-opportunity-ability models of consumer behaviour. The study design was evaluation, engaging secondary data and some interviews with relevant stakeholders and government officials in a policy review. It targeted individuals, organisations/groups who were purposively sampled. Data collection was based on desk review of published and internal evaluation reports, views of policy officers involved in programme delivery through informal telephone interviews as well as face-to-face interviews.

Indicators for the evaluation included aim, delivery mechanism, background, target audience, timescale of change targeted, outcomes, cost effectiveness, links to change theory, lessons arising, legacy, linking

effectiveness against objectives, cost, unintended consequences, impact on international competitiveness, uncertainty.

The study concluded that both policy makers and practitioners need to adapt a more holistic systems approach in their future endeavours to encourage PEB; changing public behaviours is a complex matter, requiring innovative policies and practical solutions across different sectors and every level of society; policy designing should involve actors at all stages of the process; devolving power to ground-level agencies and organisations to individuals is the most effective way to encourage change, treating audiences not as passive targets but as active partners in the process of change. To bring about effective system-wide change, policies need to be suited in the wider context of their global impacts- that is assessing policies and practice in terms of the actual environmental impact and addressing behaviours, both upstream and downstream, to reduce these impacts.

Rickner (2010) in a study on Waldorf teachers and environmental issues, sought to ascertain whether there was any difference among private school teachers and public school teachers in terms of their pro-environmental behaviour, values, attitudes and feelings of personal responsibility to environmental issues. Teachers have the responsibility to teach students to become responsible citizens. Previous research had shown that pupils from Waldorf schools (private) to a great extent became more responsible and active citizens than those in the public schools. They felt greater responsibility with regards to social and moral questions of society than their counterparts in the public schools. The research question was, therefore, to find out if this could be generalised to the teachers. The study was premised on the Waldorf

philosophy where schools in Sweden are supposed to teach young people about accepting personal responsibility for the environment.

About 141 Swedish teachers were sampled (48% private; 52% public). Questionnaires were e-mailed to participants in 21 municipalities. Questionnaires contained measures of environmental behaviour, altruistic, biospheric and egoistic values, pro-environmental attitudes and feelings of personal responsibility. Likert scale was used for the response alternatives. A standard multiple regression analysis was performed with pro-environmental behaviour as the dependent variable and biospheric values, altruistic values, feelings of responsibility and pro-environmental attitudes as predictors. A multivariate analysis of variance was performed with working at a Waldorf or public school as the independent variable, and the rest as dependent variables.

The findings revealed that teachers with biospheric values, feelings of responsibility and pro-environmental attitudes behaved in a pro-environmental way; biospheric values being the most predictor. Again, those in the private schools harbour more biospheric values, altruistic values and felt more personal responsibility to environmental issues as well as behave in a more pro-environmental way than teachers of public schools. It was concluded that teachers with two different pedagogical philosophies differ in their relation to nature as a whole, caring for the environment could, therefore, be a matter of the selection or effect of pedagogical philosophy.

Jagers and Martinsson (2010) also sought to identify the values and beliefs that support individual environmental responsibility among Swedes. The main aim was to ascertain whether environmental citizenship characteristics were actually important in determining PEB. It also examined

the relationship between citizenship views and the acceptance of pro-environmental policies among citizens, and their willingness to make personal sacrifices for the environment. Research questions used for the study included, whether 'ecological citizens' were different from "traditional" citizens with strong green attitudes in their environmental behaviour; the degree to which traditional (liberal-democratic) citizens with pro-environmental attitudes differ from ecological citizens in regard to environmental behaviour and readiness to act in favour of the environment; whether a green attitudinal orientation enough to bring about behavioural changes.

Theories engaged for the study included citizenship theory, environmental psychology, NEP, green political theory and ecological citizenship theory. 3,000 Swedish between the ages of 18-80 were selected for the study with a low representation of young people. Mailed questionnaires were used to elicit data.

Two citizenship ideals- liberal democratic citizenship (LDC) and ecological citizenship (EC) were the independent variables used; three dependent variables- PEB, Willingness to sacrifice (WTS), Pro-environmental policy support (PEPS) were the dependent variables; with outcome variables like extent of individual voluntary PEB, personal willingness to make sacrifices, WTS for environmental reasons, the extent of acceptance and support for environmental policies (PEPS). Other general environmental attitudinal constructs, mainly environmental concern (EnvConc), personal norm concerning environmental behaviour (PN), and the New Environmental Paradigm (NEP) that is a mixture between perceptions and attitudes and norms aimed at capturing people's view on humanity's relation to nature and the

environment were employed for the study. An LDC and EC index was used to analyse the variables. Correlation and regression analysis were employed between citizenship beliefs and environmental attitudes.

Some key findings and conclusions were that respondents who were committed to EC ideals were significantly more pro-environmental in their behaviour compared to those devoted to LDC ideals; and are more willing to make sacrifices for the sake of the environment and more ready to accept pro-environmental public policies. Hence there was a negative correlation between liberal citizenship ideals and environmental concerns but a strong positive correlation between EC and environmental concerns. Those committed to EC ideals are significantly more pro-environmental in their behaviours.

Ahmad, Samsudin, Pawanteh and Ahmad (2012) explored the awareness, understanding, perception and participation of Malaysian youth with regard to environmental citizenship. The study was premised on the understanding that issues of the environment is of global concern and involves issues of rights and duties towards the environment (Environmental Citizenship). Thus, the key essence of the study was the issue of obligations of the citizens, the role that they can play in championing the issue of environment and how they can contribute towards obtaining a better environment. The research design was qualitative using focus group discussions (FGDs). As such, six focus groups among youths (Malay, Chinese and Indian) between the ages of 18-25 were constituted.

Questions focused on general and technical understanding of environmental issues, the sources of information on the environment and the role that these individuals and the community have played as environmental

citizens. Some findings of the study indicated that the general level of awareness and understanding on environmental issues was satisfactory but the participation and practice of rights and duties towards the environment was limited. This was because some were not bothered, and those who were, felt they could not change or make any impact as individuals. They also had a negative perception about local authorities hence reluctant to report or complain to local authorities, as no action will be taken to redress.

Social ties was another challenge to environmental citizenship in that people felt they would be meddling in the people's affairs and might even disrupt social harmony, if they should prompt people on their environmentally unfriendly behaviours. Schools have played a strong role in educating the youth about environmental issues through classroom activities and social clubs. Religious platforms have also been a medium of creating environmental awareness. It was concluded that although the Malaysian youth are aware of the environmental problems the world is facing, they are not taking any active role in activities that will unite environmental citizens. It was recommended that environmental education programmes and campaigns should be continuous to ensure environmental citizenship.

Ifegbesan (2010) explored secondary school students' understanding and practices of waste management in Ogun State, Nigeria. The study examined the level of awareness, knowledge and practices of secondary school students with regards to waste management. Constant changes in curriculum limit students' awareness on environmental sanitation education. The study used the Theory of Planned Behaviour (TPB) which states that what an individual does is determined by personal motivation which is determined

by attitude, social support and perceived behavioural control. The TPB allows for a better evaluation of human behaviour when participation decisions are voluntary and under individual control.

Questionnaire was designed on students' knowledge and practices of waste management in schools. Likert-scale instruments were piloted and validated. Reliability coefficient was 0.82 percent. About nine hundred students from six secondary schools were targeted for the study but six hundred and fifty questionnaires were valid for the analysis, giving a response rate of 72.2 percent. Descriptive statistics and inferential statistics were used to analyse the data.

The findings indicated that waste management was a serious environmental issue in public secondary schools in the Ogun state. Most students understood waste management as a major environmental problem. There were differences in students' knowledge and practices of waste management. There was some correlation between students' knowledge and practices of waste management. The findings also indicated that the propensity for waste management practices differ by sex, class and age of students. The study revealed the need for behavioural and attitudinal change towards waste management. This could be achieved through seminars and workshops for teachers and students and administrators. Environmental education and incorporation of waste management concepts in school curriculum were recommended.

Owolabi, Gyimah and Owusu Amposah (2012), in assessing junior high school students' awareness of climate change in the Central Region of Ghana, investigated the extent to which students of Junior High Schools (JHS)

in Twifo Praso District and Cape Coast metropolis in the Central Region of Ghana were aware of issues related to climate change and sustainable development. The study was informed by the increasing concern in recent times of climate and sustainable development in Africa and the world as a whole but scanty research on the curriculum and students' awareness of climate change in Ghana. It aimed at investigating how much of the school curriculum caters for climate change and sustainable development issues as well as assess students' awareness of the issues.

Descriptive research design was used in the study. Purposive sampling technique was used to select 400 students from the rural and urban schools. Questionnaires were used; descriptive statistics and t-test were used to test the hypothesis. From the results, there was a statistically significant difference in the awareness of climate change between students in rural and urban schools. However, their awareness was generally low. The age of students had no significant influence on their awareness of the issues. It is recommended that the curriculum as a matter of urgency should include topics on climate change and sustainable development.

Jagers and Martinsson (2010) examined the relevance of EC in explaining PEB. Their study is premised on the assumption that EC is a driver of individual PEB, providing a more stable foundation for lifestyle changes than reliance on external policy tools. It explored systematically the extent to which EC ideals are established among the general public and which aspects of EC are most important as drivers of PEB.

Indicators for the four core ideals of EC, social justice, public-private distinction, non-territorial or geographic arena, and asymmetrical obligations-

ecological footprints were used. Theories employed were green political and feminist political theories. The target was Swedish population, with mailed questionnaires used for the survey. Multivariate regression was used to test effect of EC on PEB.

The study concluded that social justice and non-territorial responsibilities were the two components that most people tend to agree with; fewer supported the blurring of public-private distinction.

Lessons Learnt from the Empirical Review

Theories used in the empirical studies included the Theory of Planned Behaviour (TPB), Green political and feminist theories, Citizenship theory, and ecological citizenship theory. Other PEB theories include Theories of change, Schwartz's norm-activation theory, Psychoanalytical and sociological theories. Some models used include Need-opportunity-ability model of consumer behaviour, Process models and socio-psychological models.

Concepts used to assess pro-environmental behaviour covered commitment to taking environmental action such as childhood experiences of natural areas, family, education and personal experiences. Some predictors of PEB included general values, environmental values, problem awareness and personal norm. Appropriate processes, mechanisms and policy instrument as well as political and institutional leadership could achieve changes in behaviour towards the environment. Values and beliefs that supported individual environmental responsibility could also bring about behavioural change. Variables like Liberal democratic Citizenship (LCD), Ecological citizenship (EC), Willingness to Sacrifice (WTS), Pro-environmental Policy environmental Support (PEPS) were also used to assess PEB.

Other studies examined the relevance of EC in explaining PEB. It explored the extent to which EC ideals are established among the general public and which aspect of EC was the most important driver of PEB. Indicators or four core ideals of EC advanced were Social justice, Public-private distinction, Geographic or non-territorial and Asymmetrical obligations (i.e. ecological foot prints). Other key concepts assessed were responsibility, awareness, knowledge, practices, participation and concern for the environment. These were premised on the fact that EC is perceived as rights and duties towards the environment.

On the methodology, some research designs employed included phenomenological approach to describe peoples' own understanding. This approach is premised on the assumption that people's intentions reflect their past experiences and future goals. Descriptive designs, evaluation, and surveys were also used. The studies were either qualitative or quantitative. The empirical studies generally targeted adults (18-80yrs), westerners (Swedish whites, middle class, well educated), students, youth groups and policy makers.

Snowball sampling and purposive sampling were the sampling techniques employed. In terms of data collection and instrumentation, questionnaires, mailed questionnaires and interviews of stakeholders were used to collect primary data. FGDs were also used to collect data from the youth groups.

For secondary data, desk review and policy analysis were carried out. The interview schedules were structured open-ended; the questionnaires were mail-back and likert scale was used for response alternatives in the

questionnaires. The instruments were piloted and validated. Factor analysis, correlation and regression analysis as well as multivariate analysis of variance were used for data analysis. To test the effect of EC on PEB, standard regression was used with PEB as dependent and the rest as independent. A multivariate analysis of variance was done between Waldorf (private) and public schools to ascertain the effect of a teaching philosophy that makes young people feel responsible for their environment. Some test statistics used were descriptive statistics and t-test.

Some outcomes arising from the review were that the major sources of motivation for engaging in environmental activities include childhood experiences of natural areas, influence of family, education, and personal experiences. Indicators or measures of environmental behaviour include altruistic, biospheric, egoistic values and feelings of personal responsibilities. Biospheric values, feelings of responsibility and pro-environmental attitudes predict PEB, with biospheric values being the most predictor. General values influence environmental values which in turn influences problem awareness, then personal norms. Self-transcendence negatively affected ecocentrism, while self-enhancement had a negative effect. Therefore, those committed to EC ideas are more willing to make sacrifices for the sake of the environment.

There was a negative correlation between liberal citizenship ideal and environmental concern. Social justice and non-territorial responsibilities were the most EC drivers for PEB. EC assumed to be a driver as well as an outcome of PEB. Teachers and pupils with different pedagogical philosophies (on environmental responsibility) differ in their relationship to the environment. General level of awareness and understanding of environmental issues was

satisfactory among students, but the participation and practice of rights and duties towards the environment was limited. Schools played a strong role in educating youth but environmental education through curriculum was not enough to ensure environmental citizenship.

Beyond curriculum, EC is better achieved through active engagements in environmental activities rather than classroom teaching, i.e. a hands-on approach ensures sustainable environmental behaviours. Thus, beyond the class room activities, other non -classroom activities like environmental clubs, social civic clubs, religious platforms and voluntary community activities are also vital for ensuring environmental engagements among young people. Background characteristics such as sex, age, class and rural-urban dichotomy was significant. There was a statistically significant difference in awareness between rural and urban areas. Consumer behaviour the use of questionnaires was associated with between 56 per cent to 72 per cent response rates. Secondary data complimented with interviews to triangulate findings. The likert scale items gave reliability co-efficient of 0.82.

Some gaps identified from the empirical review to be filled by this thesis are that most of the studies on EC are based in the western world, targeting whites and adults. The few studies on Senior High School (SHS) (youth), focused on environmental awareness and practices, but limited in terms of their values and how predisposed they are to taking environmental engagements. Again, studies have concentrated on consumer behaviour and attitudinal factors but for ESBs there should be interaction between attitudinal, contextual, and personal habits; which this study covered. There is limited application of theories for studies on environmental citizenship. These studies

on EC are more practical, hands on or project-based than theoretical; as well as focused on individual personal behaviour instead of public-sphere behaviours that ensure environmental sustainability.

In terms of methodology, the studies were either qualitative or quantitative. To fill the gaps identified, this study, therefore, combined the attitudinal, contextual, personal and habits factors for exhibiting PEB as shown in the conceptual framework. It targeted young people in a developing country context and also assessed both personal- and public-sphere behaviours among young people. It further added theories which emphasise values in addition to environmental awareness and knowledge. The mixed methods approach was engaged to complement the limitations of the quantitative and qualitative approaches. The empirical review at a glance is presented in Table 2.

Conceptual Framework

The conceptual framework for the study (Figure 4) was adopted from the model of pro-environmental behaviour by Kollmuss and Agyeman (2002). The model projects that pro-environmental behaviour is informed by internal (personality traits, value systems, environmental consciousness, etc) and external (infrastructure, political, socio-cultural, economic, etc) factors. These factors interact to either reinforce or inhibit PEB. In the face of these factors serving as inhibitors or enhancers, individual may exhibit a pro-environmental behaviour.

Table 2: Summary of Empirical Review

Author	Main theory/ theme	Geograph ical/ spatial location	Study /Target population	Data sources	Methodology/ Study design	Key findings	Gaps/ lessons learnt	General comments
Chawla 1999	Psychoanalytical and sociological theories	Sweden	adults,	Primary data (Swedish whites, middle class, well educated)	Phenomenologi cal approach Snowball sampling Structured open-ended interviews	Major sources motivation Childhood experiences natural family; personal experiences	of Use are memory lots of contestations as to the degree which they can conform to objectivity.	Study based in western has of world, targets whites and adults. This to study in developing country and targets young people.
Nordlund Garvill (2002)	and Schwartz's norm-activation	Sweden	Swedish adults	Primary	likert scale; hierarchical	General influence	The study focused on	This study combines the

theory	(18-	model;	environmental	only	attitudinal,
predictors of	65years)	factor analysis	values which in turn	attitudinal	contextual,
PEB- general			influences problem	factors. But	personal and
values,			awareness, then for	ESBs	habits factors
environmental			personal norms;	there should	as shown in
values, problem			Self-transcendence	be interaction	the conceptual
awareness and			negatively affect	between	framework
personal norm			ecocentrism. Self-	attitudinal,	
			enhancement has	contextual,	
			negative effect	personal and	
				habits.	
Lucas, Brooks, Process models, UK	Adults;	evaluation;	Promoting	Policy makers	Both policy
Darnton, and -Theories of	Policy	and	through	policy, and	makers and
Jones (2008)	makers	interviews	political	and	practitioners
			institutional	coordination	need a more
-socio-			leadership.	gap.	holistic
psychological					systematic
models					approach to

Need-
 opportunity-
 ability model of
 consumer
 behaviour

Ifegbesan(2010) Theory of Ogun State, Nigeria
 Planned Behaviour
 secondary school students
 Primary
 Cross sectional;
 likert scale, questionnaire, proper practices.
 Descriptive statistics, t-test, correlation
 High awareness, but need change in behaviour towards environmental changes in literacy and other non – classroom activities like environmental clubs and voluntary community activities
 Curriculum as means to incorporate environmental changes in literacy and other non – classroom activities like environmental clubs and voluntary community activities
 Need to incorporate environmental changes in literacy and other non – classroom activities like environmental clubs and voluntary community activities

Rikner (2010)	No theory; Sweden of impact of Waldorf philosophy(teaching Young people to accept responsibility for the environment	Sweden	private and public teachers	Primary	Cross sectional; Standard regression; multivariate analysis of variance between waldorf or public schools	Teachers with different pedagogical philosophies differ in their relationship to the environment.	No theories	Biospheric values, feelings of responsibility and pro-environmental attitudes predict PEB; biospheric value most predictor.
Jagers & Martinson 2010	Green political theory, ecological citizenship theory	Sweden	18-80yrs Swedes ; 3,000 students	Primary	Mailed questionnaires	Those committed to low EC ideas are more willing to make of young sacrifices for the people sake of the environment	representation attitudinal orientation was enough to bring about behavioural	

change.

Ahmad, Samsudin, Pawanteh and Ahmad (2012)	No theories. Awareness and Participation of	Malaysia, Malay. Chinese and Indians youth	Primary	Qualitative FDGs	General level of awareness and understanding of environmental issues is satisfactory but participation and practice of rights and duties towards the environment is limited.	No theories.	Schools play strong role in educating youth; thus class room activities and social clubs, religious platforms also vital.
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Owolabi, Gyimah and Owusu Amposah (2012),	No theories; Awareness of climate change and sustainable development in urban, rural	Twifo Praso, Cape Coast, Central Region of	Primary	Descriptive design; Purposive sampling; Questionnaires;	Significant difference in awareness between rural and urban	No theories; EC is better achieved through active engagements in	A hands-on approach ensures sustainable environmental behaviours
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schools, through Ghana
 curriculum
 content

Jagers (2014)

Green political Sweden
 and feminist Adults;
 theory; extent to Primary
 which EC ideals
 are established
 among general
 public and which
 aspect of EC most
 important driver
 of PEB.

Descriptive areas.
 statistics; t-test
 hypothesis

Cross sectional;
 Mailed
 questionnaires
 Multivariate
 regression

Social justice and EC assumed
 non-territorial
 responsibilities were
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 for PEB.

environmental
 activities
 rather than
 classroom
 teaching.

EC both a
 driver and
 outcome of
 PEB

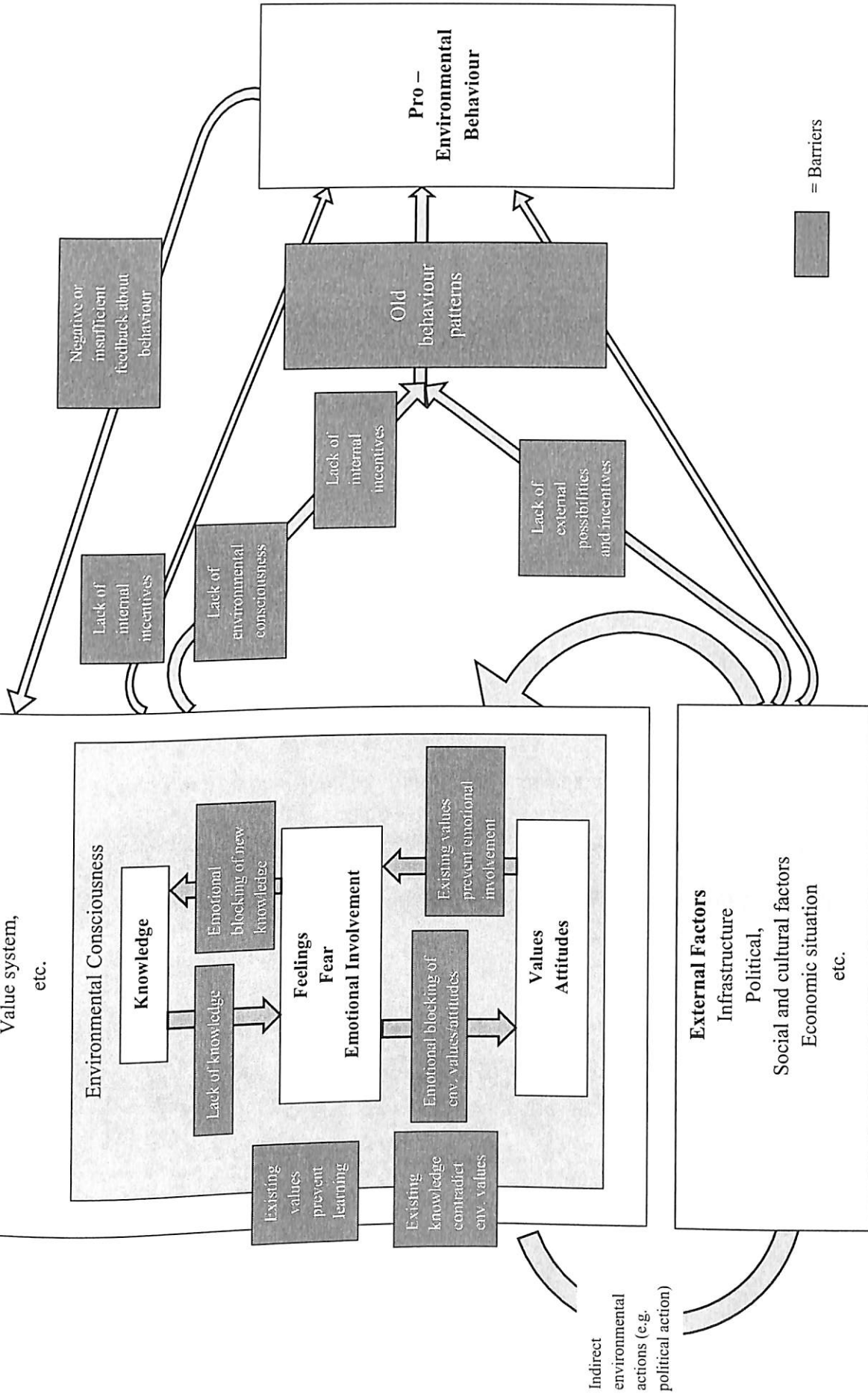


Figure 4: Model of Pro-environmental Behaviour

Source: Kollmuss and Agyeman (2002)

The adapted conceptual framework as presented in Figure 5, seeks to present the various enabling factors and the barriers that interplay to promote engaging in PEB. The framework does not attribute a direct relationship between environmental concern and knowledge and PEB. Environmental knowledge, beliefs, norms, values and attitudes are presented as one complex called environmental consciousness and constitutes the internal factors.

PEB is also influenced by external factors such as infrastructure, institutional, political, economic, social and cultural factors. Social and cultural factors have been put into the external factors group even though it may be argued that these factors could overlap both internal and external factors. The internal and external factors are reinforced by indirect environmental actions such as political action or environmental degradation. The biggest positive influence on PEB, indicated by the larger arrow, is achieved when internal and external factors act synergistically. The black box indicates the largest possible barriers to between environmental concern and taking action or exhibiting PEB. A combination of internal and external factors can achieve pro-environmental actions, if the barriers are limited or controlled.

