

# **THE DEVELOPMENT OF AN ECO-JUSTICE MODEL TO GUIDE COMMUNITY ENGAGEMENT IN HEALTH SCIENCES**

A thesis submitted in fulfilment of the requirements for the Degree of Doctor of Philosophy in  
the Faculty of Health Sciences

**By**

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2020

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## DECLARATION

I, Sandhya Chandramohan hereby declare that all the content within this thesis is my own work. Researchers or authors that have contributed to this thesis have been duly acknowledged within.

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Signature of student

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Approved for final submission

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Signature of co- supervisor

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## **DEDICATION**

*I visualize the world that God created before mankind destroyed it.*

This study is dedicated to all the elements of the ecosystems.

Thank you for giving so much to humankind and expecting so little in return.

## ACKNOWLEDGEMENTS

*"I thank you for being part of my journey"*

*This study would have not been possible without the support and guidance of an amazing group of special people whom I will forever treasure.*

To my Creator, Ascended Masters, Family Guides and Archangels, thank you for never leaving my side and for your protective energy. I pray for continued strength and wisdom so that I can make a positive difference to your creation.

To my dearest supervisor, Professor Bhagwan, no words are adequate to express my heartfelt gratitude to you. Your support, knowledge, wisdom, kindness and intuition have helped me acknowledge my goal. I pray that God guides your every step, as you continue to bring love, light and enrichment to each life you touch. You are Heaven's White lighter and you will forever hold a special place in my heart.

To Professor Sibiya, thank you for your kindness, support and patience. I appreciate the faith that you have in me. I wish you continued success always.

To my dearest husband and children; I could have not reached this milestone without you're unconditionally love, support and encouragement. Thank you for sharing my every smile and every tear. Each success that I have achieved was only possible because of your silent prayers. Nothing brings me more joy than my precious family. I love you'll, always and forever.

To my family and friends, I feel blessed to have you all as part of my life's journey. Thank you for all your kindness, support and unwavering affection.

To the academics and students who so willingly participated in my study, thank you for your time, knowledge and kind consideration. Your contribution to this study is invaluable. I wish each of you success in your respective careers.

To all the faith-based leaders who so lovingly welcomed me into their institutions. Your contribution to my study is highly appreciated. May each of you be blessed for your dedication towards uplifting humanity.

To Ms Kimberley Chetty who assisted me with my data transcription. I am grateful for your assistance and I wish you an abundance of academic prosperity.

To Dr. S. Narrandes, thank you for your efficiency, and expert quality editing. It is sincerely appreciated.

*"I am grateful for this beautiful world we call home" Unknown*

## **ABSTRACT**

Humanity is facing massive health problems, physical pathologies and ecological damage that cannot be ignored. This escalating destruction of all forms of life on earth is a consequence of human action. Such destruction is reinforced by a worldview that denies nonhuman nature any value, respect or justice.

Although the South African Department of Education developed the White paper on the Transformation of Higher Education (Department of Education 1997: 10), which committed universities to policies and programmes for community development, as part of the universities mandate there is no educational model that guides community engagement with regard to eco-issues. This study focused on developing a model to guide community engagement in Health Sciences through a qualitative approach.

A developmental research paradigm was used as the research design. This paradigm allowed for the use of a qualitative research approach to design the new model. Data was collected from academics and students from Health Sciences, and faith-based leaders; through interviews and focus group discussions. Qualitative data analysis using thematic data analysis was utilized to transform the data into findings.

The findings of the study confirm the ongoing damage to the eco-systems and how such environmental damage contributes negatively on health. These finding recommend that higher education embrace community engagement as a tool to create community awareness on eco-justice issues. For this to be successful it is recommended that community engagement be incorporated into Health Science modules in order to transform the Health Science curriculum. The developed eco-justice model for Health Sciences can serve as a guide for academics and students as they work in collaboration with their communities on eco-justice issues to reduce the resultant negative impact on health.

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## **AYRONYMS AND ABBREVIATIONS**

**AAAS:** American Association for the Advancement of Science

**CE:** Community Engagement

**CHESP:** Community Higher Education Service Partnership

**CBD:** Convention on Biological Diversity

**DHET:** Department of Higher Education and Training

**EJ:** Eco-justice

**ENJF:** Environmental Justice Networking Forum

**HEI:** Higher Education Institution

**HEQC:** Higher Education Evaluation Committee

**KZN:** KwaZulu-Natal

**NCCHAPs:** National Climate Change and Health Action Plans

**SARA:** Species at Risk Act

**SL:** Service Learning

**UCT:** University of Cape Town

**UNU:** United Nations University

**WFCP:** World Federation of Colleges and Polytechnics

**WHO:** World Health Organization

**WIL:** Work integrated learning

## OPERATIONAL DEFINITIONS

**Biodiversity:** The degree of variation of life forms within a given species, ecosystem, biome or an entire plane (Van Aken 2012: 06). Biodiversity is a measure of the health of ecosystems and is in part a function of climate (Van Aken 2012: 06). Bio-dynamic agriculture is a method of organic farming that emphasizes the holistic development and interrelationships of the soil, plants and animals as a self-sustaining system (Van Aken 2012: 06).

**Civic engagement:** The accountability of universities to social and public interest whereby universities connect with communities on a range of problems and issues outside the campus (Saltmarsh, Hartley and Clayton 2009: 02).

**Community:** A group of people who share the same type of social identity (MacQueen, Bhan, Frohlich, Holzer and Sugarman 2015: 44).

**Community engagement:** The collaboration between institutions of higher education and their communities for the mutually beneficial exchange of knowledge (Holton, Jettner, Early and Shaw 2015: 76).

**Ecosystem:** A community of living organisms (plants, animals and microbes) in conjunction with the non-living components of their environment (things like air, water and mineral soil), interacting as a system (Van Aken 2012: 06).

**Faith-based community:** A group of members who are united on the basis of religious or spiritual beliefs, who work toward meeting the spiritual, social and cultural needs of their members and their communities (Bielefeld and Cleveland 2013: 442).

**Health:** “A state of complete physical, social and mental well-being, and not merely the absence of disease or infirmity” (World Health Organization 1948:110). In addition health is regarded as a fundamental human right, and correspondingly, all people should have access to basic resources for health (WHO 1948:110).

**Service-learning:** An umbrella concept referring to course-based, credit-bearing forms of experiential education whereby students engage in an organized service activity that address identified community needs, and reflects on the service activity to achieve the desired learning objectives and an enriched sense of personal values as well as civic responsibility (Jacob, Sutin, Weidman and Yeager 2015: 53).

**Work-integrated learning (WIL):** An umbrella term for a range of approaches and strategies that integrate theory with the practice of work within a purposefully designed curriculum (Nicholas 2017: vii).



# CHAPTER ONE

## INTRODUCTION TO THE STUDY

*“A man came into the woods one day with an axe in his hand and begged all the trees to give him a small branch which he wanted for a particular purpose. The trees were good-natured and gave him one of their branches. What did the man do but fix it into the axe head, and soon set to work cutting down tree after tree. Then the trees saw how foolish they had been in giving their enemy the means of destroying themselves” (Gibbs 2008: 01).*

### 1.1. INTRODUCTION

The World Health Organization (WHO 2006: 06) conceptualized the environment as all the physical, chemical, and biological factors that are external to a person and all the related behaviours that impact on health. Humans are continuously interacting with the environment, their daily interactions having an effect on the quality of their life, years of life and health disparities (Costanza 2012: 24; Assadourian 2017: 03; WHO 2009: 01; WHO 2006: 06). In an effort to reduce the effects of these environmental dangers to health and to preserve health, the WHO set out several goals (WHO 2006: 06). These goals focus on six key themes viz. outdoor air quality, surface and ground water quality, toxic substances and hazardous wastes, homes and communities, infrastructure and surveillance and global environmental health (Costanza 2012: 24; WHO 2009: 01; WHO 2006: 06).

Climate change and environmental damage are expected to impact sea level, patterns of infectious disease, air quality, and the severity of natural disasters such as floods, droughts, and storms (Costanza 2012: 24; WHO 2009: 01; WHO 2006: 06; Intergovernmental Panel on Climate Change: 2014: 02). These changes have serious consequences for health (Assadourian 2017: 03; Vincenti 2016: 104; WHO 2009: 01; WHO 2006: 10). In order to reduce or prevent the environmental impact of natural disasters, as well as its effects on human health, community education, community participation and eco-justice initiatives are necessary (Hill 2016: 10; Vincenti 2016: 10; Costanza 2012: 24; Peeters 2012: 15). Moreover, the health and well-being of a community is reliant upon the active participation of its community and its professionals in political and community life (Richard, Keen, Hatcher and

Pease 2016: 60). Such engagement is shaped by traditions learned within families, religious organizations and educational institutions, especially higher institutions of education (Richard *et al.* 2016: 60).

While private institutions, government institutions and communities, are encouraged to take on the challenge of community service, the American Association of Colleges and Universities asserted that the role of universities as stewards of their place, should not be overlooked (Charles, Benneworth, Conway and Humphrey 2010: 02). This emerged from a mutuality of purpose predicated on the notion, that universities benefit from successful communities and that their teaching and research can benefit from engagement with real world problems experienced by communities (Charles *et al.* 2010: 02). Additionally, universities should develop a sense of obligation since government universities are publicly funded and therefore should give back by assisting with challenges faced by society (Reich 2014: 02; Charles *et al.* 2010: 02). For this reason, higher education institutions are obliged to collaborate with public and private partners to address societal challenges and problems impacting on health (Reich 2014: 02). Richard *et al.* (2016: 60) reiterated that institutions of higher education, should focus on community engagement as part of their mission and core values. This view was reinforced by the American government and American policy makers who advocated community engagement (Charles *et al.* 2010: 02). In this vein Richard *et al.* (2016: 60) concluded that higher education institutions have an obligation to prepare graduates with the necessary knowledge, skills and dispositions to be community activists through both their professional and personal lives.

It is for this reason that universities were mandated to assist with the critical social, health and environmental challenges faced by society (Richard *et al.* 2016: 60; Reich, 2014: 02; Charles *et al.* 2010: 02). Based on the urgency of such problems and challenges faced by society, the development of an eco-justice model for Health Sciences is timeous (Hill 2016: 10). Hill (2016: 10) stated that Health Science students would be in a position to disseminate knowledge gained from such a model within their communities, as they work closely with communities. Additionally, in order for such a model to be relevant and utilized by communities, university engagement with influential community stakeholders/ institutions such as faith-based community leaders are also valuable (Sponsel 2007: 01; Rocha 2012: 02). Faith-based

community leaders serving as community activists are the most valuable stakeholders as they are respected by communities and hence have a large influence on society's values and behaviour (Sponsel 2007: 01; Rocha 2012: 02). Hill (2016: 10) and Vincenti (2016: 104) added that if community engagement and eco-justice is not taken seriously the health of communities will continue to be at risk.

As a consequence more higher education institutions globally, communities, faith based organizations, private organizations and commercial institutions are becoming socio-environmental activists, by going green and educating communities and members about their responsibilities to protect the natural systems that sustain their health (Marais 2017: 77; Jacob, Sutin, Weidman and Yeager 2015: 05; O'Donnell 2015: 01; MacQueen, Bhan, Frohlich, Holzer, and Sugarman 2015: 03; O'Mara-Eves, Brunton, McDaid, Oliver, Kavanagh, Jamal, Matosevic, Harden and Thomas 2013: 01; Crowe 2013: 56). The "Fridays for future" movements sparked an international awakening with students and activists uniting globally to protest against climate damage; and to inspire people to take action to address the climate crisis (Deisenrieder, Kubisch, Keller and Stotter (2020: 1748). Sakai (2015: 01) however argued that despite such initiatives progress is slow and accepting responsibility for sustaining earth's community is still of huge concern. Sakai (2015: 01) went on to say that eco-justice which is as old as humanity and which was practiced by indigenous people, has sadly lost its emphasis in less developed countries such as Africa.

Tanner (2013: 09) wrote that contemporary eco-justice initiatives are now gaining momentum internationally, with several developed countries having dedicated long-term community engaged eco-justice projects that support health. This includes eco-justice projects in collaboration with higher education organizations (Tanner 2013: 09). In contrast the reality is that community engaged eco-justice initiatives, in collaboration with higher education institutions, related to health, have been sparse in South Africa (Tanner 2013: 09); making this the first South African doctoral study on this topic. This chapter provides a background to the study. It details the problem statement, the rationale for this study and the aim and objectives of the study. The concepts eco-justice and community engagement are elucidated. An introduction to the study design is also provided. The structure of the thesis, the

researcher's personal interest in this area of health, community engagement and eco-justice is also scripted.

## **1.2. BACKGROUND TO THE STUDY**

Despite scientific consensus with regard to critical threats to the environment, communities are still functioning with little regard for the growing social, health and environmental problems facing human and nonhuman well-being (Paige, Lloyd, Caldwell, Comber, O'Keeffe, Osborne and Roetman 2018: 51). Such extant social, health and environment damage warrant urgent education, that should pay attention to human induced ecological damage, unsustainable population, poor economic growth and health problems as a consequence of environmental damage (Assadourian 2017: 03; Paige *et al.* 2018: 51).

According to Hill (2016: 10) and Vincenti (2016: 104) ecological damage includes a large range of problems created by human activities; that now affect the natural environment and human health. Assadourian (2017: 03) found that these problems directly challenge current cultural practices and values that promote ecological damage, unsustainable living and poor health. The biggest challenges are global climate changes which have been brought about by greenhouse gases created by human activities (Hill 2016: 10). In addition, numerous other problems such as heavy metals, biological and nuclear waste; marine life destruction and topsoil erosion are increasing alarmingly (Hill 2016: 10; Vincenti 2016: 104). Hill (2016: 13) warned that this crisis is adversely affecting social well-being and human health by causing various types of cancers, disrupting hormones, introducing toxins, and changing the human psychological equilibrium. In essence, several researchers cautioned that the human ability to survive is now being threatened due to the ecological damage caused by human activities (Boyd 2014: 01; Hill 2016: 13; Vincenti 2016: 104).

### **1.2.1. Ecological changes and its effects on human health**

The above ecological changes are thus posing a serious risk and danger to human health locally and internationally (Portier, Thigpen Tart, Carter, Dilworth, Grambsch, Gohlke, Hess, Howard, Luber Rowles, Sandifer, Scheraga, Schrumm, Strickman, Trtanj and Whung 2010:

01; Peeters 2012: 15; Boyd 2014: 01; Vincenti 2016: 104) Several scholars concurred that the consequences of climate change, the rise of the sea level, the changes in precipitation resulting in flooding and drought, heat waves, hurricanes, storms and a degraded quality of air affects health both directly and indirectly (O'Donnell 2015: 01; Portier *et al.* 2010: 01; Hill 2016: 10; Assadourian 2017: 03; Boyd 2014: 01). This is evident when severe heat waves harm the health of children and the elderly, causing dehydration, hypertension and heat strokes, especially amongst the elderly (Portier *et al.* 2010: 01). Other health consequences include waterborne diseases, vector borne diseases, mental health and stress related disorders, respiratory allergies, foodborne diseases, and human developmental effects (Vincenti 2016: 104; Hill 2016: 10; Pruss-Ustun, Wolf, Corvalan, Bos, and Neira: 2016: 14).

Also, in present times the escalating damage caused by air pollution, felling of trees and the reduced number of plants and forest reserves are having a negative effect on the health and well-being of human beings and the entire ecosystem (Vincenti 2016: 104; Hill 2016: 10; Pruss-Ustun *et al.* 2016: 08). Consequently, food supply is becoming scarce; water is now a limited resource and the quality of air we breathe are constantly contaminated with toxins (Vincenti 2016: 104; Hill 2016: 10). All the above has had an adverse effect on the ecosystem, which includes adverse effects on human body systems, animal life and the natural environment (Portier *et al.* 2010: 01; Hill 2016: 10; Pruss-Ustun *et al.* 2016: 08). Since it is becoming evident that no one part of the ecosystem can be considered as separate from the whole, the idea that the environment is just here to support us and our prosperity, is a travesty of real environmental consciousness (O'Donnell 2015: 01). This is the contextual background that recognizes that human survival is dependent on eco-justice, timeous education, research and community engagement (O'Donnell 2015: 01). Vincenti (2016: 104) and O'Donnell (2015: 01) concurred, stating that there is an urgent need to preserve the earth and to thank the earth for human sustenance and nourishment.

Several scholars argued that such community education is central to maintaining a healthy environment which in turn has the potential to increase the quality of human life and years of healthy life (Marais 2015: 02; Marais 2017: 77; Jackson, Dannenberg and Frumkin 2013: 1542 and O'Mara-Eves *et al.* 2013: 01). Preece (2016: 212) added that community engagement can have positive health consequences if taken seriously. The WHO (2006: 01) reported that globally, 23% of adult deaths and 26% of deaths among children under the age

of five are due to preventable environmental factors that include exposure to climate change; toxic substances in the air, water, soil, and food; natural and technological disasters; occupational hazards and the built environment. Jackson, Dannenberg and Frumkin (2013: 1542) stated that preventing such environmental hazards relies on a collaboration of many stakeholders, including government, universities of higher education and local communities. Additionally, personnel, surveillance systems, and educational institutions are important resources for investigating and responding to disease (Jackson, Dannenberg and Frumkin 2013: 1542). In response to stakeholders responsible for education, Charles *et al.* (2010: 69) noted that there is a need for increased recognition of the role of universities and community institutions to collaborate around eco-justice issues.

### **1.2.2. The role of higher educational institutions in creating awareness on environmental damage and its effects on human health**

Lee, Tippet, Townend, Clements, Boersma and Hicks (2018: 33) found that a university is a vital resource for the community it serves and by the same token, the community too offers invaluable opportunities for student engagement and learning. Such learning expands education beyond the classroom as it brings invaluable knowledge gained from communities back into the academic milieu thereby deepening the teaching and learning experience (Lee *et al.* 2018: 31). Lowenstein, Martusewicz, and Voelker (2010: 103) identified community-based teaching, community-based learning and community-based research within eco-justice education as progressive community engagement initiatives. Such initiatives engage students, in identifying serious problems within their communities, assist with analysing the roots of those problems in larger socio-economic and cultural systems and creates localized, healthy relationships with each other in the context of our immediate ecosystems (Lowenstein, Martusewicz and Voelker 2010: 103). In addition, Lowenstein, Martusewicz and Voelker (2010: 103) stated that community-based learning and community-based research on eco-justice, offers a framework for students to perform a deep socio-cultural analysis of the root issues that removed people from their immediate communities in the first place. Furthermore, these educational practices create an approach to pedagogy and curriculum that asks educators and academics to make relevant the places, people, living creatures and ecosystems that students are part of and helps them to see the harm done, by not

acknowledging the interconnectedness among all (Lowenstein, Martusewicz, and Voelker 2010: 103).

This calls for educational awareness and new educational models, which respect and support the ecosystem of which humans are a part (O'Donnell 2015: 01; Thornton and Scheer 2012: 07). Responding to the call for educational preparedness, O'Donnell (2015: 01) and Thornton and Scheer (2012: 07) found that the role, that higher education institutions play, becomes paramount. While the role and function of higher education has traditionally focused on teaching and training students to enter the workforce, its role in community development, sustainable development and community partnership is now becoming critical (Jacob *et al.* 2015: 01). Adamuti-Trache and Hyle (2015: 74) agreed adding that the status of the universities, as ivory towers that produces academic elitism should be revitalized into innovative educational institutions that engage with real-world problems of society. Wood and Zuber-Skerrit (2013: 02) shared the same view and recommended that the traditional view of university researchers working alone in their ivory tower must change. In this vein Adamuti-Trache and Hyle (2015: 74) added that universities should be open to outreach projects, community service, community-based research service-learning and community engagement.

Despite the importance of community engagement in higher education Porterfield (2016: 64) found that during the nineteenth century and the twenty century there has been a decline in overall community involvement, at universities in the United States of America. Possible reasons for this decline, could be that community teaching and service activities are not assessed; such service activities are not a high priority for higher education institutions and there is a lack of adequate finances in higher education institutions (Porterfield 2016: 64). Ironically as access to higher education increases, many universities have strayed away from their public mission; resulting in a lack of community confidence in such universities (Longo and Gibson 2016: 61).

For this reason, academics and university students are now being called upon by faculty and government policy makers to engage in community activities and community development projects (Jacob *et al.* 2015: 03; Adamuti-Trache and Hyle 2015: 74). Jacob *et al.* (2015: 03) wrote that for higher education institutions, to embrace initiatives that protect social well-being and the health of future generations; higher educational institutions will require educational

frameworks and models to guide such initiatives. In this vein, models and frameworks that promote eco-justice through community engagement is urgently warranted (Jacob *et al.* 2015: 03).

According to Adamuti-Trache and Hyle (2015: 74) such models and frameworks have the potential to promote health, community engagement and social responsibility. Furthermore when an eco-justice education model is adopted in this context, academics, university students and local communities can collectively identify and engage their communities assets, which may include all types of intergenerational knowledge, indigenous knowledge and skills that could help them address identified eco-justice problems, thereby contributing to community well-being (Lowenstein, Martusewicz and Voelker 2010: 103; Adamuti-Trache and Hyle 2015: 74). Jacob *et al.* (2015: 03) also agreed that it is important for higher education institutions to become established within their local communities, to have maximum impact on their communities, by identifying and assisting with basic human needs.

### **1.2.3. The role of faith-based leaders in promoting the preservation of the environment and health promotion**

Academics, students and communities who are accepting of their duty to one another and to the stewardship of a planet will be blessed with the gift of life (Kureethadam 2014: 12; O'Donnell 2015: 01). Kureethadam (2014: 12) declared that we should be committed to ensuring that all inhabitants on this planet receive their daily food for nutrition, fresh air to breathe and clean water to drink. If justice and peace are needed it is crucial to protect the habitat that sustains humankind. Hence more educational institutions should collaborate with community institutions, such as non-profit organizations and faith-based institutions, by becoming active in socio- environmental movements, by going green and educating communities about their duties and obligations to protect the natural systems that sustain health and well-being (O'Donnell 2015: 01; MacQueen *et al.* 2015: 03). Rocha (2012: 02) stated that "faith-based institutions constitute the most organized and largest global social network of people which can be harnessed to achieve tremendous behavioral and attitudinal changes with respect to how people live responsibly for human and nature co-existence."



Rocha (2012: 10) further asserted that religious texts such as scriptures in the Holy Bible and the Holy Quran include teachings and practices related to nature and the stewardship of the earth. According to Rocha (2012: 10) the Holy Bible elucidates four creation principles which are stewardship, an ethic of caring, respect and love for creation, both humans and otherwise; eco-justice where caring is a matter of love and justice; community of life where every religion recognizes that human beings are a part of a larger ecosystem and awe by recognizing that the beautiful interdependent world is a gift from God, and therefore all of creation must join together to praise God.

Since eco-justice has a spiritual foundation and since it advocates fair treatment for all creation; the support of faith-based institutions in engaging with academic institutions to promote eco-justice becomes paramount (O'Donnell 2015: 01; MacQueen *et al.* 2015: 03). In this vein, many scholarly studies have acknowledged the positive contribution of faith-based institutions towards eco-justice (Rocha 2012: 10; MacQueen *et al.* 2015: 03). In the last two decades the visibility and efficacy of eco-justice, between science and religion has been elevated on an international level, with religious institutions associating the well-being of society with the planet, for a healthy future (Tucker and Grim 2016: 05). This is illustrated by the World Council of Churches, which joined environmental and human behaviour programmes on justice, peace, and the integrity of creation (Tucker and Grim 2016: 05). As a move toward earth stewardship by academia, scientists have acknowledged the value of religion when searching for solutions to environmental challenges (Tucker and Grim 2016: 05).

Following the same mind-set Tucker and Grim (2016: 05) wrote that earlier scholars and scientists such as Ehrlich, Kennedy, Thomas, Raven and Goodenough encouraged research and the publication of major studies on human behaviour and human health in relation to environmental matters. In addition, the Ecological Society of America has initiated annual panels and academic publications (Tucker and Grim 2016: 05). As a consequence, environmental study programmes, are now more open to adding eco-justice and health content in their curriculum (Tucker and Grim 2016: 05). In this regard Tucker and Grim (2016: 05) stated that faith-based institutions, have the ability to provide vision, inspiration and support for grounding and steering mutually enhanced healthy human-earth relationships.

O'Donnell (2015: 01) agreed that such initiatives are critical to the understanding of eco-justice as well as driving eco-justice locally and globally.

### **1.3. UNDERSTANDING THE CONCEPT ECO-JUSTICE**

“As life sustaining ecosystems become more degraded, there is also the question of whether the current industrial/consumer oriented lifestyle that is taken for granted by many educational advocates of social justice is undermining the prospects of future generations” (Bowers 2009: 02). According to Bowers (2009: 02) the time has come to ask, whether recent evidence of global warming, changes in the chemistry of the world's oceans, and the increasing shortage of portable water should lead to developing new strategies aimed at ameliorating these critical sources of injustice and poverty. Such concerns include the urgent need for educational reforms that addresses our responsibility for leaving future human and nonhuman generations with sustainable ecosystems, thereby recognizing the right of nonhuman forms of life to reproduce themselves in sustainable ways (Vaughan-Lee 2013: 01; Bowers 2009: 02) This view was supported by Murphy (2014: 78) who described the current massive collapse of biodiversity and the ecological destruction as an “extraordinary crime against a truly wondrous creation.”

#### **1.3.1. Eco-justice defined**

Vaughan-Lee (2013: 01) defined the ideal eco-justice as a healthy relationship between nature and humans, which offers the foundation for a new kind of ecological justice of inclusion, integrity, equilibrium and sustainability. In addition, O'Donnell (2015: 01) stated that deep ecology considers the ecosystem as a living whole of which humanity is only one part. Further an ecosystem is any interacting system of living organisms including their relationships with each other and their surroundings (Zandvliet 2015: 03). Zandvliet (2015: 03) and Vaughan-Lee (2013: 01) found that a properly functioning ecosystem, that promotes eco-justice, ensures that such components are inseparable and act upon each other. Similarly, Brown (2017: 01) conceptualized eco-justice as the relationship between the systemic problems facing individuals, communities and the natural world. The roots of the word “eco” according to Brown (2017: 01) lies in the Latin word OIKOS which refers to a home or

household and OIKOS, also implies caring for a home or household. This home, Brown (2017: 01) expressed comprises of various relationships that include relationships with people, creatures, ecosystems, economy, environment, food, water, air, and rules facilitating social, cultural, spiritual and emotional well-being all in this home.

Murphy (2014: 78) and Costanza, (2012: 24) concurred, adding that eco-justice aims to preserve and enhance ecological well-being and the integrity of the ecological commons which are the properties of the earth that sustain all forms of life, including human life. These commons represents the natural systems (water, air, soil, forests, oceans, etc.), the cultural patterns and intergenerational knowledge that include growing and preparing food, medicinal practices, arts, crafts, ceremonies, etc. that are shared free of charge by all communities (Bowers 2009: 02). In present time these commons may be managed by governments such as municipal water systems and national parks (Bowers 2009: 02). Chet Bowers, the pioneer of eco-justice was of the view that educators must work towards preserving the integrity of these commons and he championed the call for eradicating unjust social suffering and environmental degradation. He stated that these two matters were inextricable from each other (Lupinacci 2017: 673). Paige *et al.* (2018: 50) agreed that such eradication would ensure that future generations are not depleted by the present generation's environmental destruction and that nonhuman forms of life are acknowledged as also having rights within the larger ecosystems that we are all a part of. In this vein a central theme in eco-justice is socio-economic, environmental and marine conservation (Paige *et al.* 2018: 50; Barnard 2012: 04).