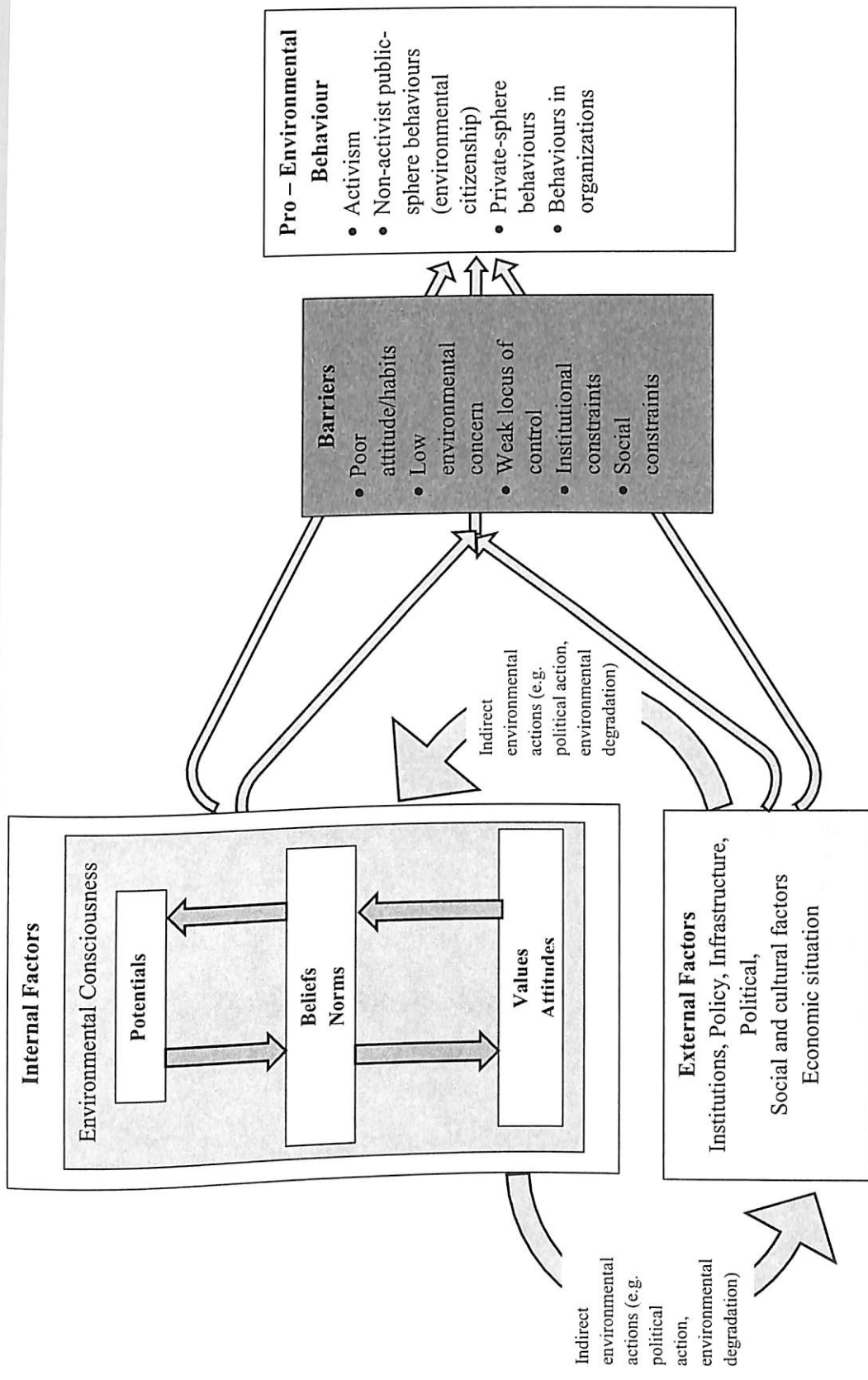


Figure 5: Model of Pro-environmental Behaviour
 Source: Adapted from Kollmuss and Agyeman (2002)

CHAPTER FOUR

METHODOLOGY

Introduction

This chapter aims at helping to bring proper understanding to the entire research process, including its social-organisational context, philosophical assumptions, ethical principles and political impact of new knowledge (Neuman, 2011). It focuses on the core principles for conducting quality research and learning to make sound judgements about the methods. This chapter focused on the study institutions, organisations and study area, study design, study population, sources of data, sample and sampling procedure, data collection instruments, pre-test, fieldwork, challenges in the field, data processing and analysis and ethical considerations for the study.

Profile of Study Institutions, Organisations and Geographical Area

The study covered senior and junior high schools in the Cape Coast Metropolis, as well as environmental organisations working with the young people within the Metropolis. The Metropolis is bounded to the south by the Gulf of Guinea, west by the Komenda-Edina-Eguafo-Abrem Municipality, east by the Abura-Asebu-Kwamankese District, and to the north by the Twifo-Ati-Morkwa District. The Metropolis covers an area of 122 square kilometres.

The capital, Cape Coast, is also the capital of the Central Region.

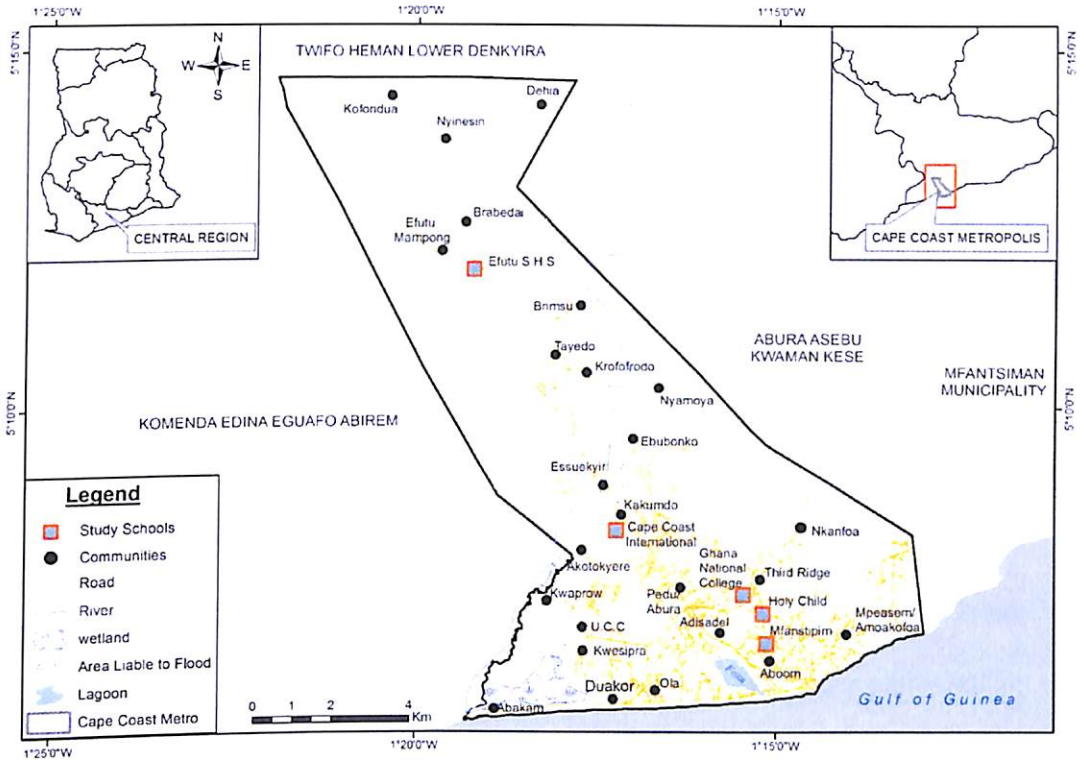


Figure 6: Map of Cape Coast Metropolis Showing the Schools Studied.

Source: Cartography Unit, University of Cape Coast (2016).

The Cape Coast Metropolis experiences relatively high temperatures and humidity throughout the year. The hottest months are February and March, just before the main rainy season while the coolest months are between June and August. The invariability in weather conditions in the Metropolis are influenced more by rainfall than temperature. The Metropolis has double maxima of rainfall, with annual rainfall total between 750mm and 1,000mm (GSS, 2014).

The natural vegetation consists of shrubs, grasses and a few scattered trees. The original dense vegetation of the metropolis has been displaced, as a result of clearing for housing and commercial activities, farming, charcoal

burning, and other human activities. However, the northern part still has secondary forest due to the lower population densities.

The landscape of Cape Coast Metropolis is dominated by batholiths interspersed with valleys. Located in the valley are several streams, the largest of which is the Kakum. Many of the streams end in the Kakum wetland and the Fosu Lagoon. Most of the wetlands have been depleted by human activities. In the northern parts of the Metropolis, however, the landscape is generally low lying and is suitable for the cultivation of various crops.

Cape Coast is the cradle of education in Ghana with a large number of educational institutions ranging from basic to tertiary. The Cape Coast Metropolitan area has schools, which correspond to the three-tier educational system in the country. These are: Basic Education Schools (or First Cycle Institutions) comprising Kindergarten, Primary and Junior Secondary Schools (JHS); Second Cycle Institutions (Secondary, Commercial, and Technical) and Tertiary Institutions (Universities, Training Colleges and Specialist Colleges or Diploma Awarding Institutions). The Metropolis has six educational circuits made up of Cape Coast, Aboom, Ola, Pedu-Abura, Efutu, and Bakaano.

Research Design

A research design provides the plan or strategy for shaping the research. Every approach to social science research rests on philosophical assumptions. Knowledge claims or philosophy, strategy of inquiry and method contribute to a research approach. This helps to make an informed choice among alternatives for the type of research to be carried out (Neuman, 2011). The three main approaches to research are quantitative, qualitative and mixed

method approaches, which are informed by different philosophical perspectives.

Quantitative Approach

This approach is underpinned by the positivist claims of developing knowledge. It is an approach to social research that emphasises discovering causal laws, careful empirical observation and value-free research. It is an organised method for combining deductive logic with precise empirical observations of individual behaviour in order to discover and confirm a set of probabilistic causal laws that can be used to predict general patterns of human activity. The study uses this approach to assess SHS students' environmental behaviour.

Quantitative (classic realism) paradigm maintains that there is a single reality that can be understood and discovered through the identification of the 'right' theoretical concept and testing of these theoretical concepts using the appropriate empirical methods. On the other hand, qualitative (dogmatic constructivism) paradigm believes that knowledge, truth and reality are socially constructed and in a state of change and never really 'knowable' in finite sense. It is argued that the best we can hope for is to arrive at rich qualitative and human-centred descriptions that allow us to understand the process by which constructions arise and the ways they can be changed. The distinct difference between the two is in how to define and study truth, knowledge and reality (Palys & Atchison, 2014).

A positivist approach implies that a researcher begins with a cause-effect relationship and is logically derived from a possible causal law in general theory. The abstract ideas are logically linked to ideas of precise

measurements of the social world. The researcher remains detached, neutral and objective in measuring aspects of social life, examining evidence and replicating the research of other.

Qualitative Approach

This approach is underpinned by the interpretative philosophical perspective of research. It emphasises meaningful social action, socially constructed meaning and value relativism. This approach is relevant for the study since it seeks to examine how young people construct their opinions on pro-environmental behaviour. It concerns how people interact and get along with each other. It is the systematic analysis of socially meaningful action through direct detailed observation of people in natural settings in order to arrive at the understandings and interpretations of how people create and maintain their social worlds. The interpretive approach is the foundation of social research techniques that are sensitive to context that gets inside the ways of others see the world and that are concerned with achieving an empathic understanding than with testing laws such as theories of human behaviour.

Mixed Method Approach

The research design adopted for this study is mixed method approach which combines elements of quantitative and qualitative approaches for broad purposes of breadth and depth of understanding and corroboration. Combining methods in a single research is increasingly advocated on the grounds that it helps to facilitate a more valid and holistic picture of society (Creswell, 2012). Conclusions are more likely to be credible and also reduce biases. According to Palys and Atchison (2014), it is premised on the belief that quantitative and

qualitative methods occupy a shared terrain in terms of objectives, scope and nature of inquiry and reflect the desire of many researchers to bridge the divide that has existed between quantitative and qualitative approaches. It, therefore, draws on complementary strengths of both techniques. It agrees with many of the criticisms of positivism, but adds some of its own and disagrees with interpretivism.

It emphasises combating surface-level distortions, multiple levels of reality and value-based activism for human empowerment. It has an activist orientation. It is a moral-political activity that requires the researcher to commit to a value position; rejects positivism's value freedom as myth and also attacks interpretivism for its relativism. It tends to favour the historical-comparative method because of its emphasis on change and helps the researcher uncover underlying structures.

The approach is used when there is need to both understand the relationship among variables in a situation and explore the topic in further depth (Creswell, 2012). It focuses on collecting and analysing both quantitative and qualitative data in a single study. This approach is most appropriate for the study because it attempts to establish the relationship between young peoples' values and their environmental behaviour as well as explore the opportunities and challenges confronting their exhibition of pro-environmental behaviour.

It converges or confirms findings from different data sources. Some challenges associated with mixed methods are the need for extensive data collection and its time-intensive nature in analysing both text and numeric data. It also requires for the researcher to be familiar with both quantitative

and qualitative forms of research. Table 3 gives a comparison of the three approaches.

Table 3: Comparison of Quantitative, Qualitative and Mixed Method Approaches

Theme	Quantitative Approaches	Qualitative Approaches	Mixed Method Approaches
Philosophical assumptions	Positivist Philosophy	Constructivist/ Participatory Philosophy	Pragmatic knowledge claims
Strategies of Inquiry	Surveys and Experiments	Ethnography, case-study, grounded theory	Sequential, concurrent & transformative
Methods	Closed-ended questions, pre-determined approaches, numeric data	Open-ended questions, emerging approaches, text or image data	Both open-ended and closed ended, both emerging and predetermined, both text and numeric data
Practices of research, as the researcher	Tests theories, identifies variables to study, relates variables in questions and hypothesis, observes and measures information numerically, uses unbiased approaches, uses statistical tools	Collects participant meanings, brings personal values into the study, studies the context of participants and collaborate with them, interprets data and create agenda for change and reform	Employs practices of both qualitative and quantitative research, Offers rationale for mixing, integrates data at different stages of the inquiry

Source: Creswell (2012)

According to Palys and Atchison (2014), mixed method is a more complex approach which employs a variety of practical, theoretical and procedural considerations are critiqued because the differences in philosophical underpinnings of quantitative and qualitative paradigms make it impossible to mix them. However, social phenomenon is better studied using both, considering the fact that it is grounded in an epistemological position that is capable of seeing middle ground between direct realism and constructivism.

Mixed method approach tends to apply pragmatic knowledge claims. Pragmatism, a philosophical tradition that has its roots in the late 19th Century through works of Charles Saders Pierce, John Dewy and William James, played a major role in the emergence of symbolic interactionism (Palys & Atchison, 2014). Pragmatism is not committed to any single system of philosophy or view of reality. The central position advanced is the rejection of traditional dualisms of constructivism (free will, subjectivism, induction) versus realism (determinism, objectivism, deduction) to taking the position that works best in a particular situation.

Pragmatists favour eclecticism and pluralism as opposed to dogmatism when it comes to theoretical, methodological and analytical approaches to understanding the social world. They are results or outcome-oriented and less concerned with prior knowledge, laws and rules governing what is to be considered valued knowledge. They are concerned with finding the best and most complete answers to research questions through the best method or combination of methods and have strong commitment to praxis (Palys & Atchison, 2014). The study is underpinned by the pragmatic philosophy.

The concurrent triangulation strategy of the mixed methods was used for the study. This approach was suitable because two different methods (quantitative and qualitative) were used to confirm, cross-validate and corroborate findings within a single study (Creswell, 2012). This strategy usually integrates the results of the two methods at interpretation phase and this either leads to a convergence of the findings as a way to strengthen the knowledge claims of the study or explain any lack of convergence that may result. However, some limitations associated with this strategy are that it requires great effort and expertise to adequately study a phenomenon with two separate methods.

The study employed cross sectional and descriptive survey. A cross sectional design examines variation across cases usually in terms of a range of variables of interest to the researcher. The descriptive survey involves systematic measurement and or description of a situation, behaviour, phenomenon or variable, attitudes, belief, opinions, characteristics, etc. It reports on background or context of a situation, describing social systems, events and relations.

Study Population

The study targeted students in Senior (SHS) and Junior High schools (JHS) in the Cape Coast Metropolis. Other relevant stakeholders such as environmental NGOs and state agencies (GES and NCCE) working with young people as well as their gatekeepers were also involved in the study.

Data Sources

Primary data for the study were from the students, head teachers, club patrons and the relevant stakeholders.

Sample and Sampling Procedures

Cluster sampling technique was used to select schools from the GES clusters of schools within the Cape Coast Metropolis. These covered single-sex (girls, boys), mixed schools and private schools. In addition, the selection took into consideration the gender dynamics as well as the rural-urban locations of the schools since these according to literature (Ifegbesan, 2010; Kolmuss & Agyeman, 2002; Owolabi, et al., 2012) might influence people's pro-environmental behaviour. For the individual students, proportionate sampling was done across the various programmes offered by the schools; individuals within the programmes were then randomly sampled.

Table 4: Selected Senior High Schools and Sample Size for the Study

School	Characteristics			Total population	Sample		
	Location	Sex	Ownership		Expected	Actual	
Efutu Tech.	Sec.	Rural	Mixed	Public	1034	52	47
Ghana National College		Urban	Mixed	Public	1942	100	100
Cape Coast International	Coast	Peri-urban	Mixed	Private	171	9	18
Holy Child School	Child	Urban	Single (females)	Public	872	47	27
Mfantshipim School		Urban	Single (males)	Public	2050	111	100
Total					6069	319	292

Note: 91.54 per cent response rate

Source: Field survey (2016)

Using Israel (1992) formula for sample size determination,

$$n = \frac{N}{1+N(\alpha)^2} \quad \text{Where;}$$

n is the sample size

N is the total population.

α is the margin of error (0.05)

Substituting the total population of students (sampling frame) into the sample size table, the expected corresponding sample size was 5.4 per cent of the total population (see appendix A). Table 4 shows the sample distribution across the Senior High Schools.

The selection of the basic schools was based on the GES District circuits, namely Cape Coast Circuit, Aboom circuit, Bakaano circuit, OLA circuit, Pedu/Abura circuit and Efutu circuits. Selection was also informed by schools with which environmental organisations have been working with as well as the sanitation conditions of the communities within which the schools were located. Some of these were Abura St Lawrence JHS A&B, Flowers Gay School, Bakatsir Methodist JHS, University JHS and Efutu M/A School. There were no identifiable youth environmental movements within the metropolis. The key stakeholders were purposively sampled. These techniques ensured that the key informants relevant for the study were the ones selected.

Table 5: Selected Junior High Schools

Circuit	School
Pedu/ Abura	Abura St Lawrence JHS A&B
Aboom	Flowers Gay School
Bakaano	Bakatsir Methodist JHS
OLA	University JHS
Efutu	Efutu M/A School

Source: Field survey (2016)

Data Collection and Instrumentation

The instruments used to collect primary data were questionnaires, indepth interview guides and focus group discussion guides. The data collection method for the SHS was questionnaire administration (see Appendix B).

For the basic schools, FGD was the data collection method used with FGD guide (Appendix C).The individual pupils were selected from the JHS classes. In-depth interviews were employed for the key informants (SHEP Coordinator, club patrons, head teachers) and relevant stakeholders (NGOs, National Civic Commission for Education [NCCE] and GES) using interview guides (Appendices D, E, F,G, H and I). Documents from relevant stakeholders formed the secondary data sources. In-depth interviews provide in-depth information and allowed interviewees to talk about issues out of their own frames of reference.

The SHS questionnaires were pre-tested at the University Practice Senior High School and the lessons learnt were used to modify the instruments

and fieldwork procedures. For the Junior High students, no pre-test was done because the instrument was qualitative and one pre-test could not account for later issues. The adjustments were done as the issues unfolded. The actual fieldwork was carried out between February to June, 2016 with the help of field assistants. For the relevant stakeholders, the interviews went beyond June, 2016.

Data Processing and Analysis

Both quantitative and qualitative approaches to data analysis were employed. Data from the SHS students were analysed quantitatively, while those from the interviews were analysed qualitatively. Chi-square test of independence, independent sample t-test, proportions, percentages and appropriate descriptive statistics were used to examine young people's pro-environmental behaviour, their knowledge and awareness, as well as challenges to exhibiting PEB.

The general objective of the study was to assess the practice of pro-environmental behaviour among young people in schools in Cape Coast. Specific questions of interest included: 1) How well do predisposing factors (egoistic, biospheric and altruistic factors) predict pro-environmental behaviours (personal behaviour, environmental citizenship behaviour); 2) How much variance in pro-environmental behaviours scores could be explained by scores on the predisposing factors (egoistic, biospheric and altruistic factors)? for the SHS students, and 3) Which is the best predictor of pro-environmental behaviour? (Is it egoistic factor or biosphere factor or altruistic factor?)

To explore these questions, the standard multiple regression was found to be more appropriate. This involved all of the independent variables being entered into the equation at once (enter method). The results indicated how well the predisposing factors (egoistic, biospheric and altruistic factors) predicted pro-environmental behaviour. It also indicated how much unique variance each independent variable (predisposing factors: egoistic factors, biospheric factors and altruistic factors) explained each of the dependent variables (pro-environmental behaviour).

To meet the requirements for performing the standard multiple regression analysis (one continuous dependent variable and two or more continuous independent variables), the following steps were followed;

- 1) The likert scale items on a scale of 1 to 5 with 1 being the least and 5 being the highest were computed using the Statistical Product and Service Solutions (SPSS version 21.0) to obtain the total and the mean scores for each variable.
- 2) All the independent (or predictor) variables were entered into the equation simultaneously (Enter method). An error margin of five per cent was used for all inferential analyses. Qualitative data obtained from the FGDs and interviews were transcribed, edited and analysed according to the thematic issues.

Ethical Issues

Involving young people in research comes with a lot of ethical considerations because of their social and cultural positioning in society. The theoretical orientation of social sciences of young people (as social actors) brings with it ethical implications. Ethical issues are often thought of to be the

central difference between research with children and with adults (Punch, 2002).

The set of ethical questions surrounding young people is extremely complex and requires extensive attention, more importantly, when their rights are put at risks; key among the ethics are obtaining consent for participation in research, conducting interviews with or administering test to the subjects, and providing information about test results to parents or others outside the research team (Machi & McEvoy, 2009). The study, therefore, sought consent from their head teachers and the young people themselves. The ethics of confidentiality and anonymity were also ensured. An effective way of carrying out research with young people is to combine traditional research methods used with adults, with children suitable techniques. The methodology selected particularly for the basic schools, therefore, was appropriate for the study. This is because according to Mahr (2009), participatory approaches that dwells more on listening helps build rapport among the children and ensures reliability of the data (Machi & McEvoy, 2009). As an institutional requirement, the necessary ethical clearance (attached) was sought from the Institutional Review Board, University of Cape Coast.

CHAPTER FIVE

PRO-ENVIRONMENTAL BEHAVIOUR AMONG YOUNG PEOPLE

Introduction

This chapter describes the forms of pro-environmental behaviour among young people in SHS and JHS schools in the Cape Coast Metropolis. It highlights the background characteristics of respondents and their pro-environmental activities. The chapter also examines the opportunities provided by environmental youth NGOs and related state agencies responsible for promoting citizenship actions within the Metropolis. Out of 319 sampled SHS students, 292 completed and returned the questionnaire given a response rate of 91.54 percent. The discussion in this chapter is therefore based on a valid sample of 292 SHS students, the findings from 6 FGDs of JHS students and 8 key informants of relevant stakeholder organisations.

Background Characteristics of Respondents

The background information discussed in this section relates to the SHS students. Issues examined in this section are age, sex and membership of an environmental club. These demographic characteristics, according to Kollmuss and Agyeman (2002), have a bearing on pro-environmental behaviour of students. With respect to sex, out of the 292 SHS respondents, 55.8 percent were males, the rest (44.2%) were females. As Stern (2000) has noted, females are more likely to exhibit PEB, due to their affinity to nature, than males. The sex distribution follows the enrolment pattern of SHS in Ghana as male students are relatively higher than their female counterparts. The next background information that the study examined was age. This

background information was necessary because younger people are better predisposed than adults (Bartlett, 2005; Kollmuss & Agyeman, 2002).

It became evident from the data that the youngest SHS student was 15 years while the oldest was 23 years. The age distribution of students was approximately normal with a mean of 16.94 years (Skewness = 0.954, median = 17 years) and a standard deviation of 1.12 years. The majority (97.3%) of the SHS students were in the 15 to 18 age bracket. Table 6 shows the age and sex distribution of the SHS students.

Table 6: Age and Sex Distribution of SHS Respondents

Age (years)	Frequency	Percent	Sex	Frequency	Percent
15- 18	284	97.3	Male	163	55.8
19-23	8	2.7	Female	129	44.2
Total	292	100		292	100

Source: Field survey (2016)

The final background information of the SHS student that the study examined was existence, awareness and membership of an environmental club. The data showed that Ghana National College (GNC), Mfantshipim (MFS) and Holy Child Senior (HCS) High Schools had environmental clubs while Efutu Senior High and Cape Coast International School did not have. Of the schools that had environmental clubs, 81.3 percent of the students were aware of the existence of the clubs while the rest (18.7%) were not. With respect to the awareness of the existence of environmental clubs in the various schools, Ghana National College had the highest proportion (92.0%) of student awareness followed by Holy Child (81.5%) and Mfantshipim (70.9%) in that order (Table 7).

Table 7: Distribution of Awareness of Environmental Club by Schools

Awareness of Club	School			Total	% of MFS	% of GNC	% of HCS
	Env.	MFS	GNC				
Aware	73	92	22	55	70.9	92.0	81.5
Not aware	30	8	5	175	29.1	8.0	18.5
Total	103	100	27	230	100.0	100.0	100.0

Source: Field survey (2016)

Further analysis was done to determine the environmental club membership status of the sampled SHS students. Out of the 230 SHS students who had environmental clubs in their schools, only 55 (23.9%) were members of the club, the rest (76.1%) were not. Aside from Holy Child that had the highest number of respondents (81.5%) being members of environmental clubs, Ghana National (18.0%) and Mfantsipim (14.6%) had the least proportion of respondents belonging to environmental clubs as depicted in Table 8.

Table 8: Membership of Environmental Club

Env. Club membership	School			Total	% of MFS	% of GNC	% of HCS
	MFS	GNC	HCS				
Member	15	18	22	55	14.6	18.0	81.5
Not member	88	82	5	175	85.4	82.0	18.5
Total	103	100	27	230	100.0	100.0	100.0

Source: Field survey (2016)

Forms of Pro-environmental Behaviour among Senior and Junior High Students

One of the objectives of the study was to describe the forms of pro-environmental behaviour of respondents. In order to address this objective, a number of items were designed to solicit responses from the subjects of the study. These include forms of environmental activities engaged in as well as the relationship between these activities and the background characteristics of respondents.

Two forms of environmental activities emerged from the study. The first related to specific club activities while the second covered general pro-environmental activities. Some activities undertaken by the clubs included clean-up exercises, quizzes, games, tree planting and excursions and educational trips. Generally, the reasons for joining clubs among the SHS were for socialisation rather than for environmental purposes, although respondents were of the view that these activities educated them on the consequences of their actions on the environment.

The major pro-environmental activities as presented in Table 7 shows that taking part in community sanitation activities (24.8%) and sensitising peers on keeping clean surroundings (24.7%) were the dominant activities engaged by SHS respondents. These activities, according to Horton (2003), Rickinson (2001) and Chawla and Cushing (2007), are individual or private-sphere environmental behaviours which contribute very little to environmental citizenship and sustainability. The pro-environmental activities that were less engaged in are petitioning on environmental issues of concern (7.8%) and demonstration in favour of environmental conservation (5.1%). In the view of

Chawla and Cushing (2007) and Hayward (2012), these activities rather promote environmental citizenship and hence sustainable conservation behaviours. The details of other pro-environmental activities that the SHS respondents engaged in are captured in Table 9.

Table 9 : General Pro-Environmental Activities of SHS Students

Activity	Frequency	Percent
Joining community sanitation activities	140	24.8
Sensitising peers on keeping clean surroundings	139	24.7
Support public policies on environmental protection	79	14.0
Environmentally friendly consumption behaviours	67	11.9
Joining and contributing to environmental organisation	66	11.7
Petitioning on environmental issues of concern	44	7.8
Demonstration in favour of environmental conservation	29	5.1
Total	564*	100.0

*More than the number of respondents because of multiple responses

Source: Field survey (2016)

Pro-environmental behaviour among the Junior High School pupils just like their senior counterparts, were mainly individual or private –sphere behaviours in the form of the routine daily cleaning of their school compounds and homes; some occasionally took part in sanitation clean-ups within their communities or neighbourhoods. The Ghana Education Service (GES) has a programme called Schools Health and Environmental Programme (SHEP), which sensitises school pupils to cater for personal hygiene and health promotion; make impact in their communities and advocate for the parents and community through education of other family members.

Some of the activities include education on the use of mosquito nets, sanitation day involvement, the use of hand washing facilities as part of Water and Sanitation Hygiene (WASH) project under a Ghana - Netherlands WASH project (GNWP) sponsorship; hand washing with soap (HWWS) under running water; regular monitoring on the use of sanitation facilities; supervising weeding around and checking erosion; regular cleaning or scrubbing of toilets and urinals. Children's contribution to environmental protection through sensitisation, education and proper care of their immediate environment both in school and at home are also encouraged. SHEP also has oversight responsibility for the formation of environmental clubs in schools with NGO sponsorship.

In spite of these, most (4 out of 5) of the basic schools, did not have environmental clubs as a platform for promoting PEB. Although the pupils were very much interested and enthusiastic about belonging to environmental clubs, they could not get dedicated teachers as patrons, as well as the needed basic resources or logistics to carry out environmental activities. Monroe (2003) advocates that opportunities for children to explore and creatively play in nature in partnerships with experts, mentors, older students, and leaders are useful in cultivating environmental literacy that can become an internal guide to enhancing conservation behaviour.

In Efutu M/A School, there was no environmental club. The teachers guided the students to clean and maintain the school compound. This was corroborated by a JHS 2 student that, '*...the teachers guide us to do our cleaning; also compound prefects are very hard working and punctual*' (JHS 2, Male, 15years). Activities engaged in included tree planting, environmental

sanitation, use of sand bags to check erosion on the school compounds, growing of green grass and hedges on school compound. As individuals in the homes, *"we sweep and clean our surroundings, keep proper waste disposal practices by picking refuse dropped around and engage in communal labour"* (JHS 2, Female, 16years). The activities undertaken by the pupils, as Monroe (2003) opined, help inculcate in people the consciousness to exhibit pro-environmental behaviour.

Bakatsir School on the other hand, had an environmental club. The club, 'Climate Ambassadors', was formed under a Bonn, Germany and Cape Coast, Ghana intercity partnership initiative. Children in the club were sensitised to educate their peers, parents and communities on climate change and its effects on the environment and other environmental issues such as the need to keep beaches clean, stop littering and stop open defecation. In addition to the environmental education, the club members planted trees and kept the school compound clean. The approach used by the club members helped promote public sphere environmental citizenship behaviours which ensured environmental sustainability.

The provision of external support from the Bonn partnership motivated pupils and teachers (patrons) to participate in club activities. This confirms the assertion by Agyeman and Kollmuss (2002) that in addition to internal environmental consciousness, availability of external incentives helps promote pro-environmental behaviour.

The study also assessed the forms of pro-environmental behaviour among environmental youth NGOs and state agencies concerned with promoting pro-environmental behaviour among young people in the

metropolis. SHAPE Attitude Ghana, Seafont, Anopa Project, Centre for Environmental Impact Analysis (CEIA), GES and NCCE were the key informants for the study.

The NCCE's main mandate, as given by the constitution, is to create and sustain within the Ghanaian society the awareness of the principles and objectives of the constitution as the fundamental law of the people of Ghana. It focuses among other things, on educating citizens on environmental issues as its constitutional duties to protect and safeguard the environment. Some environmental projects that have targeted young people include "a clean Ghana begins with you"; "Good sanitation is your responsibility" and "Your responsibility to plant a tree". Hitherto, the Commission's main target group had been the general citizens of Ghana and foreigners living in Ghana, but in recent years, attention has been given to schools and youth associations.

Activities with young people include citizenship week (once every year) where they engage with basic and second cycle schools on a theme. The latest year's (2016) theme was "My Ghana: The power of one" which stressed the power of the individual to make a change. The message was propagated through civic education clubs in schools where many issues of concern were discussed through platforms like constitution quiz, constitution games and 'Project citizen Ghana'. This is a project in which civic education clubs in schools develop projects or proposals for solutions.

The clubs identify the problem, gather information, examine laws regarding the problem, propose their class policy and draw their action plans with budget of how to solve the problem. This approach supports the assertion of Kollmuss and Agyeman (2002) and Flanagan (2009) that feeling of

responsibility and providing civic engagements ensure environmental citizenship behaviour.

In recent times, citizenship week has been on promotion of good sanitation and planting of trees. 'Project citizen activities have also helped students to find ways of dealing with and safeguarding the environment' as a way of promoting PEB and targeting attitudinal change. *"At NCCE, our main tool is education and until we see a change in the issues we educate about, we continue to educate"*. Also, *we know the Ghanaian adult has formed his or her mind set already so we target the schools and youth, with the emphasis that the change starts with the individual* (District Officer, NCCE, 2016). This approach by the NCCE helps create the platform for inculcating environmental citizenship behaviours among students as corroborated by Monroe (2003).

SHAPE Attitude Ghana, mainly targets young people in schools, youth groups and adults. Activities undertaken include organising sensitisation seminars on the need to stop littering around, formation of sanitation clubs in schools, drama performance and role plays on environmental cleanliness, provision of sanitation bins to schools, development of information, educational and communication (IEC) materials on environmental cleanliness and organisation of talk shows on radio. The activities engaged in by SHAPE Attitude mostly promote more of personal behaviours instead of environmental citizenship behaviours.

Seafront engages mainly with conservation along the coast and targets young people. They do country conservation-sensitisation on subject matter of importance, dialogues targeted at opinion leaders, volunteerism to monitor and protect the project activities, conservation education for schools using videos

and colouring books. They also promote school adoption of beaches for cleaning and monitoring against people making them dirty. They organise cleanest beach competitions and deserving schools receive some awards (cash prizes). Sporting activities are also organised to maintain pupils' interest in the group. According to the Director, "*exercising gets them to maintain their interest in the activities; they are also motivated for cleaning up beaches due to the competition and video shows on what others are doing elsewhere; this helps build ownership of projects*". Here again, most of these activities encourage private-sphere or personal behaviours.

Anopa project's main activity is sports with young people, incorporating environmental issues of concern. Their belief is that "*nothing leaves earth, what you put into the environment still comes back to affect you, therefore, you don't litter your environment*" (Programme Officer). Some environmental activities they engaged in included waste management, educating market women and school children, forming fun clubs in SHS, yet to get approval from GES. A current initiative called the Mad Lam Initiative, exposes children to the state of the environment, e.g. beaches.



Plate 1: Anopa Volunteers Playing Fun Games on Environmental Cleanliness.

Source: Anopa Project, October 2015

It is premised on the belief that kids are the custodians of refuse disposal, hence, they go to schools to educate students about environmental issues in Ghana, teach some up-cycling techniques, play and have fun (Plate 1), encourage the children to make paintings of natural environment or surroundings such as beautiful beaches, trees, sea, rain, sun (Plate 2); these are then compared with an ideal situation with the aim of sensitising them on how to strive for the better or clean beaches. Through these practical activities, the impacts of environmental change are brought closer to people and, according

to Dobson (2010), this helps to encourage environmental citizenship because it influences personal behaviour choices.



Plate 2- Pupils Making Drawings of Natural Environments.

Source: Anopa Project, October 2015

Quizzes and guessing games are played on the years it took for things to disintegrate, as a form of sensitisation on degradable waste. Anopa also organised talks on Health and the environment (malaria, cholera) and teach them recycling techniques in making balls, rackets, shuttle cocks, using plastic waste (Plate 3). The activities help create awareness and promote pro-environmental behaviour among the pupils.



Plate 3 -Pupils Recycling Waste Plastics.

Source: Anopa Project, October 2015

Centre for Environmental Impact Analysis (CEIA), is mainly into environmental impact assessment but occasionally they do sensitisation with young people in schools on environmental issues. They were previously dealing with school children in the collection of plastic waste for supply to a private company for recycling. However, the folding up of the company has led to the collapse of the school groups because the monetary gains from the collection were not forthcoming. The collapse of the school groups corroborates the assertion by Kollmuss and Agyeman (2002) and Dobson (2010) that attaching economic incentives to PEB does not lead to sustainable behaviours. Once the incentives are removed, people will often relapse into their previous behaviour patterns or old bad practices (Jochelson, 2007).

Another problem with the use of fiscal incentives, as buttressed by Georg (1999), is that it underestimates the extent to which people are motivated by reasons beyond self-interest. It can be inferred from the discussions on the forms of pro-environmental activities that young people in schools are engaged in varying forms of pro-environmental behaviour. These are mostly private or personal behaviours that may not enhance sustainable environmental behaviours. Related stakeholders also play a role in providing the opportunities and platforms for creating environmental awareness and some hands on environmental activities.

The formation of environmental clubs that would have been a platform for inculcating environmental citizenship behaviours were virtually absent in most of the schools. The environmental clubs in some of the schools had collapsed due to low interest of patrons and external sponsorship. The surviving club was as a result of external support. This notwithstanding, young people in schools saw the need for exhibiting pro-environmental behaviour and would cease any opportunities to promote environmental citizenship behaviours.

CHAPTER FIVE

EXHIBITION OF ENVIRONMENTAL CITIZENSHIP BEHAVIOUR

Introduction

The chapter addresses the second and the third specific objectives of the study. It became evident from the previous chapter that young people exhibit some forms of pro-environmental behaviours. This chapter examines the factors that predispose them to take environmental actions. It looks at students' life experiences and values as well as their potentials in terms of knowledge, awareness, responsibilities, concern and environmental practices. The chapter ends with an assessment of the relationship between the values (egoistic, biospheric, and altruistic), the potentials (knowledge, awareness, responsibilities, concern and environmental practices) and pro-environmental behaviour (personal and environmental citizenship).

Predisposing Factors to Pro-environmental Actions

Certain underlying values and beliefs predispose people to take actions in favour of the environment. This is so because the PEB of an environmental citizen is rooted in a commitment to the principles and values underlying it (Dobson, 2010; Nordlund & Garvill, 2002). Literature identifies three important values for pro-environmental behaviour. These values (i.e. egoistic, biospheric and altruistic) were determined using various indicators measured on scores that varied from 1 to 5 with 1 indicating that the person is least to 5 indicating that the person is very highly predisposed.

The criteria for interpreting the indicators of egoistic/biospheric/altruistic values were adapted from Ifegbesan (2010). In a study involving secondary school students in Ogun State, Nigeria, Ifegbesan used the midpoint of the scores to determine two levels of understanding and practice on waste management. This scale was modified from two levels to four levels using the quartiles as presented in Table 10, since the interquartile range is more robust to outliers. The criteria for the interpretation of the overall egoistic/biospheric/altruistic levels of the SHS students varied based on the number of response items per each value.

The findings were further disaggregated based on two background characteristics of respondents, sex and environmental club membership status. The data disaggregation was limited to two background characteristics because there was not much variations in the ages of SHS students and the location (urban and peri-urban) of selected schools.

Table 10: Criterion for Interpreting Egoistic/Biospheric/Altruistic Levels of Students

Score	Degree
1.00 – 1.25	Least
1.26 – 2.55	Moderate
2.56 – 3.75	High
3.76 – 5.00	Very high

Source: Field survey (2016)

Egoistic Values

People with egoistic values will consider their personal benefit before carrying out environmentally friendly actions (Stern, 2000, and De Goot &

Steg, 2008). For such people, they are less likely to take actions on behalf of the environment (Chawla (1999).

For the purpose of this study, egoistic values were analysed using four items. These items were life style changes, prioritisation of environmental issues, the time and effort to do environmentally friendly things. The overall egoistic value of the students was arrived at by aggregating the scores of the four items. The total score on the scale varied from four to 20. Similar to the criteria used for the individual items, the quartiles of the composite scores were used to determine the overall egoistic levels of the SHS students as captured in Table 11.

Table 11: Criterion for Interpreting the Overall Egoistic Levels of Students

Score	Degree of Egoism
1.0 – 5.0	Least egoistic
5.1 – 10.0	Moderately egoistic
10.1 – 15.0	Highly egoistic
15.1 – 20.0	Very highly egoistic

Source: Field survey (2016)

The details of the egoistic values of the SHS students are presented in Table 11. As can be seen in the table the minimum and the maximum scores for all item were 1 and 5 respectively with a valid sample of 292. To begin with, the distribution of the scores on the SHS students' views on the time used to do environmentally friendly things approximated normality. The mean score was 3.03 (Median = 3, skewness = -0.032) with a standard deviation of 1.23. The median score (3) shows that the majority of the students were of the

view that it takes too much time to do environmentally friendly things signifying that the students were more egoistic when it comes to time used for pro-environmental activities.

This confirms De Goot & Steg (2008) assertion that when people perceive that it takes too much time, it becomes too costly and hence a disincentive to PEB. As part of the factors that determine egoistic nature of the SHS students, the study solicited their views on the effort used to do environmentally friendly things. The data as captured in Table 10 show that the effort that went into environmentally friendly activities was a bother to the majority of the respondents (Median = 4, skewness = -0.30). The mean score was 3.24 with a standard deviation of 1.23. Here again, once environmentally friendly activities are perceived to come with too much effort, the SHS students would not engage in them.

Literature also identifies people's beliefs on scientists finding solutions to global warming without people having to make changes to their life styles, as one of the indicators of egoistic values. It became evident from the study that SHS students were more concerned and therefore less egoistic (Median = 2, skewness = 0.49) about life style changes to solving environmental problems. The mean score was 2.56 with a standard deviation of 1.48. The respondents although saw environmentally friendly activities as too much of a bother, they were willing to effect life style changes to resolve environmental problems.

Table 12: Egoistic Values of SHS Students

Item	N	Minimum	Maximum	Mean	Median	Skewness	Standard Deviation
It takes too much time to do things that are environmentally friendly .	292	1	5	3.03	3	-0.032	1.23
It takes too much efforts to do things that are environmentally friendly	292	1	5	3.24	4	-0.302	1.23
Scientists will find solutions to global warming without people having to make changes to their life styles	292	1	5	2.56	2	0.49	1.48
Environmental issues are of low priority for me	292	1	5	2.32	2	0.809	1.37
Overall egoistic score	292	4	20	11.15	11	-0.08	3.40

Source: Field survey (2016)

The final item with respect to determining the egoistic nature of the respondents was how they prioritised environmental issues. As can be seen in Table 9, a median score of 2 (mean = 2.32, skewness = 0.809) with a standard deviation of 1.371 show that the SHS respondents put high premium on prioritising environmental issues hence less egoistic.

The study further determined the overall egoistic nature of the respondents. In order to ascertain the egoistic nature of the SHS students, the scores for the four items were aggregated to get a composite score. With reference to the criteria for interpretation (Table 11), the data showed that the SHS students were highly egoistic. Although the SHS students prioritized environmental issues and willing to change their lifestyles in favour of the environment, their perceived cost of time and too much effort to do environmentally friendly things made them generally highly egoistic. This confirms the observation of Baker, Davis, and Weaver (2013) that though individuals may be environmentally conscious, they may not carry out environmental activities if it comes with too much effort and time.

Further analysis was done to determine the environmental egoism of males and females as well as environmental club membership status. To begin with the study determined whether males and females had different egoistic levels using the Mann Whitney's U test. The data, as captured in Table 13, show that males and females have similar egoism (P-values ≥ 0.174) with respect to environmental conservation. Females are expected to be less egoistic and have more affinity for the environment (Chawla and Cushing (2007); Rickinson (2001) and Zelezny (1999)); but this was not the case for

the SHS respondents. This could be influenced by their similar orientation to undertake environmentally friendly activities.

Table 13: Distribution of Egoistic Values by Sex

Egoistic attributes	Mann-Whitney U	Z	P-value
It takes too much time to do things that are environmentally friendly	10333.0	-.26	0.794
It takes too much efforts to do things that are environmentally friendly	9584.0	-1.4	0.174
Scientists will find solutions to global warming without people having to make changes to their life styles	18592.5	-.44	0.659
Environmental issues are of low priority for me	18246.0	-.95	0.950
Overall egoistic score	18798.0	-.14	0.888

Source: Field survey (2016)

With respect to differences in environmental membership status and the environmental egoism of the SHS students, it became evident from the Mann Whitney's U test (Table 14) that those in environmental clubs were significantly less egoistic (Mean rank = 107.68, P-value = 0.000) than those who were not (Mean rank = 155.5). However, this difference was not evident in the effort used to do environmentally friendly things (P-value = 0.184). The orientation that they are environmental club members have put them in a position to be less egoistic than their non-club members (Baker, et.al. (2013).

Table 14: Distribution of Egoistic Values by Club Status

Egoistic attributes	Environmental club	N	Mean ranks	P-value
It takes too much time to do things that are environmentally friendly	Yes	55	124.03	0.023*
	No	237	151.72	
It takes too much efforts to do things that are environmentally friendly	Yes	55	133.56	0.184
	No	237	149.50	
Scientists will find solutions to global warming without people having to make changes to their life styles	Yes	55	118.21	0.004*
	No	237	135.07	
Environmental issues are of low priority for me	Yes	55	105.68	0.000*
	No	237	155.97	
Overall egoistic score	Yes	55	107.68	0.000*
	No	237	155.5	

* Significant at the 5% alpha level

Source: Field survey (2016)

Biospheric Values

Biospheric values reflect a key concern with the quality of nature and the environment for its own sake (De Groot et al. 2012). People with a biospheric value orientation will base their decision to act pro-environmentally on the perceived benefit for the ecosystem and biosphere as a whole. According to Chawla (1999), people with stronger biospheric values are better disposed to take environmental actions because of their care for environmental resources. Their affinity for nature therefore will make them engage in environmental conservation activities even if it comes at a cost.

Issues that were discussed as part of the biospheric values of the respondents were the need for people to change their life style for environmental conservation, living in harmony with nature, concern about environmental pollution, concern about extinction of plants and animals and the effects of pollution on human health. The scores of each of the items were then aggregated to get an index that represented students' biospheric levels. The five items yielded a minimum biospheric value of 5 and a maximum of 25. The lower limit of least egoism was 1, to cater for no-response. The criteria for interpreting the levels based on the score of the total of the five items can be seen in Table 15.

Table 15: Criterion for Interpreting the Overall Biospheric Levels of Students

Score	Degree of biospherism
1.00 – 6.25	Least
6.26 – 12.50	Moderately
12.51 – 18.75	Highly
18.75 – 25.00	Very highly

Source: Field survey (2016)

Source: Field Survey, Potakey (2016)

The first issue that the study examined as part of the discussion on the biospheric level was the need for life style changes of the current generation in order for the future generation to enjoy quality of life. It became evident from the median score (5) that the students were very highly biospheric (Mean = 4.48, Skewness = -2.338, Quartile deviation = 0.5) (Table 16). The SHS students were therefore willing to change their lifestyles to make less demands on the environment so future generations would have a good quality of life. This biospheric value predisposes them to pro-environmental behaviour (Chawla & Cushing, 2007; Ifegbesan, 2010).

With respect to living in harmony with nature in order to survive, the descriptive statistics, as presented in Table 16, showed that the distribution of the scores was negative indicating the majority of the students had scores greater than the mean score (Mean = 4.29, Skewness = -1.898). The median score of 5 indicates that the students were very highly biospheric with respect to the need for people to live in harmony with nature in order to survive.

Students views on the harmful consequences of pollution on the environmental was the next item examined. The scores with respect to this item showed that the students were very highly biospheric (Table 16). The median was 5 (Skewness = -1.862) with a quartile of 0.5. The nature of the distribution indicate that the majority of the scores with respect to the harmful consequences of pollution on the environment was more than the mean score (4.30).

Another issue that the study examined as part of the biospheric values of the respondents was the belief of extinction of plants and animals in years

to come. The evidence from the data as captured in Table 13 shows that the biospheric value of most of the SHS students with respect to extinction of plants and animals was very high (Mean =3.8, Skewness = -1.050). The median was 4 with a quartile deviation of 1.

It is generally known that pollution threatens human health (Halder and Islam, 2015). It was based on this that the study ascertained the value respondents' placed on this statement. With a median of 5 (Quartile deviation = 0.5) and a skewness of -1.763, it could be inferred that the value that the respondents placed on pollution threatening human health was more than the mean value of 4.26. In effect, the biospheric level of the SHS students with respect to health implications of pollution was very high.

The study finally determined the overall biospherism of the SHS students. The analysis involved the aggregation of the scores of the five items: the need for people to change their life style for environmental conservation; living in harmony with nature; concern about environmental pollution; concern about extinction of plants; and animal and the effects of pollution on human health. Using the interpretation criteria (Table 15), it became evident from the median score of 23 and a quartile deviation of 2, as captured in Table 14, that the SHS students were very highly biospheric (Mean = 21.1, Skewness = -1.992) and this was also evident in all the biospheric indicators.

The very highly biospheric orientation of the students would predispose them to environmental citizenship behaviour because according to Steg and De Groot (2012), individuals who endorsed such values were more likely to have pro-environmental beliefs and norms and would act pro-environmentally.

Table 16: Biospheric Values of SHS Students

Item	N	Min	Max	Mean	Median	Skewness	Std Dev	Q Dev
Most people need to change their lifestyles so that future generations can enjoy good quality life	292	1	5	4.48	5	-2.338	1.076	0.5
Humans must live in harmony with nature in order to survive	292	1	5	4.29	5	-1.898	1.222	0.5
I am concerned about environment because pollution has harmful consequences	292	1	5	4.30	5	-1.862	1.127	0.5
In the years to come, thousands of species of plants and animals will become extinct	292	1	5	3.80	4	-1.050	1.321	1.0
Environmental pollution threatens human health	292	1	5	4.26	5	-1.763	1.238	0.5
Overall biospheric score	292	6	25	21.1	23	-1.992	4.471	2.0

Source: Field survey (2016)

The findings on the overall biospheric values of males and females also reflected in the value they placed on the need for people to change their life style for environmental conservation; living in harmony with nature; concern about environmental pollution; and concern about extinction of plants and animals (P-values ≥ 0.396). However, the study found a significant difference in the values males and females placed on the effects of pollution on human health (P-value = 0.010) as shown in Table 17. The mean ranks showed that the females (Mean rank = 158.84) were more biospheric than males (Mean rank = 136.73). This finding confirms the findings of Chawla & Cushing (2007), Ifegbesan (2010), and Kollmuss & Agyeman (2002) that females were more biospheric than males because they seem to have more affinity for nature.

Belonging to environmental organisation or club, according to Monroe (2003), gives an indication of people's willingness to contribute to and promote environmental actions. It is a result of this that the study ascertained the biospheric differences of members and non-members of environmental clubs. As evident in Table 16, the overall biospheric differences of members and non-members of environmental club was not statistically significant (P-value = 0.316).

The non-significance in overall biospheric differences among club and non-club members could be influenced by the fact that a lot of the SHS students joined these clubs for socialisation. This similarity showed in the biospheric scores on the need for people to change their life style for environmental conservation; living in harmony with nature; and concern about extinction of plants and animals (P-values ≥ 0.702).