Brown (2017: 01) and Barnard (2012: 04) stated that since humans depend on the natural environment and the services provided by the ecosystem, the human dimensions of the environment must also be considered when discussing conservation and eco-justice. These ecosystem services can be used in either a consumptive and/or non-consumptive manner and they can provide humans with subsistence and/or commercial benefits (Brown 2017: 01; Barnard 2012: 04). Therefore, the dynamic and complex components involved in conserving ecosystems are influenced by equally dynamic and complex human activities (Barnard 2012: 04). In this complex web of interrelationships where all species are dependent upon each other, it is this organic pattern that must be sustained (O'Donnell 2015: 01; Barnard 2012: 04).

Eco-justice can potentially reduce an industrial/consumer dependent culture and can concurrently contribute to the reduction of impoverished communities (Bowers 2009: 02; Bowers 2006: 02; Bowers 2005: 01; Bowers 2002: 02). Bowers (2006: 02) described five aspects of eco-justice that universities and communities should consider, viz: (1) elimination of the causes of eco-racism where is disproportionate location of environmental hazards, (2) ending first world cultures exploitation and cultural colonization of third world cultures by more dominant and powerful foreign cultures (3) revitalizing the commons in order to achieve a healthier balance between market and non-market aspects of community life, (4) ensure that the prospects of future generations are not diminished by the hubris and ideology, that drives the globalization of western industrial culture, (5) reducing the threat to the right of natural systems to reproduce rather than to have their existence dependent upon the demands of humans (earth democracy). Such earth democracy recognizes that as one family, all beings have equal rights to sustenance through the gift of the earths three components; where the economy, environment and people, must be in balance to maintain sustainability (Shiva 2015: 01). In this vein eco-justice provides the largest moral and conceptual framework for understanding how the goals of social justice can be achieved (Bowers 2009: 02; Bowers 2006: 02).

#### **1.4. PROBLEM STATEMENT**

*"We must recognize the Earth's limited capacity to provide for us.*

*We must recognize its fragility.*

*We must no longer allow it to be ravaged" (Grim and Tucker 2016:10)*

As the world stumbles to the brink of socio-ecological collapse, the "tipping point" of irreversible environmental and social change is becoming a vital issue (Vaughan-Lee 2013: 01). The challenge now is to satisfy our essential basic human needs that sustain health, without destroying the biodiversity that makes our planet nourishing for the present and future generations (Thornton and Scheer 2012: 07). Biodiversity can be described as the variety of living things, including diversity within species, diversity between species and diversity of ecosystems (Thornton and Scheer 2012: 07). Developing a healthy relationship with earth as expressed by Kulnieks Longboat, and Young (2013: 121) is essential because of earth's gift,

of sustaining life in the form of fresh air, spring water and food sustenance. Hence societies should be encouraged to develop a connection with the environment; and to realize that all human actions impact and depend upon our multiple daily interactions with food (Kulnieks, Longboat and Young 2013: 121; O'Mara-Eves *et al.* 2013: 01).

Kulnieks, Longboat and Young (2013:121) stated that we depend on the earth to sustain our health and well-being. Despite this only few communities and systems of education recognize our reliance on the ecological health of the earth in which we live. The notion that higher education systems should serve the public good is widely recognized in higher education internationally as well as in South Africa (Kulnieks, Longboat and Young 2013: 121). This notion is endorsed at national policy level and in the policies and practices of public universities (Luescher-Mamashela, Favish and Ngcelwane 2015: 200). In this regard higher education has a role to play in educating communities on healthy living and sustaining the environment that supports healthy living, however this role is often limited or absent (O'Mara-Eves *et al.* 2013: 01; Jacob *et al.* 2015: 05). Despite the fact that universities were established to contribute to human resources, sociocultural and community development, academic activities such as research, teaching and community service have unfortunately not measured up to the expectations of communities (Ahmed, Umar and Paul 2015: 89).

Furthermore, despite the South African governments articulated desire, to see higher education becoming more active in partnering with communities to address social problems little progress has been made in this regard (Luescher-Mamashela, Favish and Ngcelwane 2015: 201). Although the South African Department of Education developed the White paper on the Transformation of Higher Education (Department of Education 1997: 10), which committed universities to policies and programmes for community development, as part of the universities mandate there is no educational model that guides community engagement with regard to eco-issues (Luescher-Mamashela, Favish and Ngcelwane 2015: 200).

## **1.5. RATIONALE FOR THE STUDY**

Humanity is facing massive health problems, physical pathologies and ecological damage that cannot be ignored (Washington, Chapron, Kopnina, Curry, Gray and Piccolo 2018: 372;

Tanner 2013: 09). According to Washington *et al.* (2018: 372) and MacQueen *et al.* (2015: 03) this escalating destruction of all forms of life on earth is a consequence of human action. Such destruction is reinforced by a worldview that denies nonhuman nature any value, respect or justice (Washington *et al.* 2018: 372). Despite such challenges, academia has been slow to address eco-justice; focusing solely on social justice, and environmental justice (Washington *et al.* 2018: 372). Academics who acknowledge the intrinsic value of nature and the ecosystem often fail to become advocates of eco-justice (Washington *et al.* 2018: 372). Washington *et al.* (2018: 372) and Strang (2016: 263) maintained that this is unethical and that the silence about eco-justice needs to be overturned. For this reason numerous scholars worldwide have recently urged academics to engage with communities in order to promote eco-justice in a manner that would enhance health for all life forms (Washington *et al.* 2018: 372; Strang 2016: 263; MacQueen *et al.* 2015: 03; Tanner 2013: 09).

Consequently, the South African Department of Higher Education and Training (2014: 10) introduced new legislations, which mandated university councils to report on how the university has positively or negatively impacted on the socio-economic life of the community in which it operates. This includes all types of collaborations and stakeholders they have worked with (Luescher-Mamashela, Favish and Ngcelwane 2015: 204). Since then the notion that higher education in South Africa has a responsibility to serve the public good, has been widely published (Luescher-Mamashela, Favish and Ngcelwane 2015: 201; Thomson, Smith-Tolken, Naidoo and Bringle 2008: 27; Zuber-Skerritt 2012: 02). Such a notion is endorsed at national policy level and in the policies and practice of South African public universities (Luescher-Mamashela, Favish and Ngcelwane 2015: 205; Thomson *et al.* 2008: 27; Zuber-Skerritt 2012: 02).

Historically health professionals and academics in South Africa have developed strategies to promote and improve health with minimal or no input from communities (O'Donnell 2015: 01; MacQueen *et al.* 2015: 03; O'Mara-Eves *et al.* 2013: 01). However, in recent time university-community partnerships has emerged as a driver of health promotion (MacQueen *et al.* 2015: 03; O'Mara-Eves *et al.* 2013: 01). Since Boyer (in Brukardt, Percy and Zimpher 2006: 04) and the Kellogg 2000 Commission (in Brukardt, Percy and Zimpher 2006: 04) motivated for a new American type of college that saw professional service as a central mission, a large number of universities are now adopting service-learning, moral and civic education and

participatory action research as its main mission. For this reason, the Kellogg Commission of 2001, issued a list of reports encouraging higher education institutions to engage with communities through partnerships, rather than as experts with planned solutions to complex problems (Fitzgerald, Bruns, Sonka, Furco, and Swanson 2016: 223).

Post, Ward, Longo and Saltmarsh (2016: 08) stated that there is a need for a new generation engagement framework that acknowledges non-academic knowledge experts such as communities, students and research participants and that recognizes the value of such knowledge and experiences that non-academic experts can contribute to. Fitzgerald et al. (2016: 223) rationalized that this is a community engagement approach that is underpinned by the understanding that not all knowledge and skills resides in academia, and that knowledge, skill and learning opportunities also resides within communities. Additionally, higher education has long held a commitment, to pursue activities that benefit society, and has “an implicit responsibility to serve the public that created it and sustains it financially through tuition, government grants and contracts, corporate giving and partnerships, and public philanthropy” (Fitzgerald *et al.* 2016: 245). According to Brukardt, Percy and Zimpher (2006: 04) an engaged university requires a paradigm shift that facilitates staff, academics and students to engage with each other across disciplines, departments and colleges and hence makes provision for the university to engage with its community. According to Brukardt, Percy and Zimpher (2006: 09) the process of community engagement requires deliberate institutional planning and leadership skills. Such community engagement should embrace opportunities for applied and collaborative research, student learning and community connections, university transformation and prestige and the fulfilment of civic responsibility (Brukardt, Percy and Zimpher 2006: 10).

Lazarus, Erasmus and Hendricks (2008: 01) agreed that alongside teaching, learning and research, community engagement is classified as one the three fundamental principles of the reconstruction of the South African Higher Education system, as enshrined in the 1997 White Paper on Higher Education. This was affirmed as a priority by the Higher Education Quality Committee (HEQC) (Lazarus, Erasmus and Hendricks 2008: 01). In this vein an engaged university should be characterized by a range of activities that examines faculty roles and that rewards campus culture, curriculum and pedagogy, distribution of resources and community

relationships (Fitzgerald *et al.* 2016: 245). Such engaged universities should be mission driven, partnership focused, grounded in scholarship and institutionally supported (Brukardt, Percy and Zimpher 2006: 11; Fitzgerald *et al.* 2016: 245).

## **1.6. UNDERSTANDING COMMUNITY ENGAGEMENT**

### **1.6.1. Community engagement defined**

According to Beere, Votruba and Wells (2011: 15) a community is often described geographically with reference to a particular town, city or state. In addition, a community can also be defined as a person's identity, status, beliefs or areas of interest (Votruba and Wells 2011: 15). Communities throughout the world often face critical problems such as economic stagnation, underperforming schools, escalating costs and insufficient access to health care, increasing disparities between the rich and poor, environmental threats, environmental intolerance and the lack of civic discourse (Beere, Votruba and Wells 2011: 15). Historically health promotion and community care were initiated by health professionals and academics with minimal input from the targeted communities (O'Mara-Eves, Brunton, Oliver, Kavanagh, Jamal and Thomas 2015: 11). Russell (2008: 05) viewed community engagement as "the mechanisms for identifying community views and the channels for undertaking engagement." Developing such mechanisms and channels entails building infrastructure and capacity amongst community groups (Russell 2008: 05). Following this mind-set, the United States National Institutes of Health (NIH) has supported community-engaged research through its Clinical and Translational Science Award (CTSA) programme. In addition, the division of AIDS provides necessary funding to support community engagement through its research networks (MacQueen *et al.* 2015: 21).

In recent times there has been a paradigm shift with several health care practitioners, academics and researchers beginning to see the value of input from members of the community in relation to health promotion (O'Mara-Eves *et al.* 2015: 11). Such community engagement has been broadly defined as "involving communities in decision-making and in the planning, design, governance and delivery of services" (O'Mara-Eves *et al.* 2015: 11). According to O'Mara-Eves *et al.* (2015: 11) community engagement activities can take



various forms and are usually described in terms of five levels of engagement. This includes information-giving, consultation, joint decision-making, acting together and supporting independent community interests (O'Mara-Eves *et al.* 2015: 11).

Several scholars stated that due to the complexity of the concept community engagement, there is no single universal definition (Rawlings-Sanaei and Sachs 2014: 235; Tindana, Singh, Tracy, Upshur, Daar, Singer, Frohlich and Lavery 2007: 1452; Moore, McDonald, McHugh-Dillon and West 2016: 01). Tindana *et al.* (2007: 1452) agreed and added that it is necessary to give attention to the various definitions and strategies that underpin the concept community engagement in order to obtain a comprehensive understanding. Scholars however defined the concept community engagement using similar terms (Rawlings-Sanaei and Sachs 2014: 235). The Centre for Disease Control and Prevention in the United States of America defined community engagement as “a process of working collaboratively with and for groups of people affiliated by geographical proximity, special interest or similar situations to address issues affecting the well-being of those people” (Tindana *et al.* 2007: 1452), while the Canadian Tamarack Institute described community engagement as “a method to improve communities by identifying and addressing local ideas, concerns and opportunities” (Tindana *et al.* 2007: 1452).

Additionally Tindana, de Vries, Campbell, Littler, Seeley, Marshall, Troyer, Ogundipe, Alibu, Yakubu and Parker (2015: 01) stated that “community engagement is broadly defined as a process of working collaboratively with a group or groups of people on a shared goal or common interest”. Furthermore, community engagement can promote ethical conduct and successful implementation of research projects by making sure that community engagement projects are locally relevant to the community and that local perspectives are engendered into the planning and conduct of the community engagement project (Tindana *et al.* 2015: 01). In this vein community engagement connects the rich resources of universities to critical social, civic and ethical problems; whereby such knowledge and expertise creates a climate in which the academic and civic cultures communicate and interact in a relationship of collaboration and reciprocity (Saltmarsh 2017: 04). Similarly the University of Central Lancashire, the Department of Health Community Engagement project, in the United Kingdom, defined community engagement as “the simultaneous and multifaceted engagement of supported and adequately resourced communities and relevant agencies around an issue or set of issues, in

order to raise awareness, assess and articulate needs and achieve sustained equitable provision of appropriate services” (Tindana *et al.* 2007: 1452).

Pienaar (2012: 40) found that although there have been numerous attempts to clarify the concept “community engagement”; it remains a vague concept at South African institutions of higher education. Furthermore, conceptual frameworks on community engagement are sparse and there are currently no universally accepted standards against which to measure the impact of community engagement (Pienaar 2012: 40). In this vein Msweli and Wushhe (2014: 44) identified three main components of any community engagement project, as being value added partnership, trustworthiness and effectiveness. This was congruent to three other successful components in community engagement projects as discussed by Tindana *et al.* (2015: 01) which focused on information sharing, consultation and community involvement and collaboration. These components of community engagement are all underpinned by a process of sharing knowledge, having a system of dialogue and ensuring the involvement and participation of communities (Tindana *et al.* 2015: 01).

### **1.6.2. The importance of community engagement**

According to Thomson *et al.* (2008: 01), a successful and viable democracy is one in which citizens participate in the life of their communities and their nation. This would assist in restoring the faith that communities have, in institutions of higher education. Beere, Votruba and Wells (2011: 21) stated that communities have been wary of higher education institutions due to the quality of education specifically the absence of civic learning. They further argued that over the past generation communities have shifted from viewing higher education institutions as community centred, to one of a private benefit that place emphasis on financial gain, as opposed to community advocacy. For this reason the role of higher education in engaging with communities has long been the interest of scholarly research, but recently an active debate has emerged concerning the role of community service as a core function of higher education and the introduction of service-learning and community engagement as a vehicle to realize this potential (Thomson *et al.* 2008: 01).

According to Groark and McCall (2018: 07) and Maurrasse (2010: 223) university-community engagement brings together stakeholders from neighbourhoods, organizations, businesses and institutions in order to practice collaboration with a goal of improving the collective well-being of the area and its stakeholders. Lozano, Merrill, Sammalisto, Ceulemans and Lozano (2017:07) added that such community engagement strategies could engineer eco-justice. Additionally, such engagement has the potential to enrich curriculum, teaching and learning, prepare educated and engaged citizens, strengthen democratic values and civil responsibility, address important societal issues and thereby contribute to the well-being of communities (Williams, Soria and Erickson 2016: 87).

For the purpose of community benefit Fitzgerald (2012: 101), saw community engagement as the university's active role in supporting a symbiotic relationship with the university and its community partners. Such community engaged experiential learning according to Fitzgerald (2012: 101) encourages students to take the lead in forming meaningful connections between their academic work and real problems within their communities. Additionally, Fitzgerald (2012: 101) and O'Connor, Lynch and Owen (2011: 100) wrote that community engagement is a critical component of the larger efforts to include experiential learning within curricula and that such community engagement endeavours has the potential to reaffirm the traditional civic role of universities. Based on the above the Association of American Colleges and Universities (AAC and U) praised community engagement initiatives by universities, asserting that community engagement can foster students' abilities to integrate their learning across their courses, over time and between their campus and community life (Lee *et al.* 2018: 33).

Several community engagement scholars concurred and added that although community engagement is one of the most important goals and challenges for higher education institutions in present times, its benefits are worth the effort (Fitzgerald 2012: 101; O'Connor, Lynch and Owen 2011: 100; O'Mara-Eves *et al.* 2015: 11; Tindana *et al.* 2007: 1452; Tindana *et al.* 2015: 01; Rawlings-Sanaei and Sachs 2014: 235; Ponjuan, Alcantar and Soria 2016: 99; Holton, Jettner, Early and Shaw 2015: 99). According to Thomson *et al.* (2008: 01), a successful and viable democracy is one in which citizens participate in the life of their communities and their nation. This would assist in restoring the faith that communities have in institutions of higher education as noted by Beere, Votruba and Wells (2011: 21).

Beere, Votruba and Wells (2011: 21) argued that over the past generation communities have shifted from viewing higher education institutions as community centred to seeing it as a private benefit; that place emphasis on financial gain, as opposed to community advocacy. The role of universities in engaging with communities has long been the interest of scholarly research but recently an active debate has emerged concerning community engagement as a core function of higher education and the introduction of service-learning and community engagement as a vehicle to realize this potential (Thomson *et al.* 2008: 01; Holton *et al.* 2015: 99). Based on the above there has been an emerging consensus that engagement can take on many forms such as community-based research, participatory action research, service-learning, clinical service, continuous educational courses and collaborative production of educational material (Thomson *et al.* 2008: 01).

O'Mara-Eves *et al.* (2013: 01) suggested that community engagement at higher education institutions should include strategies such as service user networks, health-care forums, volunteerism, educational discourses interactive websites and public consultations. Additionally, Parker (2016: 14) identified strategies such as community-based learning, community-based teaching and community-based research as critical approaches for community engagement. Successful consultation with communities creates an understanding of community interest, assets and needs (Bruskardt, Percy and Zimpher 2006: 11). In this way community-university consultation and community engagement can make health issues relevant to their communities, thereby reducing the problem of community resistance (Marais 2017: 77; Jacob *et al.* 2015: 05; O'Mara-Eves *et al.* 2013: 01; Parker 2016: 14).

The focus of community engagement activities therefore contributes to social development in local communities surrounding the university (Luescher-Mamashela, Favish and Ngcelwane 2015: 204). Luescher-Mamashela, Favish and Ngcelwane (2015: 204) stated that this could include encouraging and supporting a scholarship of engagement, service-learning, outreach programmes, volunteerism, student leadership development, community engagement projects and programmes. Lee *et al.* (2018: 31) added fieldwork, study abroad programmes and simulations of tasks that students may face in the employment setting as additional community engagement activities. Similarly, Longo and Gibson (2016: 63) reported that other experiential learning approaches include service-learning, participatory action research,

classroom based dialogue and collaborative engagement integrated academic learning to real world community engagement. Kliewer and Priest (2016: 47) concurred stating that community engagement, service-learning and community engaged scholarship are examples of educational practices that promote citizenship, civic minded learners and socially responsible community development. Since then university-community engagement has showed positive progress with the focus on community engagement strategies (Luescher-Mamashela, Favish and Ngcelwane 2015: 204).

## **1.7. COMMUNITY ENGAGEMENT: A GLOBAL PERSPECTIVE**

President Truman, the first American President appointed a Commission on Higher Education which recommended a revised curriculum that would promote a sense of common culture and citizenship (Soria, Mitchell and Nobbe 2016: 04). The Carnegie Foundation for the Advancement of Teaching also released a report decades later that defined university-community engagement as “the collaboration between institutions of higher education and their larger communities (local, regional/state, national, global) for the mutually beneficial exchange of knowledge and resources in a context of partnership and reciprocity” (Fitzgerald *et al.* 2016: 229; Soria, Mitchell and Nobbe 2016: 04; Ulasewicz and Vouchilas 2011: 02). According to the Carnegie Foundation the main purpose of community engagement is to create a partnership of higher education knowledge and resources with those of the private and public sector to develop scholarship, research and creative activity (Williams, Soria and Erickson 2016: 87).

Similarly higher education associations and organizations such as the Association of American Colleges and Universities, the American Association of Community Colleges, the Council of Independent Colleges, Campus Compact, and Imagining America stated, that if community engagement is to be embedded within the core of teaching, research and service missions of academic institutions, it must be distinguished by the following four foundational characteristics i.e. it must be scholarly, it must cut across the missions of teaching, research, and service, it must be reciprocal and mutually beneficial and it must embrace the processes and values of a civil democracy (Fitzgerald *et al.* 2016: 229; Bringle and Hatcher, 2011: 411).

This was followed by the final Kellogg Commission report, where the Institutional Cooperation's Committee on engagement defined university-community engagement as the partnership of university knowledge and resources with the partnership and knowledge of the public and private sectors so as to enrich scholarship, research and creative activity; strengthen curriculum, teaching, and learning; produce educated and engaged citizens; enhance democratic values and civic responsibility; attend to critical societal issues and make a contribution that is in the best interest of society (Fitzgerald *et al.* 2016: 229; O'Mara-Eves *et al.* 2015: 11).

It was against this backdrop that the Macquarie University in Australia began to review its curriculum which led to the development of the Green Paper and the White Paper which were ratified by the University Council in 2009 (Sachs and Clark 2017: 88). The Green Paper outlined the principles on which the university's degrees should be based, which were being more student focused, ethically based, research orientated and community centred. The White Paper aimed at developing graduates who engaged with challenges of our society, had knowledge and ideas of contemporary society, were open to other cultures and perspectives and had a sense of connectedness with others (Sachs and Clark 2017: 88). Additionally, the White Paper focused on creating an understanding of science and information technology; understanding the challenges facing our world today and ultimately moving our communities towards sustainability (Sachs and Clark 2017: 88). Community engagement has thus become a key element in the strategic direction of many international universities, providing a bridge between students' academic work and their professional future (Martin, Fleming, Ferkins, Wiersma and Coll 2010: 24). Additionally, community engagement strategies engender in students a sense of community connection and consciousness (Martin *et al.* 2010: 24). As a consequence, students gain in aspects of commitment to their communities, leadership skills and social values (Allen 2014: 10). Furthermore, exposing students to community engagement related to eco-justice can change their perspectives of social responsibility, the environment and their future commitment to their communities (Allen 2014: 24).

MacQueen *et al.* (2015: 09) agreed, stating that the fundamental ethical goal of community engagement was the protection of communities. Such collaborative partnerships with the educational institutions and communities, according to MacQueen *et al.* (2015: 09), minimizes

the possibility of exploitation, increases the likelihood of long-term impact, and demonstrates an awareness of and respect for communities and environment. Further they expressed that the ethical goals for community engagement included enhanced protection, enhanced benefits, legitimacy, shared responsibility and spiritual awareness (MacQueen *et al.* 2015: 09). Storr (2013: 14) declared that most local participation in eco-justice projects are often made in the development process by organizations e.g. universities outside of communities. Such an approach he added is not sustainable, as it undermines community empowerment by leaving control to organizations outside of the community.

## **1.8. COMMUNITY ENGAGEMENT: A SOUTH AFRICAN PERSPECTIVE**

### **1.8.1. The introduction of community engagement in South Africa**

According to Lazarus, Erasmus, Hendricks, Nduna and Slamati (2008: 01) community engagement was an unfamiliar concept, in South African higher education prior to the late 1990s. The Department of Higher Education and Training (2014: 10) prompted a paradigm shift by calling upon South African universities to reform their role, in the wake of the brutality of the apartheid regime. In an effort to bridge years of disengagement and the marginalization of communities within the elitist spaces of academia and to undo the threads of social injustice, the Department of Higher Education and Training called for the transformation of the South African higher education system, to serve a new social order, to meet pressing national needs, and to respond to new realities and opportunities (Department of Higher Education and Training, 2014: 10). It is against this backdrop that the challenge was to correct past inequalities and to transform higher education to meet the needs of a new democratic society that would respond to urgent national needs (Department of Education, 1997: 07). From this perspective the primary role of higher education, was to produce quality graduates for a skilled workforce that is community-centred and that embraces civil responsibility (Department of Education, 1997: 07).

Prior to 1997, in South Africa, pedagogical techniques to build relationships between universities and society (such as work camps, student volunteerism, community activities, national service) were less relevant, than the creation of a general attitude of academic

service delivery to students (Thomson *et al.* 2008: 27). Despite the above Albertyn and Daniels (2009: 01) and Thomson *et al.* (2008: 27) found that the growth of civil responsibility and community partnership, has since emerged. As noted, the task of improving student success rate is a key challenge for the South African higher education system (Department of Education, 1997: 07; Thomson *et al.* 2008: 27). However a growing body of international research has reflected that a focus on engagement and international benchmarking with countries such as the USA, UK, Canada and Australia has the potential to enhance student learning and the efficiency and effectiveness of the South African higher education system (Strydom, Kuh and Mentz 2010: 259).

Community engagement surfaced because of the White Paper on the Transformation of Higher Education (Department of Education 1997) for feasibility studies and pilot programmes. These feasibility studies and pilot programmes aimed to probe the potential of community service in higher education (Lazarus *et al.* 2008: 01). This led to the creation of The Joint Education Trust which in turn launched the Community Higher Education Service Partnerships (CHESP) initiative in 1999 (Lazarus *et al.* 2008: 01). The objective of this initiative was to help South African Higher Education institutions with the conceptualization and implementation of community engagement as a core function of academic institutions (Lazarus *et al.* 2008: 01).

### **1.8.2. The institutionalization of community engagement in South African**

The White Paper on the Transformation of Higher Education (Department of Education 1997: 10) engendered a commitment to the common good and social responsibility of universities which could be implemented by means of common service programmes as part of the universities mandate for its students. Although students' participation rate in community engagement, in South Africa has reached 19% (Council of Higher Education 2013), in 1997, these figures were significantly lower. Consequently policy documents such as the National Plan for Higher Education (Department of Education 2001) and the Higher Education Evaluation Committee (HEQC 2006) guidelines for research, teaching and community service have been strengthened in the recent White Paper on post school Education and Training (Department of Higher Education and Training 2013: 39). This latest version now uses the



term community engagement and community service interchangeably (Preece 2016: 212). Community engagement is seen as including a wide range of university activities in South Africa, such as community-based teaching, community-based research, participatory action research and work-integrated learning (Bender 2008: 1154; Preece 2016: 212).

South Africa has since enshrined community engagement within higher education policies, with strategic emphasis on service, in order to foster responsible citizenship in the context of South Africa's post-apartheid agenda (Preece 2013: 115). Following such a mind-set Preece (2013: 115) added that issues of social justice can be addressed, thereby nurturing a more inclusive and integrated nation. This paved the path for a proliferation of national initiatives such as the Community Higher Education Service Partnerships, national debates and academic literature (Preece 2013: 115). A large amount of national debates and academic discussion in South Africa subsequently emerged, that concentrated on concepts related to community engagement (Preece 2013: 115).

Community engagement has since grown as a core function of higher education and has begun to strengthen its position "to enable the co-creation of contextually relevant knowledge that will enable community development" (Wood 2016: 17). In South Africa community engagement has been used as a broad term to include multiple activities that range from service-learning, professional service and community-based and applied research (Albertyn and Daniels 2009: 01). Zuber-Skerritt (2012: 02) asserted that such collaboration was critical as without mutual exchange of knowledge, it would be difficult to generate knowledge that could enable community change and community development. Despite this mind-set academics and students have continued to experience difficulty with regards to how to engage, within this emerging area of scholarship and engagement (Bender 2008: 1154; Thomson *et al.* 2008: 27; Zuber-Skerritt 2012: 02).