Table 17: Distribution of SHS Biospheric Values by Sex

Egoistic attributes	Sex	N	Mean ranks	P-value
Most People need to change their lifestyles so that future generations can enjoy good quality life	Male	163	143.61	0.398
	Female	129	150.14	
Humans must live in harmony with nature in order to survive	Male	163	143.64	0.447
	Female	129	150.12	
Concerned about environment because pollution has harmful consequences	Male	163	143.24	0.396
	Female	129	150.62	
In the years to come, thousands of species of plants and animals will become extinct	Male	163	144.85	0.693
	Female	129	148.59	
Environmental pollution threatens human health	Male	163	136.73	0.010*
	Female	129	158.84	
Overall biospheric score	Male	163	142.22	0.327
	Female	129	151.91	

* Significant at the 5% alpha level

Source: Field survey (2016)

On the other hand, the biospheric values of members of environmental club was significantly higher with reference to their concern about environmental pollution (Mean rank = 172.43, P-value = 0.004) and threat of pollution to human health (Mean rank = 165.74) than non-club members (Table 18). The significant difference in this case indicates that the club members had some concerns about pollution and its effects on human health and hence better positioned to engage in environmental citizenship behaviour out of such concern. It also confirms the assertion of Baker et.al. (2013) that an individual's perception about the severity of ecological problems will influence him or her to act environmentally friendly.

Table 18: Distribution of SHS Biospheric Values by Environmental Club Status

Biospheric attributes	Environmental club		N	Mean ranks	P-value
	Yes	No			
Most People need to change their lifestyles so that future generations can enjoy good quality life	Yes	No	55	147.02	0.948
Humans must live in harmony with nature in order to survive	Yes	No	237	146.38	0.702
Concerned about environment because pollution has harmful consequences	Yes	No	55	172.43	0.004*
In the years to come, thousands of species of plants and animals will become extinct	Yes	No	237	146.11	0.968
Environmental pollution threatens human health	Yes	No	55	165.74	0.030*
Overall biospheric score	Yes	No	237	142.04	0.316
	Yes	No	55	156.72	
	No	No	237	144.13	

* Significant at the 5% alpha level

Source: Field survey (2016)

Altruistic values

Altruistic values are pro-social values that particularly reflect an interest for the well-being of other human beings (de Groot and Steg 2007, 2008, 2010). People with altruistic value orientations will base their decision to behave pro-environmentally on the benefit it will have for others and society as a whole. Chawla (1999) and Dobson (2010) advanced that such people have strong internal locus of control and believe that their actions can bring about change. They will therefore seek to maintain the integrity of common-pool resources because of their public benefit.

The altruism of the respondents was ascertained using five items that measured their responsibility towards the environment. These were environmental friendliness, life style changes to conserve the environment for future generations, ability to reduce environmental degradation, willingness to sacrifice for the environment and moral obligation to take actions against environmental degradation. Just like the scores used to measure egoism and biospherism, the altruistic scores varied from 1 to 5 with 1 indicating least altruism to 5 indicating very high altruism. The five items yielded a minimum biospheric value of 5 and a maximum of 25. The lower limit of least altruism was 1, to cater for no-response. The criterion used for interpreting the overall altruistic levels of the respondents is presented in Table 19.

With respect to the environmental friendliness of the respondents, the distribution of the scores, as captured in Table 18, shows that more than half of the respondents were environmentally friendly in most things that they did (Median = 4, Skewness = -0.746). This finding predisposes them to environmental citizenship behaviour.

Table 19: Criterion for Interpreting the Overall SHS Altruistic Levels

Score	Degree of Altruism
1.00 – 6.25	Least
6.26 – 12.50	Moderately
12.51 – 18.75	Highly
18.76 – 25.00	Very highly

Source: Field survey (2016)

The need for attitudinal change in order to conserve the environment has been expressed by many authors (e.g. Barber, et al. 2012, Kollmuss & Agyeman, 2002, Chawla, 1999). The SHS respondents shared similar opinions. The median score of 4 (Mean = 3.96, Skewness = -1.219) with a quartile deviation of 0.5 (Table 20) indicate that the respondents were very highly altruistic with respect to attitudinal change for environmental conservation. Here too, it gives an indication that respondents' concerns for others and society as a whole would make them change their attitudes towards environmental conservation. For Steg and De Groot (2008), this would help promote pro-environmental beliefs, intentions and behaviour.

The third issue that the study considered as part of the discussion on the environmental altruism of respondents was the ability to do things to reduce environmental degradation. As can be seen in Table 20, the SHS respondents indicated that they had the ability to reduce environmental degradation (Median = 4, Skewness = -1.396, Quartile deviation = 0.5). With reference to the criteria for determining the altruistic levels of respondents in term of environmental conversation, it was deduced that the SHS respondents were very highly altruistic when it comes to doing something to reduce

environmental degradation. This finding buttresses the assertion of Barker, et al. (2013) that people will be altruistic once they perceive the severity of environmental problems.

The next issue examined was the willingness of respondents to sacrifice for the sake of the environment. The distribution in Table 20 shows that the SHS students placed a high value on making sacrifices for environmental conservation. With a median score of 4 (Mean = 3.74, Skewness = -0.875) and a quartile deviation of 0.5, it became evident that the SHS respondents were very highly altruistic with respect to making sacrifices for environmental conservation. This again will ensure they undertake environmental engagements even if it comes at a cost.

The final issue examined as part of the altruism was whether the respondents were morally obliged to take actions against environmental degradation. Based on a median score of 4 and a quartile deviation of 0.5 (Mean = 0.39, Skewness = -1.107), the respondents appeared to be very highly altruistic in their obligation to take actions against environmental degradation (Table 20). As indicated earlier, the perceived severity of environmental problems will make people altruistic (Barker et al., 2013).

The overall altruism of the SHS students was determined by aggregating the scores of the indicators. The minimum overall score was five while the maximum was 25. With reference to the criterion in Table 19, the overall median altruistic score (20) and a quartile deviation of 2.5 (Table 20) indicated that the SHS students were very highly altruistic.

Table 20: Altruistic Values of SHS Students

Item	n	Min	Max	Mean	Median	Skewness	Std Dev	Q Dev
I am environmentally friendly in most things I do	292	1	5	3.79	4	-0.746	1.142	1.0
I personally need to change my way of life so that future generations can continue to enjoy a good environment	292	1	5	3.96	4	-1.219	1.301	0.5
I can do something to reduce environmental degradation	292	1	5	4.03	4	-1.396	1.135	0.5
I am willing to make sacrifices for the sake of the environment	292	1	5	3.74	4	-0.875	1.025	0.5
I feel a moral obligation to take actions against environmental degradation	292	1	5	3.90	4	-1.107	1.053	0.5
Overall altruistic score	292	5	25	19.42	20	-1.175	4.057	2.5

Source: Field survey (2016)

This very highly altruistic orientation of the respondents makes them highly predisposed for environmental citizenship behaviour because altruistic orientation is a pre-requisite for environmental citizenship (Stern, 2000; Kollmuss & Agyeman, 2002; Barker et. al., 2013).

The analysis went further to disaggregated the altruism of males and females on one hand and members and non-members of environmental club on the other hand using the Mann Whitney's U test. To begin with, the altruistic scores for the females (Mean rank = 167.56) was significantly higher (P-value = 0.000) those of the males (Mean rank = 129.83) (Table 21). With respect to the altruistic indicators, the altruism for females were more than that of males in relation to life style changes to conserve the environment for future generations, ability to reduce environmental degradation, willingness to sacrifice for the environment and moral obligation to take actions against environmental degradation (P-values ≤ 0.029) (Table 21).

However, the study found no significant differences in the altruism of males and females' environmental friendliness (P-value = 0.152). Aside the differences in the altruism of males and females, the study also ascertained the altruism levels of members and non-members of environmental clubs. The Mann Whitney's U test, as presented in Table 22, showed no significant differences in the altruism for members and non-members of environmental clubs.

Table 21: Distribution of SHS Altruistic Values by Sex

Egoistic attributes	Sex	n	Mean rank	P-value
I am environmentally friendly in most things I do	Male	163	140.52	0.152
	Female	129	154.06	
I personally need to change my way of life so that future generations can continue to enjoy a good environment	Male	163	133.18	0.001*
	Female	129	163.33	
I can do something to reduce environmental degradation	Male	163	137.57	0.029*
	Female	129	157.78	
I am willing to make sacrifices for the sake of the environment	Male	163	133.72	0.002*
	Female	129	162.62	
I feel a moral obligation to take actions against environmental degradation	Male	163	136.60	0.016*
	Female	129	159.02	
Overall altruistic score	Male	163	129.83	0.000*
	Female	129	167.56	

* Significant at the 5% alpha level

Source: Field survey (2016)

This similarity was evident in their environmental friendliness (P-value =0.807), life style changes to conserve the environment for future generations (P-value =0.886), willingness to sacrifice for the environment (P-value =0.139) and moral obligation to take actions against environmental degradation (P-value =0.929). However, those in environmental clubs showed higher altruism (Mean rank = 167.40) in their ability to reduce environmental degradation than those not in environmental clubs (Mean rank = 141.65). The difference in the mean ranks was statistically significant (P-value = 0.029).

Environmental clubs serve as platforms for young people to nurture a concern for nature and cultivate the skill to exhibit environmental citizenship behaviour (Monroe, 2003; Chawla & Cushing, 2007). The higher altruistic scores of club members therefore gives an indication of their willingness and ability to forestall environmental degradation.

Table 22: Distribution of SHS Altruistic Values by Environmental Club Status

Biospheric attributes	Environmental club		N	Mean rank	P-value
	Yes	No			
I am environmentally friendly in most things I do	Yes	No	55	144.12	0.807
I personally need to change my way of life so that future generations can continue to enjoy a good environment	Yes	No	237	147.05	
	Yes	No	55	147.87	0.886
I can do something to reduce environmental degradation	Yes	No	237	146.18	
	Yes	No	55	167.40	0.029*
I am willing to make sacrifices for the sake of the environment	Yes	No	237	141.65	
	Yes	No	55	160.65	0.139
I feel a moral obligation to take actions against environmental degradation	Yes	No	237	143.22	
	Yes	No	55	145.65	0.929
Overall altruistic score	Yes	No	237	146.70	
	Yes	No	55	152.15	0.579
	Yes	No	237	145.19	

* Significant at the 5% alpha level

Source: Field survey (2016)

Potentials for Exhibiting Environmental Citizenship Behaviour

In order to exhibit PEB, people must possess certain potentials. These potentials encapsulate people's awareness, knowledge, concerns and responsibilities for the environment. The study, therefore, sought to examine these potentials among the respondents. For the SHS students, a scale was developed to test their potentials. The number of items on the scale varied per each attribute. There were four items each for awareness and knowledge, five for concerns and two for responsibility. The students were asked to rate the items on a scale of 1 to 5 with one representing least awareness, knowledge, concerns and responsibilities to 5 indicating highest awareness, knowledge, concerns and responsibilities.

The criteria for the interpretation of the items in each category of awareness can be seen in Table 23. However, there were different number of items for each category of potential. As a result, the criteria for interpreting the degree of potential for each category also varied. The distributions of the categories of potentials were discussed using descriptive statistics after which the Mann Whitney's U test was used to disaggregate the findings by sex and environmental club membership status.

Table 23: Criteria for Interpreting Degree of Awareness Per Item

Score	Degree of Awareness
1.0 – 5.0	Low
5.1 – 10.0	Moderate
10.1 – 15.0	High
15.1 – 20.0	Very high

Source: Field survey (2016)

Students' Level of Awareness

Awareness is one of the potentials that people exhibit for the practice of pro-environmental behaviour (Ifegbesan (2010). Four main items on awareness were examined. Three out of the four items focused on climate change awareness, its causes and mitigation measures while the fourth looked at awareness of sanitation in Ghana in general. With a minimum score of 1 and a maximum of 5 per item, the quartiles of the scores (Table 24) were used to categorise responses to each of the items into low, moderate, high and very high.

Table 24: Criterion for Interpreting the Awareness Levels of Respondents

Score	Degree
1.00 – 1.25	Low
1.26 – 2.50	Moderate
2.56 – 3.75	High
3.76 – 5.00	Very high

Source: Field survey (2016)

To begin with, the distribution of awareness of sanitation issues in Ghana, as presented in Table 25, was negatively skewed (Skewness = -1.097). The majority of the SHS respondents, as indicated by the median score of 4 and a quartile deviation of 1, were very highly aware of the sanitation issues in Ghana. The awareness on climate change, its causes and mitigation measures were high (Median = 3, quartile deviation = 1).

Given an overall mean score of 12.49 (Skewness = -0.383, median 13) and a standard deviation of 4.101, the environmental awareness level of the SHS respondent was high (Table 25). Awareness on environmental

degradation psyches the consciousness of people for the need to take environmental actions. The students' high level of awareness therefore serves as a good potential for exhibiting environmental citizenship because for Ahmad *et al.* (2012), awareness leads to participation or engagement in environmental actions. Hungerford and Volk (1990) identify this as the entry – level variables that predisposes people to take actions in favour of the environment.

Table 25: Descriptive Statistics on SHS Students' Environmental Awareness

Item	N	Min	Max	Mean	Median	Skewness	Std Dev	Q Dev
Awareness on sanitation issues in Ghana	292	0	5	3.68	4	-1.097	1.480	1
Awareness of climate change	292	0	5	3.06	3	-0.513	1.375	1
Awareness of the causes of climate change	292	0	5	2.87	3	-0.362	1.368	1
Awareness of mitigation measures of climate change	292	0	5	2.88	3	-0.371	1.402	1
Overall awareness	292	0	20	12.49	13	-0.383	4.101	2.5

Source: Field survey (2016)

The study went ahead to determine the differences in the levels of environmental awareness of male and females. The Mann Whitney's U test in Table 26 showed no significant difference in the awareness of sanitation issues in Ghana, climate change, its causes and mitigation measures (P-values \geq 0.052). This implies that the sex of the SHS students did not influence their environmental awareness. The findings could be because the mode of awareness creation is similar among both the males and females.

Table 26: Differences in SHS Awareness of Males and Females on Environmental Issues

Indicators	Mann-Whitney U	Z	P-value
Awareness on sanitation issues in Ghana	10101.5	-0.602	0.547
Awareness of climate change	9174.0	-1.944	0.052
Awareness of the causes of climate change	10004.0	-0.739	0.460
Awareness of mitigation measures of climate change	9977.0	-0.773	0.440
Overall awareness	9568.0	-1.326	0.185

Source: Field survey (2016)

Belonging to environmental organisations or clubs, according to Monroe (2003), gives an indication of people's willingness to contribute to and promote environmental actions. These clubs serve as platforms to acquire knowledge and build the needed skills and competence to undertake environmental engagements. Table 27 presents the difference in awareness of members and non-members of environmental clubs with respect to sanitation

issues in Ghana, climate change awareness, causes and mitigation measures. In all the issues, the awareness levels of members and non-members of environmental clubs was similar (P-values ≥ 0.147).

Table 27: Differences in SHS Environmental Awareness of Members and Non-members of Environmental Club

Indicators	Mann-Whitney U	Z	P-value
Awareness on sanitation issues in Ghana	6002.0	-0.956	0.339
Awareness of climate change	6078.5	-0.809	0.418
Awareness of the causes of climate change	5838.0	-1.251	0.211
Awareness of mitigation measures of climate change	5724.0	-1.451	0.147
Overall awareness	6079.0	-0.781	0.435

Source: Field survey (2016)

Children in the basic schools had varying levels of potentials for exhibiting PEB. The JHS pupils also had awareness on the environmental degradation, pollution and its effects on human health, particularly on the future generations. Monroe (2003) proposes that people are more likely to engage in environmental behaviours when they are aware of the negative consequences and they believe they have some responsibility for changing the problem. For the young people in schools, therefore, it can be implied that they have the entry level variables (Hungerford & Volk, 1990) which predisposes them to take actions to save of the environment.

Environmental Knowledge

One of the potentials for exhibiting environmental citizenship is for people to have knowledge on environmental issues. Kollmuss and Agyeman (2002) assert that when people know the consequences of their behaviour on the environment they tend to be sensitive to environmental degradation. Based on this, the study ascertained the knowledge levels of the SHS on environmental issues. The discussion covered sanitation management, climate change and its effects. Generally, the SHS students' knowledge level on environmental issues was moderate (median = 10, skewness = -0.621) (Table 28). Further analysis was done to determine the knowledge level of the students with respect to the indicators of environmental knowledge.

The first indicator of environmental knowledge examined is the management of sanitation in the metropolis. The SHS students believed that the Metropolitan Assembly was not solely responsible for sanitation management in the metropolis and the sanitation management is collective responsibility of all. This is supported by a median score of 1 (mean =1.92, skewness = 0.726) with a quartile deviation of 1.

The next indicator of environmental knowledge was climate change. The data from the study presented in Table 28 show that students' knowledge level of climate change was very high (mean = 3.8, skewness = -0.545). The median score for climate change knowledge was 3 with a quartile deviation of 0.5. Also examined as part of the indicators of environmental knowledge is the negative effects of climate change on the current generation.

The data showed that more than half (median = 4, skewness = -0.787) of the students had very high knowledge of the negative effects of climate

change on the current generation. Similarly, the knowledge level of the majority of the students with respect to the negative effects of climate change on future generation was also very high (median = 4, skewness = -0.9829). This gives a good indication for environmental citizenship behaviour because according to Owolabi (2012), knowledge is a panacea to pro-environmental behaviour.

The study went on to analyse the differences in environmental knowledge of males and females as well as members and non-members of environmental club. The disaggregated data as shown in Table 29 showed that the overall environmental knowledge for males and females was similar (Mann-Whitney $U = 10495.5$, $Z = -0.025$, $p\text{-value} = 0.980$). With respect to the indicators of environmental knowledge, both males and females had similar knowledge levels on sanitation management, climate change and its effects on current and future generations (Mann-Whitney $U \geq 9411.5$, $Z \geq -0.052$, $p\text{-value} = 0.110$). This finding is consistent with Ifegbesan (2010) finding that there were no significant differences in terms of knowledge, awareness and practices towards environment among secondary students.

Table 28: Descriptive Statistics on SHS Students' Environmental Knowledge

Item	N	Min	Max	Mean	Median	Skewness	Std Dev	Q Dev
The Metropolitan Assembly is solely responsible for								
sanitation management	292	0	5	1.92	1	0.726	1.495	1
Knowledge of climate change	292	0	5	3.8	3	-0.545	1.375	0.5
Knowledge of negative effects of climate change on								
current generation	292	0	5	3.52	4	-0.787	1.554	1
Knowledge of negative effects of climate change on future generation	292	0	5	3.78	4	-0.982	1.426	1
Overall knowledge	292	0	15	9.22	10	-0.621	2.942	2

Source: Field survey (2016)

Table 29: Differences in SHS Knowledge Levels of Males and Females

Indicators	Mann-Whitney U	Z	P-value
The Metropolitan Assembly is responsible for sanitation management	9411.5	-1.596	0.110
Knowledge of climate change	10477.5	-0.052	0.959
Knowledge negative effects of climate change on current generation	10144.0	-0.538	0.591
Knowledge negative effects of climate change on future generation	10166	-0.514	0.608
Overall knowledge	10495.5	-0.025	0.980

Source: Field survey (2016)

With respect to the differences in the environmental knowledge levels of members and non-members of environmental clubs, the study found no significant difference in their overall knowledge levels (Mann-Whitney U = 6362.0, Z = -0.278, p-value = 0.781). The members and the non-members of environmental club also exhibited similar knowledge levels on sanitation management (Mann-Whitney U = 5952.5, Z = -1.040, p-value = 0.299), climate change (Mann-Whitney U = 6316.5, Z = -0.367, p-value = 0.713), negative effect of climate change on current generation (Mann-Whitney U = 5881.5, Z = -1.176, p-value = 0.239) and the negative effects of climate change on future generation (Mann-Whitney U = 5914.0, Z = -1.133, p-value = 0.257) (Table 30).

Table 30: Differences in Knowledge Levels of Members and Non-members of Environmental Club

Indicators	Mann-Whitney U	Z	P-value
The Metropolitan Assembly is responsible for sanitation management	5952.5	-1.040	0.299
Knowledge of climate change	6316.5	-0.367	0.713
Knowledge negative effects of climate change on current generation	5881.5	-1.176	0.239
Knowledge negative effects of climate change on future generation	5914.0	-1.133	0.257
Overall knowledge	6362.0	-0.278	0.781

Source: Field survey (2016)

The JHS students also had some basic knowledge on the causes of environmental degradation and its consequences. Some of the causes and reasons they cited included poor attitudes, inadequate knowledge on environmental information, ignorance, lack of equipment and inputs, inappropriate tools and logistics, self-centredness, selfishness, not thinking of the future generations, weak law enforcement, outmoded laws- laws not applicable, not being aware of or educated on the consequences of their actions. They therefore, kept their environment clean and educated their peers and family on the environmental issues. For Stern (2000), having some knowledge about environmental issues helps to understand the consequences on themselves and the people who matter to them.

Students' Level of Responsibility

Responsibility is one of the measures of people's potential to exhibit PEB (Jagers & Martinsson, 2010). For the purpose of this study, two items were used to measure the responsibility of students towards the environment. The items focused on their contribution to proper sanitation management and reduction of the impact of climate change. Generally, the students' overall responsibility the environment was very high (median = 8, skewness = -0.791) (Table 30). With respect to sex, the overall responsibility of the environment was similar for males and females (Mann-Whitney $U = 10206.0$, $Z = -0.437$, $p\text{-value} = 0.662$) (Table 31). Similar overall environmental responsibility was found for members and non-members of environmental club (Mann-Whitney $U = 5998.0$, $Z = -0.937$, $p\text{-value} = 0.349$) (Table 32).

One of the key attributes of environmental responsibility is peoples' contribution towards proper environmental management. As evident from the data in Table 31, the environmental responsibility of the students with respect to their contribution to proper sanitation management was very high (median = 4, skewness = -1.158). With respect to sex, both male and female students showed similar responsibility in terms of their contributions towards proper environmental management (Mann-Whitney $U = 9538.5$, $Z = -1.424$, $p\text{-value} = 0.154$) (Table 32). Similarly, the study found no significant differences in the contributions of club and non-club members to proper environmental management (Mann-Whitney $U = 5721.5$, $Z = -1.477$, $p\text{-value} = 0.140$) (Table 33).

Table 31: Descriptive Statistics of SHS Students' Responsibility to the Environment

Item	N	Min	Max	Mean	Median	Skewness	Std Dev	Q Dev
Contribution to proper sanitation management	292	0	5	3.79	4	-1.158	1.335	1
Contribution to reducing the impact of climate change	292	0	5	3.65	4	-0.837	1.376	1
Overall responsibility	292	0	10	7.43	8	-0.791	2.273	2

Source: Field survey (2016)

The other indicator of environmental responsibility that the study examined is students' contribution towards the reduction of the impact of climate change. As can be seen in Table 31, the level of responsibility of the students regarding their contribution to reducing the impact of climate change was very high (median = 4, skewness = -0.837). This responsibility was similar for males and females (Mann-Whitney U = 10406.5, Z = -0.155, p-value = 0.877) (Table 32).

Table 32: Differences in SHS Environmental Responsibility for Males and Females

Indicators	Mann-Whitney U	Z	P-value
Contribution to proper sanitation management	9538.5	-1.424	0.154
Contribution to reducing the impact of climate change	10406.5	-0.155	0.877
Overall responsibility	10206	-0.437	0.662

Source: Field survey (2016)

Also, the study found no significant difference in the environmental responsibility of club and non-club members with respect to their contribution to reducing the impact of climate change (Mann-Whitney U = 6393.5, Z = -0.229, p-value = 0.819) (Table 33).

It can be inferred from these findings that the SHS respondents were very highly responsible for the environment and, therefore, have the potential and better predisposed to practice PEB. This virtue particularly promotes environmental citizenship behaviour because once people feel responsible, it comes with it altruistic tendencies that can promote EC. Feelings of

responsibility are connected to altruistic way of thinking, where pro-environmental behaviour entails making sacrifices to the benefit of the environment (Montada & Kals, 2000; Rickner, 2010).

Table 33: Differences in SHS Environmental Responsibility for Environmental Club Members and Non-members

Indicators	Mann-Whitney U	Z	P-value
Contribution to proper sanitation management	5721.5	-1.477	0.140
Contribution to reducing the impact of climate change	6393.5	-0.229	0.819
Overall responsibility	5998	-0.937	0.349

Source: Field survey (2016)

However, in terms of responsibility, the JHS schools pupils were generally of the opinion that protecting the environment is the responsibility of the community, the state (EPA, CCMA), opinion leaders and other individuals. To them, the government is responsible for keeping clean environments because *'Zoomlion is paid to do clean-ups (JHS, 3; male)'*. It could be implied, therefore, that they are limited in ownership variables (Hungerford & Volk, 1990) which prevent them from making personal investment in environmental issues. They do not believe that social norms prescribe that they should act (Stern, 2000) and they also lack the perceived skills and ability to reduce threat, as well as lack the locus of control in terms of knowledge of the action strategies (Chawla & Cushing, 2007; Kollmuss & Agyeman, 2002).

Some seem to have the perception that keeping our surroundings clean was reserved for the poor. To this perception, a head teacher was of the view that children could contribute to environmental protection only *'if the rich within society will allow their children to participate in the collection of waste; if only all will think alike and help to collect refuse'* (headteacher, male).

This notwithstanding, some of the children felt they could help through environmental activities such as checking littering by prompting juniors or fellow students to stop littering, engaging in monthly clean-up activities, weeding around the compound in the house, *"picking up rubbish on floor so others could copy"*(JHS, 2, female) . They again perceived peer influence, mentoring, advocacy or petitioning on keeping good environmental practices as some of the means by which they could learn environmental responsibility.