## **1.9. ADVANCING ECO-JUSTICE THROUGH COMMUNITY ENGAGEMENT**

### **1.9.1. Advancing eco-justice through community engagement within a global context**

According to Theobald, Ettinger, Burgess, De Bey, Schmidt, Froehlich, Wagner, Hille Ris Lambers, Tewksbury, Harsch and Parrish (2015: 243) and Adamuti-Trache and Hyle (2015:

74) the era of ivory tower science for biodiversity is over. The past decade has seen private and voluntary organizations urging higher education institutions to pay heed to the needs of their surrounding communities and to strengthen academic programmes through community engagement (Beere, Votruba and Wells 2011:23). Hence a paradigm shift was urgently needed globally, whereby scientists, academics, religious organizations and educational institutions could work collaboratively with communities to contend with emergent, large-scale environmental issues (Adamuti-Trache and Hyle 2015: 74). Theobald *et al.* (2015: 243) warned that if academics did not engage non-scientists, as biodiversity and ecosystem services continue to be eroded, it runs the risk of becoming irrelevant in the eyes of a public that may offer local solutions to global problems.

This resulted in world leaders being forced to embrace biodiversity and eco-justice (Adamuti-Trache and Hyle 2015: 74). As a consequence an international report published by the United States National Academy of Sciences advocated a call for world leaders and academics to recognise the potentially irreversible harm to the ecosystem, such as global warming caused by the anthropogenic emissions of greenhouse gases and other pollutants, and through changes in forests, wetlands and grasslands (Kureethadam 2014:12). The report called for community-based research and community-based education in all communities and an awareness that we all live in the same home; a home that sustains our existence (Kureethadam 2014:12; Adamuti-Trache and Hyle 2015: 74). Thus, by taking action now humankind accepts their duty to one another and to the stewardship of a planet blessed with the gift of life (Kureethadam 2014: 12; Hill 2016: 10). Kureethadam (2014: 12) further declared that if communities are serious about food, fresh air and clean water, communities must protect the habitat that sustains us.

Similarly The World Health Assembly Resolution 61.19, on eco-justice and health has requested that the WHO, together with appropriate United Nations Organizations and other stakeholders including higher education institutions, assess the risks of climate change on human health and to implement effective response measures by promoting further community-based research, community-based education and community projects (Jackson, Dannenberg and Frumkin 2013: 1542). This request included projects related to health vulnerability to climate change; health protection strategies; the health impacts of potential adaptation and mitigation measures in sectors such as water resources, land use and

transport; support for surveillance and monitoring, assessing vulnerability and health impacts and targeting measures appropriately; and assessment of the financial costs and other resources necessary for health protection from climate change (Jackson, Dannenberg and Frumkin 2013: 1542). Higher educational institutions are challenged to become more engaged and involved in sustainable development as inherent characteristics of its daily functions, including its academic endeavours (Munsamy 2013: 82). In many instances it may require a shift in approach by academics and academic managers, with regards to how they interact with academic matters and students (Munsamy 2013: 82).

For this reason, the concept of university-community engagement is gaining momentum at many universities worldwide (Lozano *et al.* 2017: 07). As collaborations among higher education institutions and communities grow, opportunities for university students, to merge academic learning on health and sustainable development with real-world experience also grow (Seider and Novick 2012: 131). Green (2016: 45) wrote that teaching and learning regarding environmental health matters, is best when a community-based approach is applied, since the significance of local communities and local knowledge is central for meaningful teaching and learning.

Furthermore such a community approach should be scaffolded by three main aims, namely, to introduce the community as a pedagogical resource, to facilitate relationships with community organisations and individuals in local settings and to display collaboration between stakeholders that facilitate environmental health and biodiversity education (Robbins 2015: 381; Ardoin, Castrechini and Hofstedt 2014: 479). This is in-keeping with Bowers (2013: 330), view that community engagement can be any external work that cuts across the pillars of community-based teaching, community-based learning, community-based research, community service or community outreach. Such community engagement pedagogies, are ones that combine learning goals, community service, community health and sustainable development in ways that can enhance both student growth and the common good for all forms of life (Bowers 2013: 330).

### **1.9.2. Advancing eco-justice through community engagement within the South African context**

Despite the above and the South African government's articulated commitment to see higher education institutions, responding to the development needs of the country there has been a policy vacuum with regard to strategies for enhancing the development role of universities (Luescher-Mamashela, Favish and Ngcelwane 2015: 201). In order to rectify the lack of community engagement policies and strategies the South African Department of Higher Education and Training (2014: 10) has continued to reinforce its legislation so that university councils are compelled to report on how the university has contributed to social development and community engagement. This includes all collaborative projects that they have worked with (Zuber-Skerritt 2012: 02; Luescher-Mamashela, Favish and Ngcelwane 2015: 204).

In accordance with the Yusufu Model "An African University must henceforth be much more than an institution for teaching, research and dissemination of higher learning (Munsamy 2013: 82). It must be accountable to, and serve, the vast majority of the people who live in rural areas (Munsamy 2013: 82; Strand, Marullo, Gutforth, Stoecker and Donohue 2003: 01). Furthermore, an African university must be committed to active participation in social transformation, economic modernization, and the training and upgrading of the total human resources of the nation and not just of a small elite (Preece 2013: 118).

Although the focus on eco-justice is sparse in South Africa, eco-justice is included in the Constitution of the country (Hattingh 2013: 02; Preece 2013: 118). The Constitution has stated that everyone has a right to the following, with regard to the environment (Hattingh 2013: 02; Preece 2013: 118). Firstly, an environment that is not harmful to his or her health or well-being, an environment protected for the benefit of present and future generations, through reasonable legislative measures that would prevent pollution, ecological degradation and would promote conservation and secure ecologically sustainable development and the use of natural resources while promoting justifiable economic and social development (Hattingh 2013: 02). The two South Africa organisations that address ecological crises are the Environmental Justice Networking Forum (ENJF) and the Southern African Institute of Ecologists (Hattingh 2013: 02).

Marais (2017: 77) argued that South Africa is experiencing the worst water crisis in decades. This is evidence of the planet's water scarcity and its effect on human health and well-being (Marais 2017: 77). The notion of "water of life" as regarded by many churches and other religious communities shows concern by faith-based communities on the effects of the scarcity of water on human health and well-being (Marais 2017: 77). The effect of the National water crisis was critical in Cape Town, with water restrictions reaching level four, in an attempt to prevent the taps from running dry. Consequently, the water crisis was declared a national disaster (Marais 2017: 77). This together with poverty, escalating mobility and high mortality in South Africa requires academic institutions, communities and religious institutions to work towards saving the environments that sustain life and addressing environment challenges (Marais 2017: 77).

Additional water is in fact needed for agricultural irrigation and industrial use for hydropower and the cooling of thermoelectric power plants (Schewe, Heinke, Gerten, Haddeland, Arnell, Clark, Dankers, Fekete, Colon, Gonzalez, Gosling, Kim, Liu, Masaki, Portmann, Satoh, Stacke, Tang, Wada, Wisser, Albrecht, Frieler, Piontek, Warszawski and Kabat 2014: 3245). These activities are dependent on a sufficient amount of freshwater from rivers, lakes, and groundwater aquifers (Schewe *et al* 2014: 3245). Schewe *et al.* (2014: 3245) further stated that freshwater is a vital natural resource and human beings require clean water for daily living and this basic need is being threatened. They cautioned that the expected global population growth over the next decades and the growing economy will increase water demand and therefore aggravate water shortage (Schewe *et al.* 2014: 3245, Schewe, Heinke, Gerten, Haddeland, Arnell, Clark, Dankers, Elsner, Fekete, Colon Gonzalez, Gosling, Kim, Liu, Masaki, Portmann, Satoh, Sacke, Tang, Wada, Wisser, Albrecht, Frieler, Piontek and Schmitz 2016: 01).

Since the world is constantly confronted with complex challenges such as the above water shortage, climate change, global food security and social inequality, university-community engagement should be encouraged (Dostilio and Welch 2018: 177). Dostilio and Welch (2018: 177) posited that higher education plays a critical role in addressing these challenges and a diversity of thought, experience and knowledge such as that found, when we engage with communities is needed to resolve these compelling challenges. Furthermore Dostilio and Welch (2018: 177) stated that community engagement efforts have been part of higher

education since 1914 and that community engagement initiatives have slowly begun increasing in the 1980's. However, it cannot be ignored that institutionalizing community engagement and providing high quality support to faculty and students, engaged with community partners remains a challenge that must be urgently addressed (Dostilio and Welch 2018: 177).

## **1.10. BOWERS THEORY ON ECO-JUSTICE AS A THEORETICAL FRAMEWORK**

Bowers (2006: 01) wrote that the globalization of the western techno-scientific-industrial culture is accelerating the rate of change, in three areas that affect the quality of life on this planet. These are (1) the loss of linguistic /cultural diversity that plays a role in maintaining biodiversity; (2) the loss of intergenerational knowledge that represents cultural alternatives, with a move towards a consumer dependent lifestyle (3) the ongoing degradation of the natural systems such as portable water, topsoil, fisheries, climate change, and spread of toxic waste. Bowers (2006: 01) cautioned that these changes progress on a scale that makes it impossible for billions of world people to escape the rampage of disease and poverty.

Bowers (2006: 01) found that the phrase “environmental education may be a taken for granted cultural assumption, that limits the way such education is perceived. Historically the term environment has had the notion of an environment that needs to be controlled by humans as a resource to be exploited (Bowers 2006: 02). Furthermore, the environment has been viewed as being separate from culture and as an external phenomenon that can be objectively observed and judged (Bowers 2006: 01). For this reason, Bowers (2006: 02) proposed a shift from the term environment education, to the phrase “commons education” or “educating for commons” which equates to eco-justice. The commons as stated by Bowers (2006: 01) can be defined as the non-commodified aspects of cultural life and the environment that was once available to all humans. Bowers (2006: 01) and Bowers (2009: 02) further explained that these commons represent the natural systems (water, air, soil, forests, oceans, etc.) and the cultural pattern and traditions (intergenerational knowledge ranging from the growing and preparation of food, indigenous medicinal practices, art, craft, ceremonies etc.). Bowers

(2006: 01) postulated that these commons could be shared without cost by all communities and nature.

He further cautioned that the disregard of the commons will have a negative impact of the present generation and generations to come (Bowers 2006: 02). He added that it is timeous that there is a revitalization of the commons which would involve communities and education taking democratic responsibility for the quality of air, water, soil, plants, animals and all other aspects of the spaces that we share and that we depend upon (Bowers 2006: 02). In this way we would tread the path towards eco-justice (Bowers 2006: 02). Bowers (2006: 01) described eco-justice as the condition or principle of being just and equitable with respect to ecological sustainability and protection of the environment, as well as social and economic issues.

The basic norms include the following: (1) solidarity with people and creatures thus reflecting deep respect for diverse creations; (2) ecological sustainability with environmentally fitting habits of living and working that enable life to flourish, and the utilization of ecologically and socially appropriate technology; (3) sufficiency as a standard of organized sharing, for equitable or “fair” consumption; (4) socially just participation in decisions about how to obtain sustenance and to manage community life for the good of all creation (Bowers 2006: 01). According to Bowers (2001: 152) (2009: 02) an eco-justice curriculum should encompass an explicit understanding of relationships and processes, an embodied knowledge of community relationships and the ecology of place and an awareness of the multi layered nature of the interdependencies of life-sustaining processes.

Bowers 1997 (in Lowenstein, Martusewicz, and Voelker 2010: 102) added that an important part of eco-justice education, is having an understanding of practices, traditions, and knowledge from communities and their cultures globally. Environmental knowledge is inclusive of our relationships to the land, water, air and all the living creatures with whom we share the planet, while cultural knowledge relates to the practices, traditions, ways of relating and knowing that offer community members mutual well-being, and generally creates more sustainable ways of being on the planet (Bowers 1997 in Lowenstein, Martusewicz, and Voelker 2010: 102). In this vein eco-justice education, challenges academics and students to consider which activities, beliefs, and practices in their communities contribute to supporting

living systems and which do not (Bowers in Lowenstein, Martusewicz, and Voelker 2010: 102).

Lowenstein, Martusewicz, and Voelker (2010: 102) went on to comment that academics and students who learn to examine social and ecological problems may see that they are interrelated and are affected by cultural, political, and economic forces. Hence when using an eco-justice education framework in the context of community engagement, academics and students should identify and engage community assets which could be intergenerational knowledge and skills held by community stakeholders (Bowers in Lowenstein, Martusewicz, and Voelker 2010: 102). Such knowledge and skills could have the potential to contribute towards solving community problems (Bowers 1997 in Lowenstein, Martusewicz, and Voelker 2010: 102). This process breaks down barriers that keep students disengaged from the health of their communities (Bowers 1997 in Lowenstein, Martusewicz, and Voelker 2010: 102). Community-based education within an eco-justice education framework engages students in (1) identifying serious problems in their communities, (2) analysing the roots of those problems in larger socio-economic and cultural system and (3) creating localized, healthy relationships with mentors and with each other in the context of our immediate ecosystems (Bowers 1997 in Lowenstein, Martusewicz, and Voelker 2010: 102).

Mueller (2009: 1031) concurred with Bowers (2006: 01) and emphasized the benefits of eco-justice; particularly that eco-justice education requires students to engage with their community, therefore enhancing the engagement process. Furthermore, both Muller (2009: 999) and Rausch (2012: 117) asserted that traditional social justice is normally limited to its implications for humans, whereas eco-justice seeks to expand these limitations by including nonhumans as well. Eco-justice thus makes reference to a global economic and ecological justice, understood as an objective for addressing deteriorating social and environmental conditions and ultimately promoting peace among human beings, their communities as well as between human communities and the ecosystem (Rausch 2012: 117). Hence for religious and secular advocates of eco-justice, education is the key towards promoting social justice and ecological integrity (Rausch 2012: 117).