Students' Level of Concern for the Environment

Concern for the environment gives people the potential to behave pro-environmentally. This section examines the level of concern of the respondents for the environment. Issues that were examined as part of the respondents' concern for the environment include sanitation, climate change issues and its importance, and prominence given to environmental issues in the education curricula. The analysis begins with descriptive statistics of the distributions of students concern (Table 34) after which the Mann-Whitney's U test was used to disaggregate the findings by sex (Table 35) and environmental club status (Table 36). To begin with, the study first examined the overall level of SHS students' environmental concern. There were five

items which together determined the total environmental concern of the students. On a scale of 0 to 5, and a maximum total score of 25, the SHS students were asked to rate their concern for the environment.

The findings of the study, as presented in Table 34, show that the SHS students were very highly concerned about the environment. This is indicated by a median score of 19 (mean = 18.34, skewness = -0.729) with a quartile deviation of three. This implies the SHS students were better disposed to practice environmental citizenship behaviour because their concern for the environment propagates PEB. It further became evident that both males and females (Table 35) as well as members and non-members of environmental clubs (Table 36) showed similar concerns for the environment with p-values of 0.429 and 0.478 respectively.

The study went further to disaggregate the findings by taking into account the items that constituted the total environmental concern of the students. The first item that the study examined was improper sanitation in Ghana. As can be seen in Table 34, almost all the SHS students were worried about improper sanitation in Ghana. The median score was five (mean = 4.09, skewness = -1.342) with a quartile deviation of 1.

However, the Mann-Whitney's U test, as depicted in Table 35, showed that the females (Mean rank = 156.53) were more worried about improper sanitation than the males (138.56). This corroborates Stern (2000) assertion that females are more likely to exhibit PEB, due to their affinity for nature. On the other hand, members and non-members of environmental clubs were equally worried about improper sanitation in Ghana (Mann-Whitney's U = 5837, Z = -1.324, p-value = 0.186).

Table 34: Descriptive Statistics on SHS Students' Concern for the Environment

Item	N	Min	Max	Mean	Median	Skewness	Std Dev	Q Dev
Worry about improper sanitation in Ghana	292	0	5	4.09	5	-1.342	1.250	1
Sanitation management is important	292	0	5	4.08	5	-1.474	1.319	0.5
Worried about climate change	292	0	5	3.55	4	-0.859	1.504	1
Climate change issues are important	292	0	5	3.61	4	-0.803	1.461	1
Environmental issues are not given prominence in our education system	292	0	5	3.01	3	-0.402	1.367	1
Total concern score	292	4	25	18.34	19	-0.729	4.627	3

Source: Field survey (2016)

The next issues that the study examined as part of the environmental concern of the respondents was their view on the importance of sanitation management. With a median score of five (mean = 4.08, skewness = -1.474) and a quartile deviation of 0.5, it was deduced that the students were very highly concerned with sanitation management in Ghana. Further analysis showed no significant difference in the importance attached to sanitation management by males and females (p-value = 0.085) as well as members and non-members of environmental clubs (p-value = 0.116).

Another important issue of environmental concern is climate change. The respondents indicated the extent to which they were worried about climate change. Similar to the respondents concerns for improper sanitation and sanitation management in Ghana, they were also very highly concerned about climate change (median = 4, skewness = -0.859) and the importance (median = 4, skewness = -0.803) of addressing it. These concerns were similar for males and females (p-value = 0.646) and members and non-members of environmental clubs (p-value = 0.841) with respect to climate change.

The last issues examined as part of the environmental concern of the respondents was the prominence given to environmental issues in the school curricula. The data, as presented in Table 34, show that environmental issues were given high prominence in the school curricula (mean = 3.01, skewness = -0.402). This view was equally shared by both males and females (p-value = 0.406) as well as members and non-members of environmental clubs (p-value = 0.663).

Table 35: Differences in SHS Environmental Concern for Males and Females

Egoistic attributes	Sex	n	Mean ranks	P-value
Worry about improper sanitation in Ghana	Male	163	138.56	0.047*
	Female	129	156.53	
Sanitation management is important	Male	163	139.66	0.085
	Female	129	155.14	
Worried about climate change	Male	163	148.44	0.646
	Female	129	144.04	
Climate change issues are important	Male	163	145.21	0.759
	Female	129	148.13	
Environmental issues are not given prominence in our education system	Male	163	142.96	0.406
	Female	129	150.98	
Total concern score	Male	163	143.04	0.429
	Female	129	150.87	

* Significant at the 5% alpha level

Source: Field survey (2016)

Most of the JHS pupils also had concerns for the environment and hence were willing to help keep the environment clean. They therefore, kept their environment clean and educated their peers and family on environmental issues. In collaboration with Seafront's wildlife NGO-turtle conservation programme at Kakum Park, the kids in schools were used to educate parents to desist from catching the tortoise. It could generally be deduced from the conceptual framework that the JHS school children had the environmental consciousness in terms of their knowledge, beliefs and attitudes to enable them engage in pro-environmental behaviours. Chawla (1998) proposes that this influence their environmental sensitivity.

Table 36: Differences in SHS Environmental Concern for Environmental Club Members and Non-members

Indicators	Mann-Whitney U	Z	P-value
Worry about improper sanitation in Ghana	5837	-1.324	0.186
Sanitation management is important	5716.5	-1.571	0.116
Worried about climate change	6408.5	-0.200	0.841
Climate change issues are important	6204	-0.579	0.562
Environmental issues are not given prominence in our education system	6279.5	-0.435	0.663
Total concern score	6118.5	-0.710	0.478

Source: Field survey (2016)

Relationship between Environmental Values and Potentials for Exhibiting Environmental Behaviour

This section examines the relationship between environmental values and potentials for exhibiting environmental behaviour. The environmental values were defined in terms of egoistic, biospheric and altruistic values while the potentials for exhibiting pro-environmental behaviour was expressed in awareness, knowledge, concerns and responsibilities. Due to the subjective nature of the scores, the associations were examined using the Spearman's Rank Order Correlation tool. The associations were further disaggregated by sex and environmental club membership status. This was based on the assumption that, these background variables of students influence their

potentials for exhibiting pro-environmental behaviour (Chawla & Cushing, 2007; Ifegbesan, 2010; Kollmuss & Agyeman, 2002, Dobson, 2010).

The study first examined the relationship between egoistic and awareness. Generally, the study found a significant relationship between egoism and awareness. Students who were more egoistic were less aware of environmental issues and vice versa. ($R = -0.204$, $p\text{-value} = 0.000$). This form of relation between egoism and awareness was same for males ($R = -0.195$, $p\text{-value} = 0.013$) and females ($R = -0.217$, $p\text{-value} = 0.014$) as well as environmental club members ($R = -0.274$, $p\text{-value} = 0.043$) and non-environmental club members ($R = -0.193$, $p\text{-value} = 0.003$) (Table 37). De Goot & Steg (2008) postulates that because of their limited awareness, students who are more egoistic are less likely to take actions on behalf of the environment

The next relationship examined was between biospheric and awareness. The data, as presented in Table 37, showed a significant direct relationship between biospheric values and awareness ($R = 0.119$, $p\text{-value} = 0.041$). Students who were more aware of environmental issues tended to be more biospheric as compared to those who were less aware of environmental issues. This form of potential for exhibiting pro-environmental behaviour was significant for females ($R = 0.186$, $p\text{-value} = 0.035$) and for non-club members ($R = 0.128$, $p\text{-value} = 0.048$) but not for males ($R = 0.077$, $p\text{-value} = 0.329$) and environmental club members ($R = 0.095$, $p\text{-value} = 0.491$).

When people become more aware of the consequences of environmental degradation, they tend to feel more responsible for the environment. According to Chawla (1999), people with stronger biospheric

and altruistic values are better disposed to take environmental actions because of their care for environmental resources and their belief that they have the responsibility to protect the environment. Based on this, the study examined the relationship between altruism and environmental awareness.

Evidence from the study, as captured in Table 35, shows that generally, students who were more altruistic were also more aware of environmental issues ($R = 0.146$, $p\text{-value} = 0.013$) than those who were less altruistic. This relationship was also significant for females ($R = 0.229$, $p\text{-value} = 0.000$) and non-environmental club members ($R = 0.156$, $p\text{-value} = 0.016$) but not for males ($R = 0.122$, $p\text{-value} = 0.121$) and environmental club members ($R = 0.116$, $p\text{-value} = 0.399$).

With respect to the relationship between egoism and knowledge in environmental issues, the overall data showed that respondents who were more egoistic had less knowledge in environmental issues than those who were not. This observation is obvious because limited knowledge of environmental issues would not make them have concerns for the environment, hence more egoistic. The relationship, however, was not statistically significant ($R = -0.101$, $p\text{-value} = 0.083$).

This value and pro-environmental behaviour were exhibited by both males ($R = -0.125$, $p\text{-value} = 0.113$) and females ($R = -0.063$, $p\text{-value} = 0.477$) as well as non-members of environmental club ($R = -0.051$, $p\text{-value} = 0.430$). However, the environmental club members who were less egoistic and had more potential for exhibiting pro-environmental behaviour with respect to knowledge than those who were more egoistic ($R = -0.336$, $p\text{-value} = 0.012$).

Also examined as part of the relationship between environmental values and potentials for pro-environmental behaviour is association between egoism and concern. Research has shown that people who are egoistic tend to have little concern for environmental issues (Stern, 2000, De Goot & Steg, 2008, Dobson, 2010). Generally, students who were more egoistic had less concern for the environment ($R = -0.208$, $p\text{-value} = 0.000$). It also became evident that males ($R = -0.2185$, $p\text{-value} = 0.018$), females ($R = -0.204$, $p\text{-value} = 0.008$), club ($R = -0.326$, $p\text{-value} = 0.001$) and non-club members ($R = -0.169$, $p\text{-value} = 0.009$) who were more egoistic had less concern for the environment as compared to those who were less egoistic.

Egoism has been found to be inversely associated with environmental responsibility. Based on this, the study examined the association between egoism and the potential for exhibiting pro-environmental behaviour with respect to responsibility. Even though the study found an inverse relationship between egoism and responsibility, that relationship was not statistically significant ($R = -0.041$, $p\text{-value} = 0.481$).

The disaggregated data also showed no significant relationships for males ($R = -0.009$, $p\text{-value} = 0.903$), females ($R = -0.081$, $p\text{-value} = 0.364$), club members ($R = -0.173$, $p\text{-value} = 0.207$) as well as non-club members ($R = -0.013$, $p\text{-value} = 0.846$). Both males and females as well as club members and non-club members were similar.

Relationships among Environmental Awareness, Knowledge, Concern and Responsibility

The various literature suggest a strong relationships among environmental awareness, knowledge, concern and responsibility (Kollmuss & Agyeman, 2002; Zone and Adem, 2017). The section, therefore found it prudent to examine these relationships using the Spearman's Rank Order Correlation analysis of which the results are presented in Table 37.

The first pairwise relationship examined was between environmental awareness and knowledge. The study found a direct relationship between these pairwise variables ($R = 0.347$, $p\text{-value} = 0.000$). This relationship was also significant for both males ($R = 0.373$, $p\text{-value} = 0.000$) and females ($R = 0.298$, $p\text{-value} = 0.001$) as well as for club ($R = 0.403$, $p\text{-value} = 0.002$) and non-club members ($R = 0.343$, $p\text{-value} = 0.000$) (Table 37). Awareness is the starting point of gaining knowledge on environmental issues.

The next pairwise relationship examined was between awareness and concern. This was necessary because research has shown that people who are aware of the consequences of environmental degradation tend to have great concern for the environment. Similarly, the study found a significant direct relationship between environmental awareness and concern for the environment ($R = 0.539$, $p\text{-value} = 0.000$). The relationship was also significant for males ($R = 0.557$, $p\text{-value} = 0.000$), females ($R = 0.527$, $p\text{-value} = 0.000$), environmental club members ($R = 0.541$, $p\text{-value} = 0.000$) and non-members ($R = 0.541$, $p\text{-value} = 0.000$). Generally, respondents whose environmental awareness level was high tended to have greater concerns for the environment (Kollmuss & Agyeman, 2002).

The study further examined the relationship between environmental awareness and responsibility. On the whole, the relationship between environmental awareness and responsibility towards the environment was direct and significant ($R = 0.404$, $p\text{-value} = 0.000$). The disaggregated data also showed that males ($R = 0.383$, $p\text{-value} = 0.000$) and females ($R = 0.438$, $p\text{-value} = 0.000$) as well as non-club members ($R = 0.442$, $p\text{-value} = 0.000$) who were highly aware of environmental issues also had high responsibility for the environment than those who were less aware. This confirms Ahmad *et al.* (2012), findings that awareness leads to participation or engagement in environmental actions. However, the relationship between awareness and responsibility for environmental club members was not statistically significant ($R = 0.237$, $p\text{-value} = 0.082$).

Also examined as part of the associations among the environmental potentials was the relationship between knowledge of environmental issues and concern for the environment. The data as presented in Table 38 showed a significant direct relationship between knowledge in environmental issues and concern for the environment ($R = 0.551$, $p\text{-value} = 0.000$). On the whole, respondents who demonstrated high knowledge in environmental issues also had great concern for the environment and likewise, those who had low knowledge in environmental issues were less concerned about the environment.

Table 37: Relationship between SHS Environmental Values and Potentials for Exhibiting Environmental Behaviour

Potentials/Values Environmental Values	Potentials for exhibiting pro-environmental behaviour			
	Awareness	Knowledge	Concern	Responsibility
Egoistic	R	-0.101	-0.208**	-0.041
	P-value	0.083	0.000	0.481
Overall	R	-0.125	-0.185*	-0.009
	P-value	0.113	0.018	0.906
Males	R	-0.063	-0.233**	-0.081
	P-value	0.477	0.008	0.364
Females	R	-0.336*	-0.326*	-0.173
	P-value	0.014	0.011	0.207
Club	R	-0.051	0.169**	0.013
	P-value	0.043	0.009	0.846
Non-club	R	0.430	0.209**	0.120*
	P-value	0.119*	0.000	0.041
Overall	R	0.093	0.099	0.019
	P-value	0.329	0.210	0.812
Males	R	0.150	0.362**	0.332**
	P-value	0.035	0.000	0.000
Females	R	0.070	0.208	0.201
	P-value	0.095		
Club	R			
	P-value			

Biospheric

Altruistic		P-value	0.491	0.614	0.127	0.142
Non-club			0.128*	0.128*	0.209**	0.142*
			0.048	0.049	0.001	0.028
Overall	R	0.146*	0.127*	0.127*	0.229**	0.211**
	P-value	0.013	0.030	0.000	0.000	0.000
Males	R	0.122	0.168*	0.150	0.215**	0.215**
	P-value	0.121	0.033	0.056	0.006	0.006
Females	R	0.229**	0.088	0.325**	0.205**	0.205**
	P-value	0.009	0.322	0.000	0.000	0.000
Club	R	0.116	0.193	0.320*	0.242	0.242
	P-value	0.399	0.159	0.017	0.075	0.075
Non-club	R	0.156*	0.111	0.205**	0.198**	0.198**
	P-value	0.016	0.088	0.002	0.002	0.002
n = 292	Males, n = 163	Females, n = 129	Club, n = 55	Non-club, n = 237		

**Significant at the 1% alpha level

*Significant at the 5% alpha level

Source: Field survey, Potakey (2016)

With respect to sex, both males ($R = 0.591$, $p\text{-value} = 0.000$) and females ($R = 0.495$, $p\text{-value} = 0.000$) who were knowledgeable in environmental issues showed high concern for the environment as compared to those who has low knowledge in environmental issues. Also, environmental club members ($R = 0.658$, $p\text{-value} = 0.000$) and non-club members ($R = 0.529$, $p\text{-value} = 0.000$) with high knowledge on issues that related to the environment were highly concerned about the environment as compared to those who had less knowledge about issues that affected the environment.

The relationship between environmental knowledge and responsibility was direct and significant ($R = 0.460$, $p\text{-value} = 0.000$). This indicates that respondents who were highly knowledgeable in environmental issues were also environmentally responsible and those who had less knowledge in environmental issues were less responsible for the environment. The relationship was also significant for males ($R = 0.536$, $p\text{-value} = 0.000$), females ($R = 0.531$, $p\text{-value} = 0.000$), club members ($R = 0.547$, $p\text{-value} = 0.000$) and non-club members ($R = 0.440$, $p\text{-value} = 0.000$).

The last pairwise relationship examined was between environmental concern and responsibility for the environment. The relationship was necessary because it has been observed that people who are concerned about the environment tend to be environmentally responsible.

Table 38: Relationships Among Environmental Awareness, Knowledge, Concern and Responsibility Potentials for exhibiting PEB

	Awareness		Knowledge		Concern		Responsibility	
Overall	R	0.347**	R	0.539**	R	0.404**	R	0.000
	P-value	0.000		0.000		0.000		0.000
Males	R	0.373**	R	0.557**	R	0.383**	R	0.000
	P-value	0.000		0.000		0.000		0.000
Females	R	0.298**	R	0.527**	R	0.438**	R	0.000
	P-value	0.001		0.000		0.000		0.000
Club	R	0.403**	R	0.541**	R	0.237	R	0.082
	P-value	0.002		0.000		0.000		0.082
Non-club	R	0.343**	R	0.541**	R	0.442**	R	0.000
	P-value	0.000		0.000		0.000		0.000
Overall	R	0.551**	R	0.460**	R	0.000	R	0.000
	P-value	0.000		0.000		0.000		0.000
Males	R	0.591**	R	0.536**	R	0.000	R	0.000
	P-value	0.000		0.000		0.000		0.000
Females	R	0.495**	R	0.531**	R	0.000	R	0.000
	P-value	0.000		0.000		0.000		0.000

Knowledge

Club	R	0.658**	0.547**
	P-value	0.000	0.000
Non-club	R	0.529**	0.440**
	P-value	0.000	0.000
Overall	R	0.617**	
	P-value	0.000	
Males	R	0.610**	
	P-value	0.000	
Females	R	0.626**	
	P-value	0.000	
Club	R	0.579**	
	P-value	0.000	
Non-club	R	0.625**	
	P-value	0.000	
n = 292		Males, n = 163	Non-club, n = 237
		Females, n = 129	Club, n = 55

**Significant at the 1% alpha level *Significant at the 5% alpha level

Source: Field Survey, Potakey (2016)

The data, as captured in Table 38, showed a direct significant relationship between concern for the environment and environmentally responsible behaviour ($R = 0.617$, $p\text{-value} = 0.000$). That is, respondents who were highly concerned about the environment were environmentally responsible compared to those who were less concerned about the environment. This behaviour was exhibited by both males ($R = 0.610$, $p\text{-value} = 0.000$) and females ($R = 0.626$, $p\text{-value} = 0.000$) as well as by club members ($R = 0.579$, $p\text{-value} = 0.000$) and non-club members ($R = 0.625$, $p\text{-value} = 0.000$).

Pro-environmental Behaviour

Pro-environmental behaviour is made of personal and environmental citizenship behaviour. In order to examine these behaviours, the study used eight items to determine the personal environmental behaviour of the respondents while five items were used to determine the environmental citizenship behaviour. The scores for each of the items varied from 1 to 5 indicating lowest to highest frequency of the behaviours that the items sought to measure. The criteria used in interpreting the scores were based on the quartiles (Table 39) which varied from least desirable to most desirable behaviour. The items were then aggregated to determine the pro-environmental behaviour of the respondents.

The discussion in this section begins with the descriptive statistics of these items. This was followed by a regression analyses that sought to explain the personal, citizenship and the overall pro-environmental behaviour of the respondents.

Table 39: Criterion for Interpreting the Personal and Citizenship Behaviour of SHS Respondents

Score	Behaviour
1.00 – 1.25	Not desirable
1.26 – 2.50	Least desirable
2.56 – 3.75	Desirable
3.76 – 5.00	Most desirable

Source: Field survey (2016)

The first issue that was examined with respect to the personal environmental behaviour of the respondents was the extent to which they participated in clean-up activities. The evidence from the data, as captured in Table 39, shows that their participation in clean-up activities was desirable. The mean score was 3.42 (median = 3, skewness = -0.235) with a standard deviation of 1.192.

The next item that sought to measure the personal environmental behaviour of the respondents was attendance of seminars or workshops on environmental education. With a mean score of 2.57 (median = 3, skewness = 0.365) and a standard deviation of 1.445 (Table 40), it can be inferred that the behaviour of the respondents with respect to seminars and workshops attendance was desirable. One of the solutions to environmental degradation is the reuse of plastics. The cultivation of this behaviour is seen as a *sine quo non* to the fight against plastic pollution.

As a result, the study found it prudent to determine the extent to which the respondents reused plastics. The distribution of the scores as presented in Table 40 shows a desirable plastics reuse behaviour. The mean plastic reuse

score was 3.31 (median = 3, skewness = -0.226) with a standard deviation of 1.138.

The study also determined the behaviour of the respondents' efficiency in the use of water. In the advent of water pollution and the threat of water bodies in recent times, efficient use of water is important for environmental conservation and sustainable development. Similar to respondents' behaviour with respect to clean-up activities, seminars and workshop attendance as well as their ability to reuse plastics, the study found the behaviour of respondents in relation to efficient use of water as desirable. The mean score was 3.01 (median = 3, skewness = -0.081) with a standard deviation of 1.321.

Respondents were also asked to indicate the frequency with which they initiated community projects that help conserve the environment. The data showed that the distribution of the score with respect to the initiation of environmental projects was positively skewed indicating that most respondents' scores were less than the mean score. The median score was 2 (mean = 3.38, skewness = 0.589) with a quartile deviation of 1. The median score puts the behaviour of the respondents in the least desirable category. This finding was not untoward as the socio-cultural perception of young peoples' agency limits them to initiate such projects.

Also examined as part of the personal environmental behaviour of the respondents was their attitude in reporting burst pipe lines to the authorities responsible for repairs. This item assumed that respondents have pipe-borne water facility in their schools and communities. Evidence from the data (Table 40) showed that the behaviour of the respondents was least desirable when it

came to reporting burst pipe lines to authorities. The mean score was 2.60 (median = 2.5, skewness = 0.362) with a standard deviation of 1.555.

One of the popular activities in most schools is the clearing of refuse dump. This stem from the fact that students are required to send equipment such as rakes, machetes and hoes to school. These equipment are used to tidy the school compound. The distribution of the scores with respect to clearing of refuse dumps in schools was negatively skewed (skewness = -0.827) indicating that most of the respondents had scores greater than the mean (3.93) score. The median score was 4 with a quartile deviation of 1. In effect, the study found the respondents' behaviour to be most desirable in helping to clear refuse dump in schools.

Perhaps the most popular environmental activity among first and second cycle students is the picking of pieces of papers and plastics around the school. As expected, the respondents exhibited most desirable behaviour by picking pieces of papers and plastics in their school compound. The median score was 5 (mean = 4.11, skewness = -1.198) with a quartile deviation of 1. Further analysis was done to determine the overall personal environmental behaviour of the respondents.

This was done by aggregating the eight items that made up the personal behaviour of the respondents. This gives a total minimum score of 8 and a total maximum score of 40. The criteria for interpreting the overall levels of the personal environmental behaviour of the respondents was determined using the quartiles (Table 41). The minimum overall personal environmental behaviour score was 11 while the maximum was 40.

Table 40: Descriptive Statistics for SHS Personal Environmental Behaviour

Item	n	Min	Max	Mean	Median	Skewness	Std Dev	Q Dev
Participate in environmental clean-up activities	292	1	5	3.42	3	-0.235	1.192	0.5
Attended seminar/workshop on environmental education	292	1	5	2.57	3	0.365	1.445	0.5
Decided to reuse plastics	292	1	5	3.31	3	-0.226	1.138	0.5
Efficient use of water due to environmental reasons	292	1	5	3.01	3	-0.081	1.321	1
Initiate community projects in favour of the environment	292	1	5	2.38	2	0.589	1.444	1
Reported a burst pipe to authority	292	1	5	2.60	2.5	0.362	1.555	1
Cleared a refuse dump around my school/home	292	1	5	3.93	4	-0.827	1.185	1
Pick pieces of papers/plastic bags around my school/home	292	1	5	4.11	5	-1.198	1.163	1
Overall personal behaviour score	292	11	40	25.33	24	0.374	6.047	4.5

Source: Field survey (2016)

The mean score was 25.33 (median = 24, skewness = 0.374) with a standard deviation of 6.047. The distribution depicts that overall, the respondents' personal environmental behaviour was desirable. The Mann-Whitney's tests also shows that males and females ($Z = -0.645$, $p\text{-value} = 0.519$) and club and non-club members ($Z = -1.231$, $p\text{-value} = 0.218$) exhibited desirable personal environmental behaviours.

Table 41: Criteria for Interpreting Overall SHS Personal Behaviour

Score	Behaviour
1 – 10	Not desirable
11 – 20	Least desirable
21 – 30	Desirable
31 – 40	Most desirable

Source: Field survey (2016)

Environmental Citizenship behaviour

This section examines the environmental citizenship behaviour of the respondents. The discussion centred on support for environmental or sanitation policy development, meetings that promote the environment and advocacy for environmental protection. Also discussed as part of the environmental citizenship of the respondents were campaigns for the protection of local space and contributions to organisations and institutions that work to protect water bodies and trees. The behaviour of the respondents for each of the items were measured on a five point likert scale and the quartiles of the scores used to determine the behavioural levels.

The overall environmental citizenship behaviour of the respondents was arrived at by aggregation of the scores for each of the items after which the quartiles of the aggregated scores were used to categorise the behaviour into: not desirable, least desirable, desirable and most desirable (Table 42).

Table 42: Criteria for Interpreting SHS Environmental Citizenship Behaviour

Score	Behaviour
1.00 – 6.25	Not desirable
6.26 – 12.50	Least desirable
12.51 – 18.75	Desirable
18.75 – 25.00	Most desirable

Source: Field survey (2016)

The issue examined as part of the environmental citizenship behaviour of the respondents was the support in the development of environmental or sanitation policy of their school. The field data, as presented in Table 43, show that the behaviour of the respondents with respect to their support in developing environmental/sanitation policy of their school was desirable. The mean score was 3.35 (median = 3, skewness = -0.248) with a standard deviation of 1.225.

The second item that sought to measure the environmental citizenship behaviour level of the respondents was their attendance in meetings that favoured environmental protection. The distribution of the scores for meeting attendance that favoured environmental protection was positively skewed (skewness = 0.580). The median score was 2 (mean = 2.45) with a quartile

respondents in relation to the attendance of meetings that favoured environmental protection was least desirable.

The next item that was examined as part of the determinants of environmental citizenship behaviour was advocacy for environmental protection. With a median score of 1 and a quartile deviation of 1, the environmental protection advocacy behaviour of the majority of the respondents was not desirable. Most of the respondents had scores lower than the mean (2.03).

A well planned community makes provision for local spaces and natural areas such as parks and gardens, football fields and community centres. It also nurtures affinity for the environment. A campaign for the protection of such local spaces demonstrate a desirable environmental citizenship behaviour. As a result, respondents were asked to rate the extent to which they would campaign for the protection of local spaces.

Table 43: Descriptive Statistics for SHS Environmental Citizenship Behaviour

Item	n	Min	Max	Mean	Median	Skewness	Std Dev	Q Dev
Support in the development of environmental/sanitation								
policy for my school	292	1	5	3.35	3	-0.248	1.225	0.5
Attended a meeting in favour of environmental protection	292	1	5	2.45	2	0.580	1.436	0.5
Advocated for environmental protection	292	1	5	2.03	1	1.080	1.399	1
Campaign for the protection of local space	292	1	5	2.35	2	0.604	1.504	1.5
Membership of an organisation that works to protect water								
bodies and trees	292	1	5	2.42	2	0.589	1.583	1.5
Overall environmental citizenship score	292	6	25	12.6	11	0.609	5.603	4.5

Source: Field survey (2016)

Evidence from the data, as captured in Table 43, show a least desirable behaviour with respect to campaigning for the protection of local space. The median was 2 (mean = 2.35, skewness = 0.604) with a quartile deviation of 1.5. The final determinant of environmental citizenship behaviour that the study examined was membership of an organisation or an institution that works to protect water bodies. Generally, the study found the environmental citizenship behaviour with respect to being a member of an organisation or an institution that work to protect trees and river bodies as least desirable. The median was 2 (mean = 2.42, skewness = 0.589) with a quartile deviation of 1.5.

Further analysis was done to determine the overall citizenship behaviour of the respondents. This was done by aggregating the scores of the five items that determine citizenship behaviour of the respondents. The minimum total citizenship score was 6 while the maximum was 25. The distribution of the overall citizenship behaviour score was positively skewed indicating that most of the respondents scored below the mean. The median was 11 (mean = 12.6, skewness = 0.609).

Based on the criteria for the interpretation of the environmental citizenship behaviour of the respondents (Table 38), the study found the behaviour of the respondents to be least desirable. The disaggregated data showed that the environmental citizenship behaviour of males and females ($Z = -1.533$, $p\text{-value} = 0.125$) as well as club and non-club members ($Z = -1.346$, $p\text{-value} = 0.178$) were least desirable. Generally, the environmental citizenship behaviour of the SHS respondents was not desirable.

Factors affecting Personal Environmental Behaviour

Personal environmental behaviour is determined by a number of factors. It became evident from the literature that egoism, biospherism altruism, awareness, responsibility, concern and knowledge of environmental issues affect personal environmental behaviour. A regression analysis was done to determine the explanatory power of these factors and the nature of their effects on personal environmental behaviour. A preliminary analysis was done to test for normality, homoscedasticity and collinearity. At the end it came out that all the requirements for standard multiple regression were met.

The overall explanatory power (R^2) of the model showed that only 6.2% of the variations in personal environmental behaviour were attributed to the variations in egoism, biospherism altruism, awareness, responsibility, concern and knowledge (Table 44). This explanatory power was significant at both the 1% and the 5% alpha level ($F = 2.691$, $p\text{-value} = 0.010$). Further analysis of the model shows that only altruism significantly determines personal environmental behaviour. That is, a more altruistic person has an increased desirable personal environmental behaviour; as peoples altruism reduces, their personal environmental behaviours desirability reduces ($B = 0.461$, $t = 3.925$, $p\text{-value} = 0.000$). This confirms Chawla (1999); Dobson (2010); Kollmuss & Agyeman (2002), Rickner (2010), Stern (2000), Stern *et al.*, (1998) that altruistic people are more likely to act in favour of the environment.

Table 44: Factors that Explain SHS Personal Environmental Behaviour

Model	Unstandardised Coefficients		Standardised Coefficients Beta	T	Sig.
	B	Std. Error			
(Constant)	20.791	2.768		7.511	0.000
Egoism	0.093	0.107	0.052	0.871	0.384
Biospherism	-0.156	0.088	-0.139	-1.766	0.078
Altruism	0.461	0.118	0.310	3.925**	0.000
Awareness	0.022	0.107	0.015	0.209	0.835
Responsibility	0.036	0.202	-0.202	0.180	0.858
Concerns	-0.142	0.116	-0.109	-1.232	0.219
Knowledge	0.057	0.143	0.143	0.401	0.689

$R^2 = 0.062$ $F = 2.691$ $P\text{-value} = 0.010$ **Significant at the 1% alpha level

Source: Field survey (2016)

Factors affecting Environmental Citizenship Behaviour

Environmental citizenship behaviour is explained by a number of factors. Some of these factors are environmental egoism, biospherism, altruism, awareness, responsibility, concern and knowledge. A standard multiple regression analysis was performed to determine the overall explanatory power of these variables and the nature of their effects on environmental citizenship behaviour. A preliminary analysis was carried out to check for normality, homoscedasticity and collinearity.

The analysis showed that all the requirements for standard multiple regression were met. The overall explanatory power (R^2) of the model showed

that 13.1 percent of the variations in environmental citizenship behaviour were explained by the variations in egoism, biospherism, altruism, awareness, responsibility, concern and knowledge (Table 45).

Table 45: Factors that Explain Environmental Citizenship Behaviour

Model	Unstandardised Coefficients		Standardised Coefficients	T	Sig.
	B	Std. Error			
(Constant)	10.255	2.469		4.154	.000
Egoism	0.081	0.095	.049	0.857	0.392
Biospherism	-0.168	0.079	-0.162	2.139*	0.033
Altruism	0.540	0.105	0.391	5.151**	0.000
Awareness	0.061	0.096	0.045	0.636	0.525
Responsibility	-0.307	0.180	-0.125	-1.703	0.090
Concerns	-0.221	0.103	-0.182	2.144*	0.033
Knowledge	0.083	0.128	0.043	0.649	0.517

$R^2 = 0.131$ $F = 26.140$ $p\text{-value} = 0.000$ *Significant at the 5% alpha level
 **Significant at the 1% alpha level
 Source: Field survey (2016)

This explanatory power was significant at both the 1 percent and the 5 percent alpha level ($F = 26.140$, $p\text{-value} = 0.010$). Further analysis of the model shows that altruism ($B = 0.540$, $t = 5.151$, $p\text{-value} = 0.000$), concerns ($B = -0.221$, $t = -2.144$, $p\text{-value} = 0.033$) and biospherism ($B = -0.168$, $t = -2.139$, $p\text{-value} = 0.033$) significantly determine environmental citizenship behaviour. With respect to the effect of altruism on environmental citizenship

behaviour, the more altruistic person has an increased desirable environmental citizenship behaviour and as people's altruism reduces, their environmental citizenship behaviours desirability reduces.

Also, people who have more concern for the environment tend to have a desirable environmental citizenship behaviour and as people become more concerned, their environmental citizenship behaviour become more desirable. Likewise, as people become more biospheric their environmental citizenship behaviour becomes more desirable. In terms of their relative importance to environmental citizenship behaviour, altruism (Beta = 0.391) is most important followed by concerns (Beta = 0.182) and biospherism (Beta = -0.162) in that order. The significance of altruism, concern and biospherism in explaining environmental citizenship behaviour among the SHS respondents is buttressed by de Groot and Steg (2007, 2008, 2010), Dobson (2010), Zone & Adem (2017), who found that people who have concern for the environment will want to do something to protect the environment.

Norms and Practices on Environmental Issues

Respondents' environmental practices were assessed to determine their environmental consciousness. The frequency with which they carried out certain energy conservation activities was used to assess their potentials for exhibiting environmental behaviour. A cross tabulation of respondents' background characteristics (age, sex and location) and their performance of environmental norms was done to ascertain, if there was any difference across the demographic factors. As indicated earlier, location and age were skewed so they were considered not suitable for the analysis. For

sex, responses for the various norms were almost similar with some slight variations among the sexes (Table 46).

Table 46: Distribution of SHS Performance of Environmental Norms by

Sex			
Environmental Norm	% of Male	% of Female	% of Total
<i>Leave your TV on standby when not watching</i>			
Not often	33.9	24.7	58.6
Sometimes	6.2	9.6	15.8
Often	15.8	9.9	25.7
<i>Keep tap running, while brushing teeth</i>			
Not often	40.1	27.7	67.8
Sometimes	7.2	9.9	17.1
Often	8.6	6.5	15.1
<i>Use the AC or fan instead of opening windows</i>			
Not often	18.8	14.4	33.2
Sometimes	18.5	13.0	31.5
Often	18.5	16.8	35.3
<i>Switch off lights in rooms that aren't being used</i>			
Not often	7.9	8.6	16.4
Sometimes	11.3	7.5	18.8
Often	36.6	28.1	64.7
<i>Decide not to buy something because it has too much packaging</i>			
Not often	33.9	25.7	59.6
Sometimes	9.9	9.6	19.5
Often	12.0	8.9	20.9
<i>Buy recycled paper products</i>			
Not often	30.1	26.7	56.8
Sometimes	13.4	8.2	21.6
Often	12.3	9.2	21.6
<i>Take your own shopping bag when you go shopping</i>			
Not often	21.2	8.2	29.5
Sometimes	9.9	11.0	20.9
Often	24.7	25.0	49.7

Source: Field survey (2016)

taps running, while brushing teeth”, the majority of 67.8 percent did not often practice that while 35.3percent often “used the AC or fans instead of opening windows”. “Switching off lights in rooms that aren’t being used” was in most cases (64.7%) often practiced by respondents. “Deciding not to buy something because it has too much packaging” was mostly not often (59.6%) practiced. “Buying recycled paper products” was not often (56.8%) done. “Taking own shopping bag for shopping” was often (49.7) done.

The SHS respondents were generally conscious in terms of their environmental practices and norms. The JHS students also generally exhibited positive environmental norms and practices such as tidying of school compounds, dump refuse in dustbins and sometimes engaging in community clean ups. The relevant stakeholders also through their environmental activities with the young people also help build their fundamental potentials to exhibit environmental citizenship behaviour. This corroborates Ifegbesan (2010), Ahmad et al. (2012) and Ushie et al. (2012), observation that it enhances the students’ potentials to take environmental actions.

CHAPTER SEVEN

CHALLENGES AND STRATEGIES FOR EXHIBITING ENVIRONMENTAL CITIZENSHIP BEHAVIOUR

Introduction

Although young people have varying potentials that predisposed them to take environmental actions, they face a number of challenges that limit their exhibition of pro-environmental behaviours. This chapter examines these challenges and explores strategies to overcome them in order to promote sustainable environmental behaviours among Junior and Senior High schools in the Cape Coast Metropolis.

Challenges to Exhibiting Pro-environmental Behaviour

Gardner and Stern (2002) postulate that in spite of peoples' values and concerns, their environmental engagements depend on the scale of barriers they face. In effect, in addition to internal factors, the external factors also promote or deter environmental actions (Kollmuss & Agyeman, 2002). For the SHS respondents, several factors challenged their exhibition or acting pro-environmentally. Literature identifies peer influence on friends and family, community expectation, school regulations, cultural beliefs, religious influences, financial constraints and metropolitan assembly regulations as major factors that inhibit pro-environmental behaviour (Barber et al. 2012, Chawla & Cushing, 2007; Gardener & Stern, 2002; Hayward, 2012). Respondents were therefore asked to determine the extent to which each of these factors affected their pro-environmental behaviour.

To begin with, the study determined the extent to which peer influences of friends (PIF) inhibit pro-environmental behaviour. Out of the 292 respondents, most of them indicated it moderately (35.6%) or highly (37.7%) affected their pro-environmental behaviour while the rest (26.6%) said peers had a small influence on them (Table 47). The Chi-Square test of uniformity was conducted to determine if respondents were uniformly distributed across the three categories of responses.

The data showed no significance differences with respect to the extent to which peers inhibit their pro-environmental behaviour ($\chi^2 = 5.945$, p-value = 0.051). Although Chawla & Cushing (2007) found that peer influence of friends and family predispose people to take an interest in nature and later work for its protection, for the SHS students, influence of friends was not a significant challenge. This could be attributed to the fact that not much environmental engagements were being carried out among the students.

For the junior high students, although some peers were influenced positively, they still faced some difficulties in influencing others to keep up positive environmental behaviours. In an attempt to prompt people on their attitudes, they faced taunting from their peers. Some complained that at times *"if you tell them to put the pure water sachet in the dustbin, they say government has paid people to clean so why should they."* (14yrs, girl, JHS pupil). Another pupil lamented that *"when I see someone burning rubbish, I tell her to pick out the plastics...but she will say am too known (13yrs, girl, JHS 2 pupil)"*. Such negative peer influence according to Chawla & Cushing (2007) discourage pupils from taking pro-environmental actions.

Table 47: Challenges Inhibiting SHS Pro-environmental Behaviour

Challenge	PIF	PIFM	CE	SR	CB	RI	FC	MAR	% of PIF	% of PIFM	CE	SR	CB	RI	FC	MAR	% of
	F	F	F	F	F	F	F	F									% of
Low	78	74	64	48	70	54	70	117	26.6	25.3	21.9	16.4	24.0	18.5	24.0	40.1	
Moderate	104	110	106	48	96	65	113	84	35.6	37.7	36.3	16.4	32.8	22.3	38.7	28.7	
High	110	108	122	196	126	173	109	91	37.7	37.0	41.8	67.2	42.2	59.2	37.3	31.2	
Total	292	292	292	292	292	292	292	292	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	
χ^2	5.94	8.41	18.4	150	816	88	11.5	6.21									
P-value	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.0									

Source: Field survey (2016)

The next challenge to pro-environmental behaviour was peer influences of family members (PIFM). Generally, respondents moderately (37.7%) or highly (37.0%) agreed that peers influences on family is a challenge to pro-environmental behaviour (Table 47). The Chi-Square test of uniformity showed significant differences with respect to the extent to which family influence the pro-environmental behaviour of respondents ($\chi^2 = 8.411$, $p\text{-value} = 0.015$). This confirms Chawla (1999) and Chawla & Cushing, (2007) that the attitude of family members affect the environmental behaviour of young people either positively or negatively.

Parental or role model influence also presented as challenges to the junior high students engaging in environmental actions. The limited parental support and poor environmental behaviour of parents deter pupils from practicing good environmental practices. Pupils remarked that *'throwing things out of car anyhow for instance makes children also follow suit (13yrs, boy, JHS2 pupil)'*; *"negative practices influence or kills your moral (14yrs, girl, JHS 2 pupil)"*. It also came to light that some parents did not encourage kids to do jobs around the house; they instead engaged labourers therefore the children do not get conscientized on the need to be responsible for the environment.

Again it was remarked that because role models were usually not seen engaging in environmental clean ups young people were not motivated to do same. A pupil commented that *"seeing my role model like Sarkodie, cleaning up the environment will motivate me to do same"* (14yrs male, JHS 3 pupil). Another retorted that *"the general low interest in protecting the environment discourages me from doing same"* (14yrs, female, JHS pupil). According to

Stern (2000) and Chawla & Cushing (2007), young people identify with their role models as mentors so their participation in environmental clean-ups would also encourage them to follow suit. In this case however, the role models influence rather made them not feel responsible for cleaning up their surroundings and hence constraining them to exhibit pro-environmental behaviour.

Also examined, as part of the challenges to the exhibition of pro-environmental behaviour, was community expectation (CE). It became evident from the study that community expectations highly (41.8%) challenged the pro-environmental behaviour of the respondents while 36.3 percent said it moderately challenged their pro-environmental behaviour. The rest (21.9%) of the respondents indicated that community expectation lowly affected their pro-environmental behaviour (Table 47). The differences in how respondents rated the extent to which community expectations challenged their pro-environmental behaviour was significant ($\chi^2 = 18.438$, p-value = 0.000). Community expectations informed by the socio-cultural perception of young people (Gardener & Stern, 2002), therefore constrained the PEB of the SHS respondents.

School regulations (SR) have been identified as one of the challenges to pro-environmental behaviour among the SHS students. It is as a result of this that respondents were asked to indicate the extent to which school regulations affected their pro-environmental behaviour. The majority (67.2%) indicated that school regulations was a major challenge to the exhibition of pro-environmental behaviour. The rest (16.4%) of the responses were evenly distributed across low and moderate.

The Chi-Square generally showed that the respondents were significantly unequally distributed across the three magnitude of challenge ($\chi^2 = 150.027$, p-value = 0.000). School regulations seem to constraint the students most because the system did not provide enough space for environmental engagements (Hungerford & Volk, 1990), hence, left little room for students to undertake environmental actions beyond their normal compound cleaning.

For the junior high students too, the school regulations did not allow for active environmental engagements. The schools did not make much room for practical environmental engagements that could promote environmentalism. This inhibit pro-environmental behaviour because as asserted by Carlsson (2006) and Monroe (2003), action –oriented or project-based teaching promotes participation in decision making and a sense of responsibility (a panacea for environmental citizenship) which cannot be achieved through traditional teaching. This constraint leaves pupils not well equipped to determine environmentally appropriate course of action (Hungerford & Volk, 1990; Blake, 1999).

Another challenge to pro-environmental behaviour was cultural beliefs (CB). As can be seen in Table 46, most (42.2%) of the respondents indicated that cultural beliefs highly challenged people from exhibiting pro-environmental behaviour. While 32.8 percent said it moderately challenges them, 24.0 percent indicated its challenge was low. Further analysis showed that the respondents were not equally distributed on the extent to which cultural beliefs challenges the exhibition of pro-environmental behaviour ($\chi^2 =$

816.137, p-value = 0.000). The significance of socio-cultural beliefs being a constraint is buttressed by Lister (2007) and Hayward (2012).

For the junior high students, the socio-cultural perception that young people are under the control of their parents and superiors greatly inhibit their freedom to engage actively at home, church, and in their communities without the approval of these adult members within the communities, particularly in taking decisions on the environment which is deemed too technical (Hayward, 2012). The social perception of children as not having much say or voice in society came out strongly from the FGDs as a major challenge facing young people in sensitising or influencing their peers and particularly adult members of their communities to undertake pro-environmental behaviours.

This confirms James *et al.* (1998), Mayall (2002), Lister (2007) and Giddens (2009) that children's position as a minority group in society constraint their agency and ability to act as agents. Some related comments with their gender dimensions from the junior high school pupils are presented in box 1.

Literature also identifies religious influences (RI) as one of the factors that constraints the exhibition of pro-environmental behaviour. The basic logic in connections between religion and the environment is that a religion spreads shared values through its principles (Berry, 2013). The data, as captured in Table 47, show that 59.2 percent of the respondents rated it high as compared to 22.8 percent and 18.5 percent who rated the effect of religious influences on pro-environmental behaviour as moderate and low respectively. The Chi-Square test of uniformity confirmed the differences to be statistically significant ($\chi^2 = 88.856$, p-value = 0.000).

Box 1: Socio-cultural Perceptions of Junior High School Students

'Elderly persons cannot be corrected', 'how do you know that am throwing something'; "who are you to tell men not to throw something here". 'Because they are older than you'; "if you say it, they will beat, insult you and sometimes even stone you". "if a female, they can even rape you for being too known"; they will be angry with you', they will tell you that you have no right to stop us", "some even extend the insult to your mother", 'uncivilized person, if you know how to advice, go and advice your mother", "some say it is the work of zoomlion", "you are a small boy, you don't know anything". 'Insults deter me from correcting others', "I cannot tell an elderly person to stop doing bad things", - "they will shout on you because they are older than me', 'are you the only knowledgeable person?";, "if you talk to them, some of them receive you kindly, others reject you; "it is difficult for them to accept what you say because you are younger and they are older" "I therefore limit it to my peers' ' even then some of your peers will even stop being friends with you'

Source: Field Survey, Potakey (2016)

Religion as a significant challenge for the SHS students is in line with Yang and Huang (2018) finding that in cases where public sphere environmentalism is at a very early stage, personal characteristics of religious believes constrained their environmental practices, though major religions themselves support pro-environmental traditions and values.

In situations where the exhibition of pro-environmental behaviour depends on the financial wellbeing of the individual, people who are not financially sound find it difficult to exhibit pro-environmental behaviour. As

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alluded to by Blake (1999) and Dobson (2010), financial constraints also inhibited respondents engaging in positive behaviours towards the environment. Aside from 24.0 percent of the respondents who rated financial constraints (FC) as low, the rest of the respondents were almost evenly divided between moderate (38.7%) and high (37.3%) of financial constraints on pro-environmental behaviour.

The differences in how respondents rated financial constraints as challenging the exhibition of pro-environmental behaviour was also significant ($\chi^2 = 11.596$, $p\text{-value} = 0.003$). Environmental engagements come with some associated costs (Kollmuss & Agyeman, 2002), so for the SHS students, this was a significant constraint and hence a disincentive to PEB (De Goot & Steg, 2008). Generally, there seemed not to be enough funds and limited resources to undertake environmental programmes and projects in the junior high schools. Some of these challenges advanced by the students included inadequate dustbins, limited tools for clean-ups, financial resources to purchase dustbins for waste collection.

These constraints limit environmental activities, though the desire to engage by the pupils, may be available. As buttressed by a pupil, *“not having the required or necessary gadgets to use in cleaning does not encourage us to undertake clean-up activities although we may very much want to”*(male, 14yrs, JHS 3 pupil). In a few instances where there was some form of environmentalism in the schools, it was as a result of NGO sponsorship. For example Bakatsir MA Basic School had an environmental club named ‘climate ambassadors’ created under a sponsored Berlin-Cape Coast intercity project. Once the sponsorship period ends, the sustainability of the club may

not be assured, confirming Dobson (2010) that removal of financial incentives make people renege on their pro-environmental behaviours.

The last challenge to the exhibition of pro-environmental behaviour that the study examined was metropolitan assembly regulations (MAR). Unlike the findings of the previous challenges, most (40.1%) of the respondents said metropolitan regulations lowly challenged them from exhibiting pro-environmental behaviour as compared to 31.2 percent that indicated that it highly challenged them (Table 47). The Chi-Square test showed significant differences in the ratings of respondents with respect to the extent to which metropolitan regulations challenged them from exhibiting pro-environmental behaviour ($\chi^2 = 6.212$, p-value = 0.045).

Political inclinations was also an inhibiting factor to practicing pro-environmental behaviours. The national sanitation day exercise for instance, has been so much politicized that on such Saturdays, only those with affiliation to the party in power attempt to participate. Some related comments from the focused group discussions with the junior high schools include: *"if you go out to take part, you are tagged as NDC", my parents will not allow me because they are not happy with the current government"* (Male, 15yrs, JHS 3 Pupil), *"and Limited political will in forcefully addressing environmental problems is also a contributing factor"* (NGO Director). This attests to the opinion by Kollmuss & Agyeman (2002) that political factors pose challenges to exhibiting pro-environmental behaviour, as seen in the conceptual framework. For Latta et al. (2005), young people's political engagements promote the agency towards the environment.

Furthermore, environmental clubs, a good platform for promoting environmental consciousness (Gardener & Stern, 2002; Horton, 2003; Chawla & Cushing, 2007; Hayward, 2012), have mostly collapsed in the schools. Attempts at forming clubs in the schools was faced with the challenge of either teachers not interested and or patrons of clubs not committed although the students may be willing to form the environmental clubs. As remarked by a pupil, "*letters of appeal to school authorities do not receive much attention*" (male, JHS 3, 15yrs). This has attendant problems of low self- motivation among the pupils such that pupils are not making time for environmental programmes and environmental illiteracy.

For the junior students, attitudinal factors like poor habits towards the environment posed a big challenge to exhibiting PEB. Societies do not see it as individual responsibility to the environment because they see it as the responsibility of the state to protect the environment. Some pupils were of the view that Zoomlion is paid to keep the environment clean. Beyond that, they feel cleaning the environment was too demeaning. Due to the stigma on Zoomlion, children feel shy and demeaning to be associated with wanting to actively and publicly engage in cleaning their surroundings. '*Some people see themselves as superhuman at the expense of others, so the poor in society's job is collection of refuse*' (male, Headteacher, SHS). The poor attitudes, low environmental concerns and the weak locus of control as indicated in the conceptual framework serve as barriers to promoting pro-environmental behaviour (Nordlund, 2002, Kollmuss & Agyeman, 2002, Blake 1999).