Mueller (2007: 42) outlined six criteria that Bowers recommended for educational reforms that focused on eco-justice. These reforms included (1) an understanding that local and global ecosystems are essential to all human life, (2) recognition and elimination of environmental racism, such as the dumping of toxins in the communities of economically and socially marginalized peoples; (3) recognition of how western patterns of hyper-consumerism reproduce the exploitation in the Southern hemisphere by the North for natural resources; (4) the recognition and protection of the cultural commons; that is, the intergenerational practices and relationships of non-monetized mutual aid; (5) the recognition, protection, and establishment of earth democracy that is, the decision making practices established to ensure the renewal of water, soil, air, plant life, and other living creatures in natural systems, and necessary to communities and (6) the recognition and emphasis that local knowledge and practices should leave future generations a viable and healthy environment (Mueller 2007: 42).

Bowers (2006: 01) stated that one of the critical features of the 21<sup>st</sup> century is the failure of scientific studies to create doubt in the minds of society about the unending supply of material items and to bring about awareness of the declining ecosystems. According to Bowers (2006: 01) the decline in the ecosystems, is a consequence of rapid western globalization. As a result, globalization, a western techno-scientific- industrial culture, is increasing the rate of changes that negatively affect the quality of health (Bowers 2006: 02). Consequently, Bowers (2006: 01) noted that there is loss of intergeneration knowledge which is replaced by an individual-centred, consumer-centred lifestyle. This has led to the degradation of natural systems such as water, topsoil and fisheries (Bowers 2006: 02; Van Bower: 2017: 339).

Furthermore, climate change, with the spread of toxins, has risen on a scale that now makes it impossible for the world population to escape the ravage of disease and poverty (Bowers 2006: 02). Within the context of such escalating environmental damage and the illusion of global plenitude, that technology offers, Bowers (2006: 02) asserted that the following three questions needed to be asked by educational experts viz. what is the nature of eco-justice pedagogy and how does it address the problems of environmental crisis; (2) why have critical pedagogy theorists ignored the environmental cries and (3) what curricular reforms need to be

developed in order to practice eco-justice pedagogy? Lozano, Lukman, Lozano, Huisingh, Lambrechts (2013: 10) concurred with Bowers (2006: 01) saying that current research and practices of higher education for sustainable development and eco-justice, has showed an increase over the last twenty years. According to Lozano *et al.* (2013: 10) the integration of eco-justice and sustainable development into higher education institutions, can be achieved through education, research, operations, community outreach, assessment and reporting, collaboration with other universities, making respect for the environment an integral part of the institutional framework, on-campus life experiences, and in-service programmes that also educate the educator.

Lambrechts, Mula, Ceulemans, Molderez and Gaeremynck, (2013: 66) proposed that students will need the following competencies when working with communities: “responsibility (values, ethics, and reflection); emotional intelligence (transcultural understanding, empathy, solidarity, compassion); system orientation (inter-disciplinarily); future orientation; personal involvement (self-motivation, motivating others, learning); and ability to take action (participatory skills)”. When such competence-based education is prioritized, it empowers students to develop important knowledge, values, aptitudes, and attitudes that are necessary to address complex issues that students will encounter in their future personal lives and their professional careers (Lambrechts *et al.* 2013: 66). Lambrechts *et al.* (2013: 66) went on to add that the three critical characteristics of teaching and learning methods for achieving high levels of sustainable development competences, include interactive and participative methods such as group discussion, role play, group or personal diaries, brainstorming, and peer assessment; action oriented methods such as learning through internships, solving real community problems, and outdoor education; and research methods such as bibliographic research, problem analysis, value clarification, case studies, and concept mapping.

The Kellogg Commission (1999) was the first to request a commitment from higher education institutions, to support engagement with their communities. This requires that a commitment to community engagement, be part of higher education institutions philosophy and mission statements (Bowers 2006: 01). It also requires funding, leadership and creativity (Bowers

2006: 01). Consequently, higher education must engage through co-operative education, service-learning, student initiated volunteer programs and out-reach activities in South Africa and globally (Bowers 2006: 01). This demands critical competencies as noted by several scholars (Lambrechts *et al.* 2013: 70). Education and community partnership efforts can be an essential tool to foster eco-justice (Boonzaaier 2015: 02; Muhammad Akib, Hum and Fathoni 2014: 31). Conrad and Hilchey (2011: 273) added that decision-makers worldwide are increasingly seeing the need for community education and community volunteers who can monitor and manage natural resources and consequently conserve protected areas. Muhammad *et al.* (2014: 31) concluded that a religious/philosophical social paradigm shift is needed, where there is a change from an anthropocentric to a bio centric sense of reality. Furthermore, there must be awareness that the community of all living species is the greater reality and the greater value (Muhammad *et al.* 2014: 03).

### **1.11. SIGNIFICANCE OF THE STUDY**

Developing a healthy relationship with earth as argued by Kulnieks, Longboat and Young (2013: 121) is essential because of earth's gift of sustaining life in the form of the air we breathe, the water we drink and the food we eat. Hence communities should be encouraged to develop a connection with the environment; and to realize that all human actions impact and depend upon our multiple daily interactions with food (Kulnieks, Longboat and Young 2013: 121). We depend on the earth to sustain us; however only few systems of education, including higher education institutions, recognizes our reliance on the ecological health of the earth, on which we live (Kulnieks, Longboat and Young 2013:121). According to Biven, Haffenden, and Hall (2015: 05) there can be no global social justice without global cognitive justice. The community-university partnership introduces universities to a broader universe of epistemic communities that lie outside the academy (Biven, Haffenden, and Hall 2015: 05). This allows universities to understand the challenges of society at a wider level and generates transformative knowledge that is more holistic as compared to basic academic knowledge produced at universities (Biven, Haffenden, and Hall 2015: 05).

Despite the importance of community engagement in higher education during the nineteenth and twenty century, community engagement initiatives have declined since the 1980s (Porterfield 2016: 65). A possible reason for this decline can be attributed to scarce financial

resources, student apathy, political interference and high demand for student output (Porterfield 2016: 65). Ultimately the lack of emphasis on community education from higher education institutions can have harmful effects on student education and the nation as a whole (Porterfield 2016: 63). According to Nhamo (2013: 102) South African universities grappling with the concept of community engagement, which is also known as community service, community outreach, engaged scholarship, community development or service-learning.

Ponjuan, Alcantar and Soria (2016: 100) and Trolan, Giovanni and Jacobson (2016: 181) emphasised that the preparation of individuals for participation in society should be seen as the main goal of higher education institutions. According to Beere, Votruba and Wells (2011: 28) university students can benefit from service-learning, volunteerism and community-based research by understanding the complexity of what they are studying and not just acquiring facts about a subject. Furthermore students develop important skills, through community-based learning and service-learning as follows: development of leadership skills, racial understanding, critical thinking, greater ability to apply course concepts to new situations, civic responsibility, appreciation of ethical issues, increased self-confidence, a better sense of self and a cleared understanding of how to make a difference in one's community, improved career readiness, a better understanding of what those in the work place do, a stronger resume with good networking connections and a better understanding of the community and the problem the community faces (Beere, Votruba and Wells 2011: 28).

Barber (2012: 1869) together with the Association of American Colleges and Universities believed that it is timeous for higher education to provide knowledge and skills that are essential in developing critical thinkers and engaged communities. In this regard Barber (2012: 1869) stated that universities need to institutionalize the notion of engagement, especially university/community engagement, which should become sustainable, and intensified. Community engagement and visioning have proved useful for environmental education because it makes communities feel responsible and empowered to take action, towards their vision for a better community, by raising their awareness of critical environmental issues (Assadourian 2017: 03). Butin (2012: 01) supported this notion, adding that such changes that have taken place in higher education worldwide over the past few years can be referred to as a revolution and should be intensified. The emergence of such a

knowledgeable society as per Jowi (2012: 49) is a major development for all societies and universities.

Beere, Votruba and Wells (2011: 30) posited that engaging with communities has the following positive benefits for higher education institutions viz. it helps faculty be relevant and to keep content up to date; keeps faculty aware of the relationship between what they are teaching and the real world; provides powerful examples to discuss in the classroom; provides novel research ideas, provides participants and research sites; and provides consulting opportunities. The community also benefits from projects and programmes that community engagement initiates (Beere, Votruba and Wells 2011: 30). More particularly eco-justice projects have tremendous potential for communities and students to learn more about eco-justice principles and towards becoming better empowered to take on eco-justice issues (Boonzaaier 2015: 01; Jowi 2012: 49).

Data gathered through the developmental effort within this study, will contribute significantly towards creating an eco-justice model that can be incorporated into the Health Science curriculum nationally. This is the crux of the current study. This will not only strengthen students' educational preparedness but strengthen their ability to become engaged with issues of national and international significance. Eco-justice projects in general and community engaged conservation projects specifically, contribute to protecting of all species (Boonzaaier 2015: 01; Butin 2012: 01). This can be achieved by community meetings, focus groups, interviews and case studies with community members, community association bodies, community consultation and participation, newsletters and websites, and volunteering (Russell: 2008: 13 and Tindana *et al* 2007). In this way community engagement will act as the vehicle for eco-justice.

Most importantly this is the first South African doctoral study at a national level to focus on community engagement and eco-justice within the context of Health Sciences. It has tremendous potential to advance community engagement in Health Science teaching, learning and research. The model will serve as a guide to enable academics to infuse eco-justice into community engagement activities at universities. Such activities will enhance the mutually beneficial relationship between universities and communities to take action regarding eco-justice issues.

## **1.12. AIM OF THE STUDY**

The aim of the study was to develop an eco-justice model that will guide community engagement in Health Sciences.

## **1.13. OBJECTIVES OF THE STUDY**

The objectives of the study were:

1. To explore how Health Science academics and students conceptualize eco-justice and community engagement.
2. To inquire about how eco-justice can be promoted through community engagement activities in Health Science education.
3. To explore how faith-based organizations conceptualize eco-justice.
4. To explore the views of leaders of faith-based organizations with regard to how they may partner with universities to promote eco-justice.
5. To develop a model to guide eco-justice activities as part of community engagement in Health Sciences.

## **1.14. THE RESEARCH QUESTIONS THAT GUIDED THE STUDY**

The questions that guided the study were:

1. How do Health Science academics and students conceptualize eco-justice and community engagement?
2. How can eco-justice be promoted through community engagement activities in Health Science education?
3. How do faith-based organizations conceptualize eco-justice?
4. What are the views of leaders of faith-based organizations with regard to how they may partner with universities to promote eco-justice?
5. What should be the major components of an eco-justice model for Health Sciences?

### **1.15. THE RESEARCHER'S INTEREST IN THE STUDY**

The researcher is a senior lecturer in nursing education. Prior to joining nursing education, the researcher was a nurse in the Department of Medicine. It was during these years of clinical practice that the researcher was confronted with numerous patients who presented with medical conditions that were linked to environmental causes. These conditions ranged from asthma, allergies, hypertension, rhinitis, chronic pulmonary airways disease, cancers etc. It was of interest to the researcher when she noticed that a large number of elderly males from the Amajuba (Newcastle) district presented with chronic pulmonary airways disease and lung cancers. Investigations revealed that many of these patients worked in the Amajuba coal mines. Consequently, it was the high levels of asbestos and other pollutants that were the possible cause of their conditions, as evident on X Rays and CT scans findings. The patients, their families and the community members had no knowledge of the environmental toxins or its effect on health. Furthermore, they had received no education or information in this regard. The researchers noted that the current nursing curriculum had no engagement with communities that spoke to eco-justice and the consequences of a lack of eco-justice. The researcher noticed an impact on health due to the above. It was through this that the researcher's interest grew in relation to health, the environment and community engagement.

In addition, the researcher has a deep interest in the field of spirituality. The researcher has completed a Master's study on spirituality in nursing. She found that through this study spirituality has a component called eco-spirituality, which sees the environment and earth as a life sustaining gift from our Creator, which needs to be protected and preserved for the future generations. It was this that inspired the researcher's interest in eco-justice and health. After reviewing literature, the researcher felt that this study would be of benefit to Health Sciences.

## 1.16. THE STRUCTURE OF THE STUDY

The structure of the thesis comprises of seven chapters.

**Chapter One:** Chapter one introduced the purpose and rationale for the study. The aim and the objectives of the study were also outlined. Bowers eco-justice theory as a theoretical framework to guide the study was introduced.

**Chapter two:** Chapter two comprises of the literature review on-eco justice and community engagement.

**Chapter three:** In chapter three the study design and research methodology are introduced. Given that the primary aim is to design a new intervention for dissemination, the developmental research paradigm will be used as the research design. This paradigm allowed for the use of qualitative research approaches to collect data. The latter both cohere with the objectives of the study. The reader will be introduced to four sets of samples in three phases. viz:

- Academics from the faculty of Health Sciences, DUT.
- Faith based community leaders in KwaZulu-Natal
- Health Science students from the faculty of Health Sciences, DUT.
- An expert group made of DUT academics from Health Sciences, DUT, and post graduate students from Health Science, DUT. These participants were not part of the main study.

The procedure for data collection and analysis is also discussed. This is followed by a discussion on the ethical considerations related to the study. Data analysis took place in four phases. Data was collected using interviews and focus group discussions. Qualitative data analysis using thematic data analysis was applied. The same process was used for all four samples of the study to analyse the data.

**Chapter four:** Chapter four will present the data and a discussion of findings made.

**Chapter five:** The Eco-justice Model will be presented in this chapter.

**Chapter six:** The guidelines for utilizing the eco-justice model makes up the content for chapter six.



**Chapter seven:** Chapter seven is the concluding chapter. The conclusions of the study will be presented. The limitations of the study and recommendations for further research are also presented.