Other challenges were in the form of the junior students being motivated or rewarded for their efforts at promoting PEB. For instance, the

director of an NGO that works with children in keeping the beaches clean remarked that *'beach sand mining discourages children from continuing to promote cleanliness at the beaches because our efforts are wasted when the authorities who should know better are the ones encouraging the sand winning'* (NGO, Director). Rewards, according to Deci, Koestner, and Ryan, (2001), have an impact on the motivation of individuals. Its absence among the junior respondents therefore inhibits PEB.

For the NGOs, most of their measures or interventions were usually not sustainable because other state stakeholders did not complement their efforts. *"We once sent a petition to the authorities about occurrences on our beaches. They only responded after the article was published but that was not sustained"* (NGO Director). The limited commitment of state authorities and ineffective implementation of government regulations, as well as unclear policies on young people's role in environmental engagements posed a big challenge. *"Even the NGOs efforts are frustrated by bureaucratic procedures from relevant institutions and this hampers the promotion of PEB among the school pupils* (Environmental NGOs, Seafont & Anopa). These institutional challenges pose a threat to young people exhibiting pro-environmental behaviour because it prevents them indirectly from undertaking environmental engagements (Kollmuss & Agyeman, 2002).

Availability of Opportunities for Exhibiting Pro-environmental Behaviour

The availability or otherwise of certain PEB opportunities or platforms serve to enhance or inhibit people's ability to take environmental actions. These platforms, according to Flanagan and Levine (2010), serve as avenues

through which young people understand their role as change agents. These platforms are the skills and talents, participation in environmental clubs, engagements in community service, public speaking and debates on environmental issues.

Others include environmental awareness or literacy, opportunities for social learning and networking, opportunities for civic engagements and the incentives for environmental campaigns. The study sought to examine the extent to which such platforms were available to respondents. The Chi-Square test of uniformity was conducted to determine whether the respondents were equally or equally distributed across the different category of responses.

The first platform that the study identified to enhance the exhibition of pro-environmental behaviour was skills and talents (S&T). The data as presented in Table 48 shows that most of the respondents sometimes (45.5%) or always (30.5) exhibited skills and talents for pro-environmental behaviour. Only 5.2 percent of the 292 respondents never had the skills and talents for pro-environmental behaviour. The Chi-Square test shows that the respondents were unequally distributed with respect to the extent to which skills and talents motivates them to exhibit pro-environmental behaviour ($\chi^2 = 103.342$, p-value 0.000). The SHS students hence have some skills and talents that can be a potential for exhibiting PEB (Ifegbesan, 2010). Hungerford and Volk (1990) identify this as the entry -level variables that predisposes people to take actions in favour of the environment.

The next issue that the study examined as part of the pro-environmental opportunities was participation in environmental clubs or associations (PEC). The findings as captured in Table 48 show that most

(44.2%) sometimes or always (28.1%) consider the participation in environmental clubs as an available platform for the exhibition of pro-environmental behaviour as compared to 13.0 percent who never had this opportunity.

The difference in the extent to which the respondents considered the opportunity of participating in environment clubs in order to exhibit pro-environmental behaviour was significant ($\chi^2 = 73.178$, p-value 0.000). The limited availability inhibits PEB because for Hayward (2012), it serves a good platform for young people to exhibit pro-environmental behaviour. The voluntary engagement in community service has been seen as a platform for people to be sensitive about the environment and subsequently the exhibition of pro-environmental behaviour.

Respondents were therefore asked to indicate their engagement in community service (ECS). It became evident that most (43.3%) of the respondents sometimes took part in community service while about 24 percent of them said they always participated in community service (Table 48). The Chi-Square test showed significant differences in the extent to which participation in community service is available to exhibit pro-environmental behaviour ($\chi^2 = 68.192$, p-value 0.000). The limited engagement in community service, inhibits PEB, because according to UNESCO (2012), this platform provides networks and opportunities for interaction, was low implying low civic engagements, a panacea for environmental citizenship behaviour.

Public speaking or debates on environmental issues (PSE) builds confidence and encourages environmental citizenship and in effect serves as a platform for exhibiting pro-environmental behaviour.

Table 48: Platforms for SHS Students to Exhibit Pro-environmental Behaviour

Platform	S&T	PEC	ECS	PSE	EAP	OSL	OCE	IEC	% of	%	PSE	EAP	OLS	OCE	IEC	
	F	F	F	F	F	F	F	F	% of	%	% of	% of	% of	% of	% of	
Never	15	38	30	72	31	36	45	64	5.2	13.0	10.3	24.7	10.6	12.3	15.4	21.9
Rarely	55	43	63	55	61	47	73	67	18.8	14.7	21.6	18.8	20.9	16.1	25.0	22.9
Sometimes	133	129	128	106	137	137	119	107	45.5	44.2	43.8	36.3	46.9	46.9	40.8	36.6
Always	89	82	71	59	63	72	55	54	30.5	28.1	24.3	20.2	21.6	24.7	18.8	18.6
Total	292	292	292	292	292	292	292	292	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
χ^2	103.34	73.17	68.19	22.05	83.61	84.14	44.16	22.38								
P-value	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000								

Source: Field survey (2016)

The data showed that the respondents were unequally distributed on the extent to which public speaking or debates on environmental issues was available to them to exhibit pro-environmental behaviour ($\chi^2 = 22.0555$, p-value 0.000). As can be seen in Table 48, public speaking or debates on environmental issues was never available to 24.7 percent of the respondents to exhibit pro-environmental behaviour as compared to the 20.2 percent who had exposure. The details of the rest of the responses are captured in the Table 47. Here too, the limited availability inhibits environmental citizenship in particular as Dolan, (2010) opined that public speaking and debates on the environment enhance young people's democratic participation and their resilience and social support.

Another avenue for pro-environmental behaviour is ones knowledge in or awareness of environmental issues. The data as presented in Table 48 show that the respondents differed on the availability of environmental awareness or literacy programmes (EAP) as a platform to the exhibition of pro-environmental behaviour. From the table, the respondents were of the view that environmental awareness or literacy programmes were sometimes (46.9%) or always (21.6%) available to motivate people to exhibit pro-environmental behaviour. However, 10.6 percent of them never saw the availability of environmental awareness or literacy programmes as a platform for people to exhibit pro-environmental behaviour.

The differences in the extent to which environmental awareness or literacy programmes motivated the SHS students to exhibit pro-environmental behaviour was significant ($\chi^2 = 83.616$, p-value 0.000). The limited availability

obviously inhibits exhibiting PEB since knowledge informs action (Carlsson & Jensen, 2006; Monroe, 2003).

According to the literature, opportunities for social learning (OSL) and networking also served as an avenue for people to exhibit pro-environmental behaviour. Based on this the respondents were asked to indicate the extent to which the opportunities for social learning and networking motivated their pro-environmental behaviour. Evidence from Table 48 shows that opportunities for social learning and networking were sometimes (46.9%) or always (24.7%) available to the majority of the respondents to exhibit pro-environmental behaviour as compared to 12.3 percent who thought otherwise.

The Chi-Square test showed significant differences in how respondents viewed the availability of the opportunities for social learning and networking for the exhibition of pro-environmental behaviour ($\chi^2 = 84.14$, p-value 0.000). For, UNESCO (2012), the limited availability of social networking limits the opportunities for interactions and building environmental engagement skills which are needed for environmental citizenship behaviour.

The study also examined the extent to which the opportunities for civic engagements (OCE) was available to SHS students' exhibition of pro-environmental behaviour. Table 48 shows that 15.4 percent of the opportunities for civic engagements was never available for them to exhibit pro-environmental behaviour. Apart from these categories of respondents, most of them saw the opportunities for civic engagements sometimes (40.8%) or always (18.8%) available for them to exhibit pro-environmental behaviour. The differences in the availability of opportunities for civic engagements for exhibiting pro-environmental behaviour was significant ($\chi^2 = 44.16$, p-value

0.000). The seemingly availability, though sometimes, inhibit PEB (Flanagan, 2009; Flanagan & Levine, 2010; Hayward, 2012).

The final opportunity for the exhibition of pro-environmental behaviour that the study examined was incentives for environmental campaigns. The study found that most (36.6%) of the SHS students indicated the incentives for environmental campaigns (IEC) were sometimes availability to their exhibition of pro-environmental behaviour as compared to 19.6 percent availability. The rest of the respondents were almost evenly distributed across never (21.9%) and rarely (22.9%) available. However, the chi-square test showed significant difference in how respondents saw the availability of incentive for environmental campaigns for the exhibition of pro-environmental behaviour ($\chi^2 = 22.28$, p-value 0.000). The limited availability of rewards, also pose as a disincentive for PEB because rrewards, according to Deci, Koestner, and Ryan, (2001), have an impact on the motivation of individuals to undertake environmental engagements.

Promoting Pro-environmental Behaviour Among the Students

The study sought the opinion of respondents in proposing how pro-environmental behaviour could be promoted among young people. Generally, the scores of the SHS students (figure 7), was low on how to promote PEB. Education and awareness creation on taking environmental actions was highest (36%), followed by undertaking environmental conservation activities and volunteerism (21%), joining social and environmental clubs and movements and mentoring (14%), providing incentives and motivations or rewards (13%), enforcing environmental laws and applying punishments

(10%) and indulging in public speaking and forming pressure groups was the least with 6 percent. The low scores have implications for exhibiting pro-environmental behaviour because respondents were not familiar with the means through which this could be achieved (Monroe, 2003; Flanagan, 2008; UNESCO, 2012).

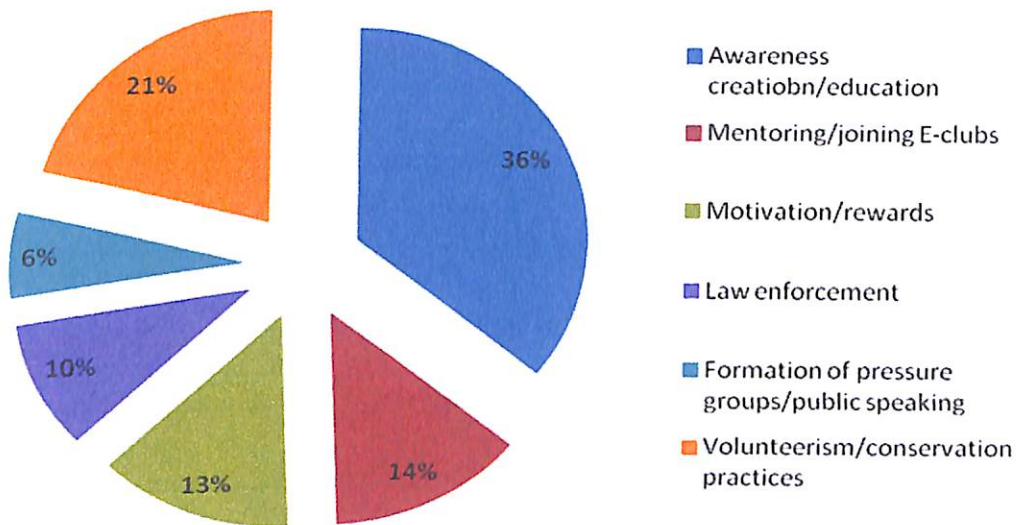


Figure 7: SHS Opinion on how Pro-environmental Behaviour can be Promoted Among Young People in Ghana. n=486 (multiple responses)

Source: Field survey, Potakey (2016)

Education and sensitization. From the responses from the NGOs and related stakeholders, promoting PEB among young people could be achieved through constant education by skilled or trained environmental personnel in schools and effective inflow of information. This confirms Monroe (2003) assertion that education was important in shaping their values and knowledge as well as encouraging environmental actions. This they suggested could be achieved by inculcating PEB practices as part of school curriculum.

They proposed the inclusion of environmental conservation and sensitization in the education syllabus. This although supported by Ifegbesan, (2010) was not adequate in ensuring environmental citizenship behaviour.

Dietz & Stern (2002), proposed new tools of adding voluntary measures. These practical aspects enhance action competence (Dobson, 2006; Carlsson, 2006).

Means for achieving environmental citizenship behaviour such as joining social and environmental clubs (Dolan, 2010) and indulging in public speaking and forming pressure groups were extremely low. SHS respondents proposed that the formation of environmental clubs in schools, in churches and in mosques could be encouraged as a means of ensuring action competence. Respondents opined that through such platforms, young people could be taught to embrace the saying that *“leave the world better than you found it; do not harm life nor the environment; if you do make amends”* (NGO, Director).

How children are raised up, influences their PEB. Therefore for pupils in basic schools, respondents suggested TV documentaries on animal kingdom, captain planet, among other positive environmental programmes and books on the environment to nurture young people’s passion for keeping safe environments from childhood. For a respondent, this would raise awareness among young people and make them *show concern by asking “why”; questioning why things are happening around us help to set one thinking of the solution* (NGO Director-SHAPE ATTITUDE).

Exposure to natural areas as children helps in young people having affinity for nature and less likely to destroy it. *“For children in schools, we propose Fridays for field days for students to come out for practical observation. Contact with nature, show them the natural relationship* (Director, Seafont). These confirm Chawla (1998) and Monroe (2003)

findings that such significant experiences help nurture environmental values and enhance pro-environmental behaviour among young people.

For youth in institutions, organizing effective educational programmes through seminars and sensitization workshops were also proposed. Innovative ways such as sketches on environmental issues, drama and dance on same, educating them in schools and at home could also be beneficial. Further dissemination of information on environmental consciousness could be done through information service and the mass media support. A pupil remarked that *'Regular and continuous education on the importance of the environment to man's survival, awareness and sensitization of peers, family and community on the need for proper environmental management will help us educate our communities, mothers, friends on environmental consciousness (15 years, male, JHS 2)*

Parental influence and role models play a significant part in promoting or inhibiting the practice of PEB. The utterances and actions or inactions of adults (parents, community members, teachers, and mentors) pose as challenges in motivating the young ones to take environmental actions. *"All of us can play key roles in our own small ways", "if their parents will disabuse their minds that you don't lose anything if you help collect refuse, the children will undertake cleaning-ups in schools without feeling embarrassed or inferior"* (Head Teacher).

This supports Chawla (1998) view of the influence of parents and significant others on young people's actions. Role models taking part in communal labour also help demystify the negative perception about taking part in sanitation clean-up activities within their communities. Young people's

exhibition of environmental citizenship behaviour is therefore enhanced by witnessing the behaviour of others (Osaldiston, & Schott, 2012)

Motivational interventions encourage pro-environmental behaviour through incentives and rewards (Steg, Van den Berg & De Groot, (2012). Rewards have an impact on the motivation of individuals. Absence of motivation or rewards does not encourage young people to engage in environmental programmes. Respondents were of the view that their exhibition of PEB should be interspersed with effective and transparent reward systems. For Steg & Vlek (2009) this helps encourage especially the young ones to engage in positive environmental behaviours.

Dobson (2010) however, cautions against monetary incentives since it may not ensure sustainable environmental behaviours once the incentives are removed. Specifically, money can induce a mindset in which the influence of personal norms or moral obligations is suppressed and hence becomes an important risk (Bolderdijk, 2015). When money enters the picture, people start seeing the decision whether or not to act morally as a business decision, rather than an ethical or moral issue (Lindenberg & Steg, 2007).

In view of this, respondents suggested that reward systems to motivate performing young people could be in the form of organizing essay competitions, establishing awards systems for participation in environmental programmes, motivation for doing the right thing, annual competition for nearest school, community, among others. A pupil further remarked that *“funds should be channeled into providing logistics instead of politics, government should support companies that are into environmental protection (e.g. converting faeces to charcoal (14years, male, JHS 3)*

Punishments and sanctions can help deter people from engaging in negative behaviours towards the environment (Cathcart, Palmon, & Peterson (2015). Such sanctions could be in the form of name and shame of perpetrators, spot fines, among others. Town council should do regular monitoring and catch culprits. Effective and appropriate laws should be made and enforced. Prohibition areas should be indicated. Offenders should be reported to elders and or law enforcement agencies. For (Schram & Tibbetts, 2014) this helps to reaffirm a shared consensus of values in that community, in this case positive environmental values.

For young people in school, the formation of and participation in environmental clubs in schools serves as a good platform to advocacy. Their belonging to clubs helps them do collective public speaking which they may not be able to do as individuals. They are able to form pressure groups to demand accountability from the environmental duty bearers. *"A lot more people should speak out on the need to prevent environmental degradation so that the authorities will sit up ... formation of clubs and societies in schools, churches, and mosques will enable them to be part of decision-making in tackling environmental problem; , as individual- tell others to do the right thing"*(Director, SHAPE ATTITUDE). This opinion buttresses Flanagan & Levine (2010) that public speaking and advocacy on environmental protection could also promote pro-environmental behaviour and environmental citizenship in particular.

Attitudinal change and good habits in favour of the environment will ensure PEB among young people (Steg, & Vlek, 2009). Children should not be influenced by the bad behaviours of adults and leaders but focus on the

good environment they need in future, inculcating the discipline of protecting the environment at the early stages of their lives will ensure sustainable healthy environmental practices; for *"habits once formed are difficult to change"* (Director, SHAPE ATTITUDE).

A change of attitudes for the better, could be promoted through community sensitization, public education, media sensitization on the consequences of improper attitudes towards the environment and display of short phrases that drum the message home. Such messages as proposed by the junior high school pupils could include *"change bad attitudes"*, *"stop the bad practices"*; *"assist older people to throw away their rubbish"*, *"stop deforestation, recycle and re-use of plastics"*, *"avoid open defecation"*, *"stop using chemicals to catch fish"*, *"clean choked gutters"*, *"participate in community clean-up activities"*, *"wise use of natural resources"*, *"re-plant trees"*, *"don't exploit natural resources"*, *"judicious use of natural resources"*, *"add values to trees cut down"*, *"reinvest into depleted forests"*, etc.

CHAPTER EIGHT

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Introduction

This chapter comprises the summary of findings from the study, conclusions and recommendations. It further presents the contribution to knowledge, limitations of the study and suggested areas for further studies.

Summary

The study set out to examine the practice of pro-environmental (environmental citizenship) behaviour among Junior and Senior High schools in the Cape Coast Metropolis. Specifically, it sought to describe the forms of PEB among them, examine the predisposing factors and potentials for exhibiting environmental citizenship behaviour, examine the challenges to exhibiting environmental citizenship behaviour and explore the strategies for promoting environmental citizenship behaviour among the young people.

In terms of methodology, a mixed method approach combined with cross sectional design was employed for the research. The study targeted young people in second cycle (SHS) and basic (JHS) schools in the Cape Coast Metropolis, and environmental organisations working with young people. Other relevant stakeholders such as NGOs, civic advocacy groups, and state agencies (GES, MMDAs and NCCE) were also targeted for the study. Cluster sampling technique was used to select schools from the GES clusters of schools within the Cape Coast Metropolis. These covered single-sex (girls, boys), mixed public schools and private schools.

The gender consideration was informed by literature that this influences people's pro-environmental behaviour. For the individual students,

proportionate sampling was done across the various programmes offered by the schools; individuals within the programmes were randomly sampled.

Using Israel's (1992) formula for sample size determination, the expected sample size was 319. However, the actual sample size for the survey was 292, indicating a response rate of 91.54 percent. Questionnaires were used for the surveys while interview guides were adopted for the interviews and group discussions for the JHS and relevant stakeholders. The data collected was analysed quantitatively and qualitatively using appropriate analytical tools like Chi-square test of independence, independent sample t-test, proportions, percentages and appropriate descriptive statistics. The necessary ethical clearance was sought from the Institutional Review Board, University of Cape Coast.

The main findings of the study were as follows:

Firstly, the dominant form of pro-environmental behaviour engaged by SHS respondents are individual or private-sphere environmental behaviours such as taking part in community sanitation activities (24.8%) and sensitising peers on keeping clean surroundings (24.7%). The distribution depicts that overall, the respondents' personal environmental behaviour was desirable. The Mann-Whitney's tests also showed that males and females ($Z = -0.645$, $p\text{-value} = 0.519$) and club and non-club members ($Z = -1.231$, $p\text{-value} = 0.218$) exhibited desirable personal environmental behaviour.

Environmental citizenship behaviours (radical public sphere) such as petitioning on environmental issues of concern (7.8%) and demonstration in favour of environmental conservation (5.1%) were the least engaged in. Thus their environmental citizenship behaviour were least desirable. The

environmental citizenship behaviour of males and females ($Z = -1.533$, p -value = 0.125) as well as club and non-club members ($Z = -1.346$, p -value = 0.178) were also least desirable. Private sphere behaviours unlike environmental citizenship contribute less to environmental conservation and sustainability.

Pro-environmental behaviour among the Junior High School pupils just like their senior counterparts, were mainly individual or private –sphere behaviours in the form of the routine daily cleaning of their school compounds and homes; and occasional sanitation clean-ups within their communities or neighbourhoods.

Related stakeholders (GES, NCCE, SHAPE Attitude Ghana, Seafront, Anopa, CEPA) created environmental awareness and hands on environmental activities such as talk shows, drama, role-play, plastic waste recycling and beach cleaning as forms of promoting PEB and ensuring attitudinal change.

Secondly, the SHS students were better predisposed to pro-environmental behaviour because they leaned more towards biospheric and altruistic values than egoistic values. Although the SHS students prioritized environmental issues and willing to change their lifestyles in favour of the environment, their perceived cost of time and too much effort to do environmentally friendly things made them generally highly egoistic. A Mann Whitney's U test showed that male and female SHS students had similar egoism (P -values ≥ 0.174) with respect to environmental conservation. However, those in environmental clubs were significantly less egoistic (Mean rank = 107.68, P -value = 0.000) than those who were not (Mean rank = 155.5).

The SHS students were very highly biospheric (Mean = 21.1, Skewness = -1.992). The study found a significant difference in the values males and females placed on the effects of pollution on human health (P-value = 0.010). The mean ranks showed that the females (Mean rank = 158.84) were more biospheric than the males (Mean rank = 136.73). There was non-significance in overall biospheric differences among club and non-club members. This similarity showed in the biospheric scores on the need for people to change their life style for environmental conservation; living in harmony with nature; and concern about extinction of plants and animals (P-values ≥ 0.702).

The overall median altruistic score (20) and a quartile deviation of 2.5 indicated that the SHS students were very highly altruistic. With respect to sex, the altruism for females were more than that of males in relation to life style changes to conserve the environment for future generations, ability to reduce environmental degradation, willingness to sacrifice for the environment and moral obligation to take actions against environmental degradation (P-values ≤ 0.029). However, the study found no significant difference in the altruism of males and females' environmental friendliness (P-value = 0.152). The Mann Whitney's U test showed no significant differences in the altruism for members and non-members of environmental clubs.

Childhood experiences of natural areas, influential family members or role models and education programmes on environment were significant in influencing respondents' belonging to environmental clubs and hence predispose them to pro-environmental behaviour. The beta values suggest that, education programmes on environment was the most significant (0.26),

followed by influential family members or role models (0.246) and childhood experiences of natural areas such as parks and gardens (0.168).

Thirdly, the students had some potentials for exhibiting pro-environmental behaviours in terms of their awareness, knowledge, concern and responsibility for environmental issues. Given an overall mean score of 12.49 (Skewness = -0.383, median 13) and a standard deviation of 4.101, the environmental awareness level of the SHS respondents was high. The sex of the SHS students did not influence their environmental awareness. Also, the awareness levels of members and non-members of environmental club was similar (P-values ≥ 0.147). The JHS pupils also had awareness on the environmental degradation, pollution and its effects on human health, particularly on the future generations.

The SHS students' knowledge level on environmental issues was moderate (median = 10, skewness = -0.621). The overall environmental knowledge for males and females was similar (Mann-Whitney U = 10495.5, Z = -0.025, p-value = 0.980). There was no difference in the environmental knowledge of members and non-members of environmental club. The JHS students also had some basic knowledge on the causes of environmental degradation and its consequences on human health.

The SHS students were very highly concerned about the environment. This is indicated by a median score of 19 (mean = 18.34, skewness = -0.729) with a quartile deviation of three. Both males and females as well as members and non-members of environmental clubs showed similar concerns for the environment with p-values of 0.429 and 0.478 respectively. Most of the JHS

pupils also had concern for the environment and hence willing to help keeping the environment clean.

The SHS students' overall responsibility of the environment was very high (median = 8, skewness = -0.791). The overall responsibility of the environment was similar for males and females (Mann-Whitney U = 10206.0, Z = -0.437, p-value = 0.662); as well as members and non-members of environmental club (Mann-Whitney U = 5998.0, Z = -0.937, p-value = 0.349). The JHS schools pupils did not feel so responsible for the environment. They were of the opinion that protecting environment was the responsibility of the community, the state (EPA, CCMA), opinion leaders and other individuals. To them, the government should be responsible for keeping clean environments.

Personal environmental behaviour among SHS students was significantly determined by altruism while environmental citizenship behaviour was significantly determined by altruism (B = 0.540, t = 5.151, p-value = 0.000), concerns (B = -0.221, t = -2.144, p-value 0.033) and biospherism (B = -0.168, t = -2.139, p-value = 0.033).

The SHS respondents were generally conscious in terms of their environmental practices and norms. They practised positive environmental behaviours and, therefore, had the potentials to take environmental actions. In terms of their demographic dynamics, the males had a slight edge over females in terms of their environmental norms and practices.

Fourthly, challenges to exhibiting environmental citizenship behaviour were manifested in various forms. For SHS students, school regulations posed the highest (67.1%) challenge, followed by religious influences, cultural

beliefs, community expectations, peer influence, financial constraints, family influence and metropolitan assembly regulations, being the least.

Challenges to promoting PEB among junior high students were community expectations, government regulations, institutional factors, socio-cultural, political, financial, education and school regulations, attitudinal factors, peer influence and parental or role model influence.

The school curriculum did not make much room for practical environmental engagements that can promote environmentalism or environmental citizenship behaviour. Environmental clubs which are a good platform for promoting such environmental consciousness, have mostly collapsed in the schools. Attempts at forming clubs in the schools is faced with the challenge of either teachers not interested and or patrons of clubs not committed although the students may be willing to form the environmental clubs. Socio-culturally, the social perception of children as not having much say or voice in society came out strongly as a major challenge facing the junior students in sensitising or influencing their peers and, particularly adult members of their communities to undertake pro-environmental behaviours.

Attitudinal factors such as poor habits towards the environment pose a big challenge to exhibiting PEB. There is the perception that waste collection is the preserve of the government and the poor; due to the stigma on Zoomlion, some children feel shy and demeaning to be associated with wanting to actively and publicly engage in cleaning their surroundings. Even among their peers, they still face challenges in influencing others to keep up positive environmental behaviours. In an attempt to prompt people on their attitudes, they face taunting and molestation from their peers.

Parental or role model influence also presents challenges to young people engaging in environmental actions. The poor behaviour towards the environment of some parents deters them from good practices and make them not to feel responsible for cleaning up their surroundings.

From the responses, opportunities or platforms for promoting PEB such as skills and talents, participation in environmental clubs, opportunities for social learning, engagement in community service, environmental awareness for literacy programmes, public speaking, debates on environment, opportunities for civic engagements and incentives for environmental campaigns, were mostly not available to respondents and this has consequences for environmental citizenship behaviour because these are platforms that promote public environmental actions.

Fifthly, some strategies for promoting environmental citizenship adduced by the SHS students included education and awareness creation, mentoring and joining environmental clubs, law enforcement, motivation and rewards, volunteerism on conservation practices and formation of pressure groups. Education and awareness creation on taking environmental actions was highest (36%), while indulging in public speaking and forming pressure groups was the least (6%) for the SHS students. This gives an indication of the minimal attention given to the avenues that promote environmental citizenship behaviours.

For the JHS students, transparent reward systems and punishments or sanctions could also help deter people from engaging in negative behaviours towards the environment. Advocacy and public speaking on environmental protection could promote environmental citizenship in particular. The

formation of and participation in environmental clubs in schools served a good platform for advocacy.

For NGOs and related stakeholders, promoting PEB among young people could be achieved the formation of environmental clubs in schools, churches and in mosques. Constant education and effective inflow of information could be another way through. Environmental documentaries on animal kingdom, captain planet, and books on the environment could be effective means of nurturing young people's passion for keeping safe environments. Innovative ways such as sketches on environmental issues, drama and dance on same could also motivate their interest.

Conclusions

From the findings of the study, it could be concluded that the pro-environmental behaviour among the SHS and JHS students in Cape Coast Metropolis were more of individual private-sphere behaviours and less of public sphere environmental citizenship behaviour. The minimal practice of environmental citizenship behaviour could not ensure active environmental actions and environmental sustainability.

The students were predisposed to exhibiting pro-environmental behaviour. They had high biospheric and altruistic values which were prerequisite values, particularly for environmental citizenship behaviours. Hence, their affinity for the environment and willingness to act positively to the environment were guaranteed. Furthermore, childhood experiences of natural areas, influential family members or role models and education programmes on the environment were significant avenues that predisposed

them in creating environmental consciousness and participation in environmental activities.

The respondents had varying levels of potentials for exhibiting environmental citizenship behaviours. The SHS respondents had high awareness, moderate knowledge, very high concern and very high responsibility. The JHS respondents also had some basic knowledge and awareness on the causes and consequences of environmental degradation. They had concern for keeping the environment clean through positive environmental norms and practices. However most of them were of the opinion that in terms of responsibility, the state institutions (e.g. EPA, CCMA), communities and opinion leaders had the responsibility of protecting the environment. Overall, altruism, biospherism and concern were significant potentials to exhibit environmental citizenship behaviour.

The challenges faced by the respondents were mainly external. The SHS students faced institutional challenges (school regulations being highest and to a less extent, Metropolitan Assembly regulations). For the JHS students the main challenges were socio-cultural, institutional, political, financial and attitudinal factors as well as peer influence and parental or role model influence. These constrained the students' environmental engagements in spite of their good intentions towards the environment.

Education and awareness creation on taking environmental actions were the strategies suggested by most of the SHS respondents. Public speaking and formation of pressure groups was the least strategy suggested for promoting pro-environmental behaviour. For the JHS respondents, the strategies for promoting environmental citizenship behaviour include

education and information sharing, public speaking and advocacy on taking environmental actions, role model participation in environmental activities, instituting reward systems to motivate them, as well as punishments and sanctions to deter bad behavioural practices, formation of and participation in environmental clubs and exposure to natural areas.

Recommendations

Based on the main findings and conclusions, the following recommendations are made:

1. The GES, heads of schools and NGOs, should promote the creation of environmental clubs in schools to serve as a springboard for inculcating environmental citizenship tenets among Senior and Junior High school students. NGOs should not tie the participation in club activities to economic incentives.
2. The Metropolitan Assembly and Department of Town and Country Planning should encourage the creation and preservation of natural areas like parks and gardens for nurturing affinity for nature among the students. School authorities should propose Fridays for field days for students to go out for practical observation and make contact with nature. Family members should serve as role models by practising positive environmental behaviours for the students to emulate. Educational programmes on taking environmental actions should be promoted by the GES, NGOs and NCCE in the schools.
3. School authorities should boost students' knowledge and awareness on environmental engagements through environmental literacy. Environmental literacy ensures the unique accumulation of their

experiences both in and out of school by shaping their knowledge and values. To ensure the exhibition of environmental citizenship behaviour among young people, opportunities (such as volunteerism) should be created for them to nurture altruistic values and the sense of feeling responsible for protecting the environment.

4. School authorities in conjunction with the Ghana Education Service should make it plausible for the students to engage in environmental outreach activities such as tree planting, beach cleaning and community sensitisation. There should be more room for practical engagements that promote environmentalism. They should also make environmental clubs functional by motivating patrons and providing external support since this is the best platform available to them to nurture environmental citizenship values and potentials.
5. NGOs and teachers should sensitize societies and school pupils to remove socio-cultural barriers to enable the agency of the students in environmentalism. Parents and duty bearers should discourage the notion of environmental cleanliness being the preserve of the poor.

Contribution to knowledge

Most studies on environmental citizenship are based in the western world, targeting whites and adults. This study however, was based in a developing country and focused mainly on young people in schools. Studies on Senior High Schools have focused on environmental awareness and practices but were limited in terms of the values and how predisposed they are to taking environmental engagements; this gap has been filled by the study.

Again, related studies have mostly focused on consumer behaviours in the Global North but this study charts a course for cultivating environmental citizenship in the Global South. Studies on environmental citizenship are more hands on or project-based than theoretical, this study however applied the VBN theories to emphasize values, environmental awareness, knowledge and practices.

In terms of methodology, existing studies were either purely qualitative or quantitative. However, this study adopted mixed methods approach to complement the limitations of the quantitative and qualitative approaches.

Finally, the study was able to build on existing knowledge by combining the attitudinal, contextual, and personal factors for exhibiting PEB as shown in the conceptual framework. It further assessed both personal and public-sphere behaviours among young people that ensure environmental sustainability.

Limitations of the Study

The findings of study were based on young people in schools. Those not in schools could not be targeted. It initially intended to include youth environmental movements to augment those not in school but these could not be found in the metropolis. Also the study hoped to compare the behaviours of students in environmental clubs with those not in any, however, most of such clubs had collapsed with the few existing ones used for social activities.

The use of cross sectional study design could not exhaust all the relevant issues in environmental citizenship. For assessing behaviour, some

authors propose longitudinal or interventional studies which this study could not engage.

Suggested Areas for Further Study

Based on the findings and limitations of the study, further studies could examine young people not in schools, tertiary students and youth environmental movements. Also, an interventional or longitudinal studies could be conducted to encourage hands-on environmental citizenship among young people.

Philosophy guiding the study

The study was guided by the pragmatic paradigm. The mixed method allowed for strategies of inquiry that involved collecting data simultaneously or sequentially to best understand research problems. Also the data collection involves gathering numeric information, as well as text information.

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APPENDICES

Appendix A: Sample Size Determination Table
 Sample Size for $\pm 3\%$, $\pm 5\%$, $\pm 7\%$, and $\pm 10\%$ Precision
 Levels where Confidence Level is 95% and $P=5$.

Size of Population	Sample Size (n) for Precision (e) of:		
	$\pm 3\%$	$\pm 5\%$	$\pm 7\%$
500	A	222	145
600	a	240	152
700	A	255	158
800	a	267	163
900	A	277	166
1,000	A	286	169
2,000	714	333	185
3,000	811	353	191
4,000	870	364	194
5,000	909	370	196
6,000	938	375	197
7,000	959	378	198
8,000	976	381	199
9,000	989	383	200
10,000	1,000	385	200
15,000	1,034	390	201
20,000	1,053	392	204
25,000	1,064	394	204
50,000	1,087	397	204
100,000	1,099	398	204
>100,000	1,111	400	204

a = Assumption of normal population is poor. The entire population should be sampled.

Source: Israel (1992)

Appendix B
Questionnaire for Senior High School Students

Introduction

This questionnaire seeks to elicit information on a thesis research on the topic “Pro-environmental Behaviour: An examination of environmental citizenship among young people in the Cape Coast metropolis”. The researcher is a lecturer with the Institute for Development Studies (IDS) of the University of Cape Coast. This is research in partial fulfilment of her PhD. The responses are, therefore, for purely academic purposes and your cooperation is very much appreciated. Your confidentiality is greatly assured. Thank you.

Section A: Background information

1. School
2. Programme of study
3. Age
4. Sex Female Male
5. Town of residence: Region.....

Section B: Forms of Pro-environmental behaviour among young people

6. Do you think Ghana has problems with environmental degradation?
Yes ... No...
7. Why.....
.....
.....
8. Do you belong to any social club in your school? Yes... No
9. If yes, mention the name of the club
.....
...
10. Does your school have an environmental club ? Yes... No.....
11. If yes, mention the name of the club
.....
12. Do you belong to the environmental club? Yes ... No ...
13. What motivated you to join this club?
.....
.....
.....

14. Do you have a constitution? Yes..... No
15. Mention some of the activities you undertake

16. Are your activities geared towards environmental protection or for socialisation, or both?

17. How do you think your activities can promote environmental protection ?

18. Which of these activities do you engage in? (Tick as many as applicable)
- a. Joining and contributing to environmental organisations
 - b. Demonstrations in favour of environmental conservation
 - c. Petitioning on environmental issues of concern
 - d. Support of acceptance of public policies on environmental protection (e.g., regulations, taxes, environmental guidelines)
 - e. Environmentally friendly consumption behaviours (e.g. organic foods, less processed foods, etc)
 - f. Joining community sanitation/ clean-up activities
 - g. Sensitising peers on keeping clean surroundings
 - h. None
 - i. Others (specify)

Section C: Predisposing factors to Pro-environmental actions

To what extent do you agree with the following statements (scale: 1= very low to 5=very high).

	Statement	5	4	3	2	1
No	Values					
	Egoistic					
1	It takes too much time to do things that are environmentally friendly					
2	It takes too much efforts to do things that are					

	environmentally friendly					
3	Scientists will find solutions to global warming without people having to make changes to their life styles					
4	Environmental issues are of low priority for me					
5	Government has the responsibility to reduce environmental degradation					
	Biospheric					
6	Most people in Ghana today need to change their way of life so that future generations can continue to enjoy a good quality of life					
7	Humans must live in harmony with nature in order to survive					
8	Am concerned about the environment because pollution has harmful consequences for me and my future					
9	Pollution generated here harms people all over the earth					
10	In the years to come, thousands of species of plants and animals will become extinct					
11	Environmental pollution threatens human health					
	Altruistic					
12	I can do something to reduce environmental degradation					
13	Am willing to make sacrifices for the sake of the environment					

14	I personally need to change my way of life so that future generations can continue to enjoy a good environment						
15	I am environmentally friendly in most things I do						
16	I feel a moral obligation to take actions against environmental degradation						

19. To what extent have the following influenced your commitment to environmental protection: (0= none, 1= lowest; 5 = highest)

No.	Statement	0	1	2	3	4	5
1	Childhood experience of natural areas (parks, gardens, forest)						
2	Influential family members or other role models						
3	Belonging to organisations or environmental clubs						
4	Negative environmental experiences (pollution, habitat destruction, flooding, etc.)						
5	Education programs on environment						
6	Influence of friends						
8	Concern for future generations						

Section D: Potentials for exhibiting pro-environmental behaviour

20. Knowledge / awareness / practices on environmental issues
On a scale of 0-5(0= none; 1= very low; 5=very high), indicate your opinion on the following statements

No.	Statement	0	1	2	3	4	5
	Awareness						
1	My awareness on sanitation issues in Ghana						
2	Awareness of the phenomenon of climate change						
3	Assuming climate						

	change is happening, how well informed are you about the causes of climate change						
	Knowledge						
4	How well informed are you about the ways in which we can reduce climate change						
5	Are you satisfied with sanitation management by the metropolitan assembly						
6	Do you think climate change is happening?						
7	How much do you believe climate change will harm you						
8	How much do you believe climate change will harm future generations						
	Concern						
9	How worried are you about climate change						
10	How important is proper sanitation management to you						
11	How important is the issue of climate change to you						
12	To what extent are you worried about improper sanitation in Ghana						
13	Environmental issues are not given prominence in our education system						
	Responsibility						
14	To what extent do you think you should help to contribute to proper sanitation management						
15	How much do you think you should						

	contribute to reduce the impact of climate change						
--	---	--	--	--	--	--	--

21. How often, have you done the following out of concern for the environment ? (scale: 1= Never; 5= Always)

No.	Statement	5	4	3	2	1
	Personal behaviour					
1	Participate in environmental clean ups activities					
2	Attended any training, seminar, or workshop on environmental education/ management					
3	Decided to reuse something rather than throw away					
4	Reduced water use for environmental reasons					
5	Initiate community projects in favour of environment					
6	Reported a burst pipe to authority					
7	Cleared a refuse site around your school or home					
8	Picking pieces of paper, plastic bags around your school compound or home					
9	Support in the development of environmental/ sanitation policy for my school					
10	Attended a meeting in favour of environmental protection					
11	Write letter to advocate environmental protection					
12	Campaigning for the protection of local space (e.g. parks, lawns, playing grounds)					
13	Contributed to or joined an organisation that works to protect water bodies, cutting down trees					

22. How frequent do you perform the following : (scale: 1= Never; 5= Always)

No.	Norms	5	4	3	2	1
1	Leave your TV on standby when not watching					
3	Keep tap running while brushing teeth					
4	Use the AC or fan instead of opening windows					
5	Switch off lights in rooms that aren't being used					
6	Decide not to buy something because it has too much packaging					
7	Buy recycled paper products					
8	Take your own shopping bag when you go shopping					

Section E: Challenges to exhibiting pro-environmental behaviour

23. To what extent do the following prevent or inhibit your environmental behaviour

No.	Factors	High 3	Moderate 2	Low 1
1	Peer influences of friends			
2	Peer influences of family			
3	Community expectations			
4	School regulations			
5	cultural belief			
6	Religious influences			
7	Monetary or financial constraints			
8	Metropolitan assembly regulations (rule, bye-laws)			

Section F: Promoting pro-environmental behaviour

24. How often are the following available to help you exhibit pro-environmental behaviour

	Always	Sometimes	Rarely	Never

		4	3	2	1
1	Skills and talents				
2	Participation in environmental clubs or movements,				
3	Engagement in community service				
4	Public speaking, debates on environment				
5	Environmental awareness or literacy programmes				
6	Opportunities for social learning and networking				
7	Opportunities for civic engagements and volunteerism				
8	Incentives for environmental campaigns				

Section G: Suggestions for promoting pro-environmental behaviour

25. In your opinion, how can pro-environmental behaviour be promoted among young people in Ghana

- 1.....
-
- 2.....
-
- 3.....
-
- 4.....
-
- 5.....
-
-

THANK YOU

Appendix C
Group Discussion Guide for Junior High Schools

Introduction

This questionnaire seeks to elicit information on a thesis research on the topic “Pro-environmental Behaviour: An examination of environmental citizenship among young people in the Cape Coast metropolis”. The researcher is a lecturer with the Institute for Development Studies (IDS) of the University of Cape Coast. This is research in partial fulfilment of her PhD. The responses are, therefore, for purely academic purposes and your cooperation is very much appreciated. Your confidentiality is greatly assured. Thank you.

1. Date :
.....
.....
2. Name of school
.....
...
3. Cluster private.....
public.....
4. Presence of an environmental club in the school. Yes No
.....
5. Perception of the problem of environmental degradation in your
community/ school . Yes No.....
6. Why do you think so?
7. Reasons for environmental degradation?
8. Who do you think has the responsibility of protecting the environment
 - a. Government / District assembly
 - b. NGOs
 - c. Community
 - d. Myself
 - e.
9. Which NGOs have been into contact with your school to promote
environmental activities
10. Mention some of these activities
11. How has it impacted on your behaviour towards the environment?
12. Do you think as an individual you can help protect the environment.
Yes ... No. ...
13. Do you think changing your behaviour can bring help the situation.
Yes ... No.....
14. Explain
15. Some of the challenges that prevent you from acting pro-
environmentally?
.....
.....

16. How these challenges could be overcome?

.....
.....
.....

THANK YOU

Appendix D

Interview Guide for Patrons of Environmental Clubs

Introduction

This questionnaire seeks to elicit information on a thesis research on the topic “Pro-environmental Behaviour: An examination of environmental citizenship among young people in the Cape Coast metropolis”. The researcher is a lecturer with the Institute for Development Studies (IDS) of the University of Cape Coast. This is research in partial fulfilment of her PhD. The responses are, therefore, for purely academic purposes and your cooperation is very much appreciated. Your confidentiality is greatly assured. Thank you.

1. Name of school

.....

2. Name of club?

.....

3. Sponsors (if any)

.....

....

4. What motivated you to be patron for the club

.....

.....

.....

5. Activities undertaken by club

.....

.....

.....

.....

6. Activities that can inculcate environmental concerns in the students

.....

.....

.....

.....

7. How do the activities of the club promote change in behaviour towards the environment?

.....

.....

.....

.....

8. Why do you think this club can be of help to protecting the environment

.....

.....

.....
.....
.....
...

9. Who do you think has the responsibility of protecting the environment

a. Government

.....
...

b. NGOs

.....
.....

c. Community

.....
.....

d. Myself

.....
.....

10. Do you think as an individual you can help protect the environment? Yes ..No ..

11. How do you think changing your behaviour can bring help the situation.

.....
.....
.....

12. How do you think children in schools can contribute to environmental protection?.....

.....
.....

13. What measures/ policies/ laws/ regulations are in place to ensure that young people effectively participate in environmental actions?

.....
.....

14. What are some of the challenges that prevent you from acting pro-environmentally

.....
.....
.....
.....

15. How do you think some these challenges come be overcome

.....
.....
.....
.....

16. In your opinion, how can pro-environmental behaviour be promoted among young people in Ghana?

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THANK YOU

Appendix E
Interview Guide for Head (Academic)

Introduction

This questionnaire seeks to elicit information on a thesis research on the topic “Pro-environmental Behaviour: An examination of environmental citizenship among young people in the Cape Coast metropolis”. The researcher is a lecturer with the Institute for Development Studies (IDS) of the University of Cape Coast. This is research in partial fulfillment of her PhD. The responses are, therefore, for purely academic purposes and your cooperation is very much appreciated. Your confidentiality is greatly assured. Thank you.

1. Name of school
.....
2. Does your school have an environmental club or society?
3. Yes No.....
4. If yes, who are the sponsors
5. If No, why
.....
.....
6. Do you think Ghana is having problems with environmental degradation? YesNo..
7. Explain
.....
.....
8. How do you think children in schools can contribute to environmental protection?.....
.....
9. What measures/ policies/ laws/ regulations are in place to ensure that young people effectively participate in environmental actions?
.....
.....
10. What are some of the challenges that prevent them from acting pro-environmentally
.....
.....
11. How do you think some these challenges come be overcome?
.....
.....

12. In your opinion, how can pro-environmental behaviour be promoted among young people in Ghana?

.....
.....
.....

THANK YOU

Appendix F
Questionnaire for GES Official

Introduction

This questionnaire seeks to elicit information on a thesis research on the topic “Pro-environmental Behaviour: An examination of environmental citizenship among young people in the Cape Coast metropolis”. The researcher is a lecturer with the Institute for Development Studies (IDS) of the University of Cape Coast. This is research in partial fulfilment of her PhD. The responses are, therefore, for purely academic purposes and your cooperation is very much appreciated. Your confidentiality is greatly assured. Thank you.

Interview guide for GES officials

1. Do you think Ghana is having problems with environmental degradation? YesNo..
2. Explain
.....
.....
.....
3. How do you think children in schools can contribute to environmental protection?.....
.....
.....
4. What measures/ policies/ laws/ regulations are in place to ensure that young people effectively participate in environmental actions.....
.....
.....
5. What are the most appropriate ways of achieving change in behaviour towards the environment?
 - a. Processes.....
.....
 - b. Mechanisms (appropriate ways).....
.....
.....

c. Instruments (reward systems, punishments, laws, rules, policies, etc)

.....
.....
.....

6. How can the achievements be sustained?

.....
.....
.....

7. What are the associated challenges

.....
.....
.....

8. Suggestions on way forward

.....
.....
.....

THANK YOU

Appendix G
Interview Guide for Environmental NGOs

Introduction

This questionnaire seeks to elicit information on a thesis research on the topic “Pro-environmental Behaviour: An examination of environmental citizenship among young people in the Cape Coast metropolis”. The researcher is a lecturer with the Institute for Development Studies (IDS) of the University of Cape Coast. This is research in partial fulfillment of her PhD. The responses are, therefore, for purely academic purposes and your cooperation is very much appreciated. Your confidentiality is greatly assured. Thank you.

1. Name of organisation
.....
2. What are some of your activities that you undertake
.....
.....
3. Who are your target groups (schools, youth groups, etc)
.....
.....
4. How do your activities target young people in taking environmental actions
.....
.....
.....
5. How do you think children in schools can contribute to environmental protection?.....
.....
.....
6. What measures/ policies/ laws/ regulations are in place to ensure that young people effectively participate in environmental actions?
.....
.....
.....
7. What are the challenges in involving young people in environmental activities.....
.....
.....
.....

8. In your opinion, how can pro-environmental behaviour be promoted among young people in Ghana ?

.....
.....
.....

THANK YOU

Appendix H Interview Guide for NCCE

Introduction

This questionnaire seeks to elicit information on a thesis research on the topic “Pro-environmental Behaviour: An examination of environmental citizenship among young people in the Cape Coast metropolis”. The researcher is a lecturer with the Institute for Development Studies (IDS) of the University of Cape Coast. This is research in partial fulfilment of her PhD. The responses are, therefore, for purely academic purposes and your cooperation is very much appreciated. Your confidentiality is greatly assured. Thank you.

Interview guide for NCCE

1. What is your mandate in terms of citizenship education?
2. Do you focus on environmental issues?
3. Examples?
4. Who are your target groups (schools, youth groups, etc.)?
5. What are some of the activities you engage with young people
6. How do these activities promote pro-environmental behaviour?
7. How do you target attitudinal change?
8. What capacity / skills/ strategies do the students you have in taking environmental actions in terms of:
 - a. Predisposition to take interest in learning about the environment
 - b. Feeling concern for it
 - c. Acting to conserve it
 - d. Personalise environmental issues
 - e. *Perceived skills in taking action*
 - f. *Knowledge of action strategies*
9. What are the most appropriate ways of achieving *change in behaviour* towards the environment?
 - a. Processes
 - b. Mechanisms (appropriate ways)
 - c. Instruments (reward systems, punishments, laws, rules, policies, etc)

10. How can the achievements be sustained?

11. What are the challenges in promoting pro-environmental behaviour among young people?

12. What challenges do you have in undertaking environmental actions in terms of:

- a. Interpersonal influences
.....
- b. Community expectations
.....
- c. Government regulations
.....
- d. Availability of public policies to support behaviour
.....
- e. Legal/ institutional factors
.....
- f. Socio-cultural
.....
- g. Economic.....
- h. Political.....
- i. Financial
.....

13. In your opinion, how can pro-environmental behaviour be promoted among young people in Ghana?

.....

.....

.....

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.....

.....

.....

.....

Thank you

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10TH MARCH, 2016

Mrs Harriet M.D. Potakey
Institute for Development Study
University of Cape Coast

Dear Mrs. Potakey,

ETHICAL CLEARANCE –ID NO: (UCCIRB/CHLS/2015/05)

The University of Cape Coast Institutional Review Board (UCCIRB) has granted **Provisional Approval** for implementation of your research protocol titled: **“Pro-environmental Behaviour: An Examination of Environmental Citizenship among Young people in Cape Coast Metropolis.”**

This approval requires that you submit periodic review of the protocol to the Board and a final full review to the UCCIRB on completion of the research. The UCCIRB may observe or cause to be observed procedures and records of the research during and after implementation.

Please note that any modification of the project must be submitted to the UCCIRB for review and approval before its implementation.

You are also required to report all serious adverse events related to this study to the UCCIRB within seven days verbally and fourteen days in writing.

Always quote the protocol identification number in all future correspondence with us in relation to this protocol

Yours faithfully,

Handwritten signature of Samuel Asiedu Owusu in blue ink.

For: (Samuel Asiedu Owusu)
ADMINISTRATOR

cc: The Chairman, UCCIRB



10-03-16