## **1.17. CONCLUSION**

According to Lozano *et al.* (2017: 13) there is an urgent need to move, from researching and developing objectives or aims to the actual integration of sustainable development in the university curriculum. Hence academics should address the delivery stage and focus specifically on relevant pedagogical approaches that enable the acquisition of student competences. This study focused on developing a model to guide community engagement in Health Sciences by using developmental research (Braun and Clarke 2006: 77; Delport, Fouche and Schurink 2011: 473). In addition, qualitative research methodology guided the study. The same process was used for all samples of the study. Data was collected until saturation. Data derived from these participants was collectively and used to develop an eco-justice model for Health Sciences. The broad aim of eco-justice is to explore how through engagement, the dignity and health of all human beings can be maintained while preserving the socio-ecological environment that sustains all life (Vaughan-Lee 2013: 01).

## CHAPTER TWO

### THE LITERATURE REVIEW

#### 2.1. INTRODUCTION

*The well-being of humankind on a thriving earth, an earth productive of sufficient food, water fit for all to drink, air fit to breathe, forests kept replenished, renewable resources continuously renewed, non-renewable resources used as sparingly as possible so that they will be available to future generations for their most important uses. On a thriving earth, providing sustainable sufficiency for all, human well-being is nurtured not only by the provision of these material necessities but also by a way of living within the natural order that is fitting: respectful of the integrity of natural systems and of the worth of nonhuman creatures, appreciative of the beauty and mystery of the world of nature (Gibson in Hessel 2004: 83).*

The literature review is a critical summary of research on a topic of interest, often compiled to put a research problem into context, allowing the researcher to constructively critique previous research (Brink, van der Walt and Van Rensburg 2018: 57; Grove, Burns and Gray 2013: 97; Polit and Beck 2012: 97). A literature review is a systemic and explicit approach to the identification, retrieval and bibliographical management of independent studies for the purpose of locating information on a topic research (Brink, van der Walt and Van Rensburg 2018: 57; Polit and Beck 2012: 732). A literature review trails a sequence of events that includes finding, reading, understanding and forming conclusions about the published scholarly research and theory on a particular topic (Brink, Van der Walt and van Rensburg 2018: 57). Such a process maps out what is already known about the topic, the methodologies used, and it forms a basis of comparison that serves to support or inform the topic (Brink, Van der Walt and Van Rensburg 2018: 57; Grove, Burns and Gray 2013: 97). Additionally, a literature search prevents the duplication of a previous study, helps discover the current theorising about the subject/s and identifies the most recent empirical findings (Polit and Beck 2012: 124). Chapter two of the study reviewed salient literature in the areas of eco-justice, health and community engagement.

## 2.2. THE LINK BETWEEN ECO-JUSTICE AND HEALTH

The linkages between eco-justice, health and human rights are explicit (Brown 2017: 01; O'Donnell 2015: 01). Muhammad *et al.* (2014: 31) argued that eco-justice is a prerequisite for health as the absence of a healthy and nourishing environment creates situations in which human health and well-being cannot thrive. White (2013: 06) defined eco-justice as the principle of being fair or equitable with regard to ecological sustainability and the protection of the natural environment, as well as social and economic issues. In addition eco-justice as illustrated above attests to the need for the establishment of protected areas that is sustainable for nature, communities and the economy (Saxe 2013: 30).

Hence eco-justice shows concerns for the natural world and for human life; and recognizes that the devastation of the environment and socio- economic injustice go hand in hand (Vaughan-Lee 2013: 01; Hessel 2007: 04). Eco-justice is further premised on the view that environmental and human rights are indivisible (Hessel 2007: 04). Brown (2017: 01) and Hessel (2007: 04) agreed that the vision and values of eco-justice ethics, express a spiritually grounded moral posture of respect and fairness toward all creation, both human and nonhuman. O'Donnell (2015: 01) added that the ethics of eco-justice are shaped by religious insights and scientific knowledge, interwoven with social, economic and political experience. The central themes in eco-justice include health, social well-being, environmental conservation, community education and community engagement (Vaughan-Lee 2013: 01; Hessel 2007: 04).

In keeping with the concept of social well-being, health is a fundamental human right of each individual (Brinks 2014: 144). The Ottawa Charter emphasized certain prerequisites for health and well-being, which include peace; adequate economic and social resources; food and shelter; a stable ecosystem and sustainable resource use (Brinks 2014: 144). According to Muhammad *et al* (2014: 31) the recognition of these prerequisites highlights the inextricable links between social and economic conditions, the physical environment, individual cultural lifestyles and health. These links according to the WHO provide the key to a holistic understanding of health which is central to the definition of health promotion (Muhammad *et al.* 2014: 31).

Several scholars concurred that humans depend on the natural environment and the services provided by the ecosystem for survival (Brown 2017: 01; O'Donnell 2015: 01; Vaughan-Lee 2013: 01). Therefore, humankind as they form part of the environment must be considered when discussing eco-justice (Vaughan-Lee 2013: 01; Vaugh and Hart 2017: 02). These ecosystem services according to Brown (2017: 01) and Barnard (2012: 04) can be used in either a consumptive and/or non-consumptive manner and they can provide human beings with subsistence and/or commercial benefits. Therefore, the dynamic and complex components involved in conserving ecosystems are influenced by equally dynamic and complex human activities (Brown 2017: 01; Vaughan-Lee 2016: 02; Barnard 2012: 04).

### **2.3. DAMAGE TO THE NATURAL ENVIRONMENT BY HUMANKIND AND ITS EFFECTS ON HEALTH**

The 2001 United Nations annual report on population and environmental change began with an analogy regarding preserved footprints of early human ancestors, made over three and a half million years ago, found in Tanzania (Hawkins 2010: 68). The report further stated that, our human footprints affects every part of the planet and that over a short course of history, humans have altered the balance of nature, changed the world's climate, and threatened the sustainability of Earth itself. The report concluded that the greatest challenge of the 21<sup>st</sup> century is to address the resultant ecological calamity caused by humans before, the very environment that sustains humankind is destroyed (Hawkins 2010: 68).

A research report by the International World Wildlife Fund (WWF), introduced an index that listed 10,380 populations of 3,038 species of mammal, bird, reptile, amphibian and fish from around the globe (WWF 2014: 136). The findings lent caution that since 1970, the planet has experienced a 52% loss in these species (WWF 2014: 136). Further, this index found that the world's freshwater species has dropped by 76% in that same time span (Lupinacci and Happel-Parkins 2016: 120). These alarming statistics, come amidst an ongoing debate among scientists as to whether the designation of our current time period, the Holocene (meaning entirely recent), is outdated, and whether Anthropocene (combining human with the new) might be a more accurate identifier (Lupinacci and Happel-Parkins 2016: 120).

Despite the continued contestations, scientists and academics concurred that “human-kind has caused mass extinctions of plant and animal species, polluted the oceans and altered the atmosphere, among other lasting impacts” (Lupinacci and Happel-Parkins 2016: 120; Hawkins 2010: 68). The effects on health and education are now becoming urgent (Barnard 2012: 04).

Mclver, Kim, Woodward, Hales, Spickett, Katscheriamn, Hashizume, Honda, Kim, Idding, Naicker, Bambrick, McMichealm and Ebin (2016: 207) reported that the WHO in collaboration with health departments in thirteen Pacific island countries (Cook Islands, Federated States of Micronesia, Fiji, Kiribati, Marshall Islands, Nauru, Niue, Palau, Samoa, Solomon Islands, Tonga, Tuvalu, and Vanuatu) recognized the need for education and research, that would create an awareness on the state of the ecosystem and man’s responsibilities in this regard. Considering this, Mclver *et al.* (2016: 208) conducted a climate change and health vulnerability assessment and an adaptation planning project, between 2010 and 2012. The aim of the project was to assess the vulnerabilities of Pacific island countries, with regard to the health impacts of climate change and possible strategies to minimize such threats to health (Mclver *et al.* 2016: 208).

A combination of quantitative and qualitative techniques which included descriptive epidemiology, time series analyses, poisson regression, and spatial modeling of climate and climate-sensitive diseases was used (Mclver *et al.* 2016: 208). Findings of the study revealed that a changing climate has significant and diverse impacts on human health (Mclver *et al.* 2016: 208; Hanna (2013: 02; Hanna and Mclver 2014: 182). The identified climate-sensitive health risks were as follows: trauma from extreme weather events, heat-related illnesses, compromised safety and security of water and food, vector-borne diseases, zoonoses, respiratory illnesses, psychosocial ill-health, non-communicable diseases, population pressures, and health system deficiencies (Portier *et al.* (2010: 06; Mclver *et al.* 2016: 208).

Amidst this context, the WHO conducted an international climate change risk assessment (CCRA) which involved the creation of five outcome specific models to estimate future climate change attributable health effects and future annual mortality rates (WHO 2014: 05). The following health models were used: coastal flooding mortality, diarrhoeal diseases, malaria, dengue fever and undernutrition (WHO 2014: 05). The impact on health is projected for the

years 2030s to 2050s under climate change scenarios compared to the time periods 1961 to 1990 (WHO 2014: 05). The regions assessed included Asia, Europe, America and Africa (WHO 2014: 05). The findings were that climate change is projected to have substantial adverse effects on human health. In addition, an estimated 250 000 more deaths per year, due to climate change within 2030 to 2050, was predicted as compared to mortality rates from 1961 to 1999. The most substantial impact of climate change is projected to be caused by undernutrition and infectious diseases due to climate change and food shortage (Portier *et al.* 2010: 06; Campbell-Lendrum, Manga, Bagayoko and Sommerfeld 2015: 02).

“When compared to a future without climate change the following additional deaths are projected for the year 2030; 38 000 due to heat exposure in the elderly, 48 000 due to diarrhoea, 60 000 due to malaria and 95 000 due to children undernutrition” (WHO 2014: 01). By 2050 deaths, related to heat exposure (over 100 000 per year) are projected to increase (WHO 2014: 01). The results are envisaged to be greater in lower socio economic countries with sub-Saharan Africa projected to have the greatest burden of mortality impact, attributed to climate change by 2030 (The Interagency Working Group on Climate Change and Health (2010: 06; WHO 2014: 05). These results have implications for the linkages between climate, health and sustainable development objectives (Portier *et. al.* 2010: 06; WHO 2014: 05).

A study by Waldron (2016: 09) examined community member’s perceptions of health risks and psychological stresses associated with environmental toxins in the Nova Scotia region, with the aim of creating strategies that will improve health and maintain eco-justice. A total of 60 community members within Nova Scotia were recruited using purposive sampling. A total of 12 focus groups of five participants per group were conducted. Findings were that 30 out of the 65 waste sites that are in close proximity to community dwellings were health risks (Waldron 2016: 11). These sites were found to be attracting vectors of diseases and contaminated water sources (Waldron 2016: 11). In addition, it was noted that chlorine was used in high concentration to clean the water (Waldron 2016: 11). Significant findings were that community members in close proximity, had died due to cancers, skin disease, allergies, digestive problems, decreased immunity, changes in brain reflexes, liver diseases and kidney diseases (Waldron 2016: 11). Recommendations from the study were that an eco-justice model, together with legislation and policies, was urgently needed (Waldron 2016: 25). In

response a water monitoring work group project in collaboration with community members, was initiated to address such health risks (Waldron 2016: 25).

In another study, Schewe *et. al.* (2014: 2345) found that daily living depends critically on certain prerequisites. These daily prerequisites include enough water and food for human health and survival (Schewe *et. al.* 2014: 2345). This requires that a sufficient amount of water must be drawn from rivers, lakes, and groundwater aquifers daily (Schewe *et. al.* 2014: 2345). Schewe *et. al.* (2014: 2345 and Waldron 2015: 33) noted that freshwater is a vital natural resource that humans need for health, drinking, sanitation, agriculture etc. Schewe *et. al.* (2014: 2345) cautioned however that climate change poses a major threat to water security because of changes in precipitation and other climatic variables. He reported that modest global warming has the potential to lead to a severe reduction in water by about 8% to 17% of the global population. This combined with population growth will expose a significant fraction of the world population to chronic or absolute water scarcity (Waldron 2010: 40; Schewe *et. al.* 2014: 2345; Waldron 2015: 05). This requires urgent community education and intervention from the various private and public stakeholders, as it impacts on health, if clean water is threatened (Schewe *et. al.* 2014: 2345).

Brown (2017: 01) and Portier *et al.* (2010: 01) expressed that the increased implication of climate change adds to the complexity of eco-justice. Additionally, Portier *et al.* (2010: 01) acknowledged that future generations cannot live quality lives, without understanding their place as part of the natural world; and without caring for earth, which sustains and governs existence. In this vein Brown (2017: 01) stated that as the earth gasps for life, so do men, women, and children who experience the health and lifestyle effects of fossil fuel extraction. Alarming the results of rising sea levels, increased heat waves, droughts, floods, storms, food insecurity, and violence continue to increase (Portier *et al.* 2010: 01; Brown 2017: 01). Consequently, a new understanding of progress and existence needs to emerge; one that is not targeted at Gross Domestic Product (GDP) index, but one which considers the health and well-being of earth, humans, and future generations (Portier *et al.* 2010: 01; Brown 2017: 01).

Hence economic, social, cultural, and ecological concerns must all be considered concurrently, as we are not faced with two separate crises, one environmental and one social, but rather a single complex crisis which is both social and environmental (Brown 2017: 01;

Portier *et al.* 2010: 06). Hence an integrated approach to prevent poverty, maintain human dignity, promote health and at the same time protect nature is critical strategies that must be developed (Portier *et al.* 2010: 08). Such strategies call upon institutions of higher education and community institutions to join the fight to protect the environment (Jacob *et al.* 2015: 03). Such a mind-set will contribute to the protection of the environment and will become an integral part of daily existence, thereby contributing to eco-justice (Brown 2017: 01; Portier *et al.* 2010: 11).

## **2.4. MEASURES TO PRESERVE AND PROTECT THE NATURAL ENVIRONMENT**

Brown (2017: 01) and Fisher, Smith, Brown, Wakely, Little, Wakely, Hudson and Squires (2018: 42) stated that in order to promote eco-justice, various strategies need to be considered. Brown (2017: 01) added that capitalistic policies which disregard environmental standards or circumvent environment standards must end and funding for policies and projects that cause environmental harm must be withdrawn. Instead funding for a green climate should be increased (WHO 2007: 182; Brown 2017: 01). In addition, carbon emission must be reduced and fossil fuels should be kept in the ground (Brown 2017: 01). Finally, the real effects of fossil fuels and extractive industries need to be highlighted and food security and sovereignty should be promoted (Brown 2017: 01). Jacob *et al.* (2015: 05) concurred and added that these strategies are aligned with the goals of the World Federation of Colleges and Polytechnics (WFCP) and the United Nations University (UNU). The WFCP and UNU is a network of national and international higher education associations, that focuses on strategic planning and best practice initiatives that contribute to sustainable development (Jacob *et al.* 2015: 05). Also, the UNU is an international institution with branches and network campuses in thirteen countries (Jacob *et al.* 2015: 05). The overarching objective of the UNU is to contribute to global sustainable development, which will enable the present and future generations to enjoy good health, live peacefully and have safe lives (WHO 2007: 182; Jacob *et al.* 2015: 05; Brown 2017: 01).



Acknowledging the risks to health caused by climate change, the WHO's Regional Offices for the Western Pacific and South-East Asia developed a joint *Regional Framework for Action to Protect Human Health from the effects of climate change in the Asia-Pacific Region* (WHO 2007: 182). This framework mandated all countries in the region to increase educational awareness of climate change and health, to strengthen the capacity of health systems to protect against climate-related health risks and reduce greenhouse gas emissions in the health sector, and to ensure that health problems were addressed in climate action in other sectors (WHO 2007: 182; McIver *et al.* 2016: 208). Specific actions in the framework included supporting formalized climate change and health vulnerability assessments and leading the health sector's contribution to national adaptation planning processes in the region (McIver *et al.* 2016: 208). Adaptation measures, according to McIver *et al.* (2016: 208) included legislative and regulatory public education and communication, surveillance and monitoring, ecosystem intervention, infrastructure development, technological and engineering responses, medical intervention and research. These responses required from health departments are presently incorporated into National Climate Change and Health Action Plans (NCCHAPs). Presently, domestic policy documents on sustainable development and health are in various stages of finalization and implementation across the Pacific island countries participating in this regional project (McIver *et al.* 2016: 208).

These measures include ensuring that health and safety considerations are incorporated across sectors, improving safety and security of food and water, improving sanitation and hygiene facilities, increased resourcing for health emergency risk management, climate-proofing key health and safety infrastructure, enhanced surveillance targeting climate-sensitive diseases and their risk sources, research on climate-sensitive diseases, improved communication pathways between the health sector, meteorology services and other stakeholders, including trialing and evaluating climate-based early warning systems (McIver *et al.* 2016: 208).

According to Jacob *et al.* (2015: 01) institutions of higher education are seen as key institutions who can contribute to educating communities about environmental damage such as water scarcity and therefore, introducing communities to the need for eco-justice. Fisher *et al.* (2018: 42) agreed that through engaging with the community, students gain a better appreciation of their future potential role in health promotion and disease prevention as

graduate health professionals. Additionally, students became more aware of issues related to eco-justice, healthcare and service delivery (Schewe *et al.* 2014: 2345).

## **2.5. UNIVERSITY-COMMUNITY ENGAGEMENT: A PARADIGM SHIFT TOWARDS ECO-JUSTICE**

Martusewicz, Edmundson and Lupinacci (2011: 01) stated that rather than providing education on how to reproduce a particular culture that we know is doomed to failure, we need to educate students on what it means to live differently on Earth. Due to the growing prioritization towards protecting the earth Turner (2015: 08) asserted that such education should include an understanding that any perpetration against non-human life is just as unjust, as a perpetration against human life. Martusewicz, Edmundson, and Lupinacci (in Turner 2015: 08) wrote that an ecological crisis must be seen as a cultural crisis in the way people have learned to think and therefore behave in relation to various life systems. Hence a paradigm shift is needed whereby people learn to think differently about their relationships with the natural world (The Interagency Working Group on Climate Change and Health 2010: 60; Turner 2015: 08). Such an undertaking requires education, including humanities-based education, critical thought, cultural analysis, historical perspective and understanding of how discourses influence us (Turner 2015: 08).

As a society, human beings must learn to critically evaluate the cultural influences, values, ideologies, and narratives that they draw upon to understand themselves with reference to the world (Turner 2015: 08). In addition they must learn to recognize their behaviour and thinking as constitutive of meaning, and they must adopt positive, nourishing, and sustainable approaches to the world, in order to preserve both nonhuman and human life (The Interagency Working Group on Climate Change and Health 2010: 60; Turner 2015: 08).

### **2.5.1. Collaboration between universities and communities to promote eco-justice**

Amidst this, there is growing support for academic institutions to move away from academic elitism and intellectual isolation in favour of education, community engagement and civic

responsibility (Adamuti-Trache and Hyle 2015: 74). Such a transformation is consistent with the Kellogg Commission Report (1999: 05) which advocated that engaged universities must engage with their communities, by being responsive to community needs, by being willing to increase community accessibility and by integrating its service mission with other responsibilities. This led to several international higher institutions of learning, embracing the idea of community and university collaboration (Adamuti-Trache and Hyle 2015: 74).

Jacob *et al.* (2015: 01) described community engagement as “sustainable networks, partnerships, communication media and activities between higher education institutions and communities at local, national, regional and international levels”. Such engagement activities may follow a formal or informal structure (Jacob *et al.* 2015: 01). According to Bowers (2018: 37) and Jacob *et al.* (2015: 01) community engagement creates a symbiotic relationship, whereby communities form the human resources that are needed by higher institutions to foster their purpose. In return higher education systems educate students who consequently fill established businesses and fill employment vacancies in their own society (Bowers 2018: 37; Jacob *et al.* 2015: 01). While higher education traditionally focused on research, innovation and teaching and training, a third function that has emerged is community development and civic responsibility (Duke 2008 in Jacob *et al.* 2015: 01; Bowers 2018: 37).

Lli and Wang in Jacob *et al.* (2015: 243) stated that there is an interwoven relationship between teaching, research and service missions in Chinese higher education institutions. This according to Lli and Wang (in Jacob *et al.* 2015: 243) is referred to as a three legged stool analogy, where each leg represents one of the three key missions in Chinese higher education institutions. McNall, Barnes-Najor, Brown, Doberneck, and Fitzgerald (2015: 08) stressed the need for greater collaboration between universities and communities. This engagement would be aimed at solving such social problem (McNall *et al.* 2015: 08). It should focus on problems facing humanity in the 21<sup>st</sup> century such as climate change (McNall *et al.* 2015: 08).

Bartkowiak-Theron and Anderson (2014: 03) and Bowers (2018: 37) found that community engagement embraces values, and actions that support authentic partnerships whilst maintaining mutual respect and active, inclusive participation. Such participation lays the foundation for power-sharing and equity, mutual benefit or finding the win-win possibility and

flexibility in pursuing goals, methods, and time frames to fit the priorities, needs and capacity of communities (Jones and Wells 2007: 409 in Bartkowiak-Theron; Anderson 2014: 03). Bowers (2018: 37) emphasized that such values of respect and fairness are also relevant to eco-justice.

### **2.5.2. The role of the university in promoting community engagement**

Community engagement exemplifies the critical role of universities towards eco-justice (Green 2016: 45). It red flags the importance for local, national and international communities and industries and highlights their role in taking the traditional university from the manufacturer of workforce and creator of knowledge towards a community engaged university that also nurtures cultural and socio-economic vitality and bio psychosocial health (Bowers 2018: 37; Bartkowiak-Theron and Anderson 2014: 03). As a consequence, such engagement brings together community, industry and public service inputs and solidifies them with the intellectual horsepower of the university (Lavery, Tinadana, Scott, Harrington, Ramsey, Ytuarte-Nunez and James 2010: 281; Bartkowiak-Theron and Anderson 2014: 03). Hence universities are not seen as isolated agents of knowledge generating and transforming information, but as co-agents, working in collaboration with its partners toward economic and social development (Lavery *et al.* 2010: 281; Green 2016: 45; Lozano *et al.* 2017:13).

Engagement in higher education is done through various teaching and learning initiatives such as student placement, projects or workplace internships to name a few (Barry 2014: 05; Bartkowiak-Theron and Anderson 2014: 07; Lozano *et al.* 2017:13). These initiatives are envisioned to assist students with obtaining future employment, developing a sense of social responsibility, helping the student become knowledgeable and becoming active citizens of their local environment, their nation and the international world, and promoting a healthy sustainable nation (Bartkowiak-Theron and Anderson 2014: 07; Lozano *et al.* 2017:13). Such engagement and community-service-learning is an inclusive educational paradigm, which marries thought and action, reason and emotion, education and life; and does not divorce an individual from their social and natural context (Barry 2014: 05; Saltmarsh and Zlotkowski 2011: 245).

Community engagement should also ascribe to the principles of mutual benefit and reciprocity; open, clear, trusting communication and feedback mechanisms; collaboration in the co-development of research design, process and outcomes; understanding systems and structures that govern the operations of the partnering organizations and focus on capacities that each stakeholder can contribute to the partnership (Bartkowiak-Theron and Anderson 2014: 77; Saltmarsh and Zlotkowski 2011: 290). The benefits of this partnership can contribute to the overall health and well-being of local communities (Kolopack, Parsons and Lavery 2015: 02; Lozano et al. 2017:13).

Furthermore, when universities embrace engagement with communities they can benefit from various institutional activities, policies and structures which can be referred to as indicators of engagement (Saltmarsh and Zlotkowski 2011: 290). These indicators are as follows: pedagogy and epistemology such as a course with community-based components; faculty development such as teaching methods to employ reflexive teaching methodology; enabling mechanisms such as accessible structures that assist with community organization contact; internal and external resource allocation e.g. funding, faculty roles and rewards which could be the recognition of scholarly activities; discipline and interdisciplinary department that penetrate the institutions academic core, a community voice that allows community input, administrative and academic leadership, and mission and purpose that supports community engagement (Saltmarsh and Zlotkowski 2011: 290).

## **2.6. UNIVERSITY–COMMUNITY ENGAGEMENT WITHIN A GLOBAL CONTEXT**

Internationally, the mission of the United States of America's higher education institutions has always had the preparation of effective citizens as its core value (Jacoby and Associates 2009: 01). For as long as there have been colleges and universities in the country, American universities and colleges have been committed to a curriculum that has civic engagement as a priority responsibility for its peoples' well-being (Jacoby and Associates 2009:01). It is clear that American universities have always been involved in preparing students as responsible citizens (Jacoby and Associates 2009: 01). However the past three decades have seen higher education experts and social activists challenge colleges and universities to assume

leadership roles, in addressing the alarming problems that face societies globally and begin assisting societies to meet growing human needs, which include a need for an environment that supports and promotes health (Jacoby and Associates 2009:01).

Saltmarsh (2017: 03) found that in the United States of America (USA) and other countries globally collaborative efforts have shaped community engagement which is also referred to as civic engagement and the engagement of community citizens in community matters. As a positive outcome such relationships are grounded in reciprocity, mutual respect, shaped authority and the co-creation of goals and outcomes (Saltmarsh 2017: 03). Breere, Votruba and Wells (2011: 216) wrote that the Commonwealth of Kentucky became the first state in the USA to create a public policy that supported the involvement of the state's six universities in local and regional community engagement initiatives. Critical issues covered in the legislation included allocation of funds, accountability of universities and advisory committees (Breere, Votruba and Wells 2011:216).

### **2.6.1. The building blocks of community engagement**

Similarly Engaged Australia (in Bartkowiak-Theron and Anderson 2014: 06) agreed that university-community engagement is built on the foundation of a mutual exchange of knowledge and skills between universities and their multiple communities. Additionally, such engagement is based on universities acknowledging community values, culture, knowledge and skills, and a commitment to partner with those communities to foster mutually beneficial activities (Engaged Australia 2014 in Bartkowiak-Theron and Anderson 2014: 06). Such engagement projects and programmes should support the integration of engagement into learning and research activities by ensuring that engaged research is designed and managed as a partnership that address both academic and community priorities (Engaged Australia 2014 in Bartkowiak-Theron and Anderson 2014: 06).

Also, programmes need to be socially inclusive and managed in partnership with communities and must seek to produce engaged citizens including students and graduates (Engaged Australia 2014 in Bartkowiak-Theron and Anderson 2014: 06). In this context the community engaged learning lab is a university-community partnership between the Queensland University of Technology and the communities in the surrounding areas (Bartkowiak-Theron

and Anderson 2014: 06). Saltmarsh (2017: 03) stated that through such collaboration, community-based projects that are carried out can assist communities with real social problems; which include health problems that result from poor environmental control. As a consequence, students gain knowledge and skills; hence there is co-creation of knowledge and community improvement (Bartkowiak-Theron and Anderson 2014: 54).

Jacob *et al.* (2015: 14) agreed adding that initiatives in Asia also support community engagement programmes within higher education institutions. Jacob *et al.* (2015: 14) noted that one of Asia's higher education programme includes the Community-based Research and Social Responsibility in Higher Education project which was developed for knowledge generation and sharing (Jacob *et al.* 2015: 14). Such a partnership amongst universities, communities and government policy makers has the potential to develop new capacities, and new solutions to problems related to sustainability and social and economic disparities (Jacob *et al.* 2015: 14).

### **2.6.2. Higher education institutions as a catalyst for community engagement**

In support of community-university engagement, the health department of Dublin (Ireland), invested two million euros to relocate the dispersed Dublin Institute of Technology to become a catalyst or anchor institutions next to a massive medical centre (Soska in Jacob *et al.* 2015: 121). Similarly, in Northern Ireland a major community and economic regeneration project relocated the suburban University of Ulster in Belfast to a down town area of Belfast, with the aim of putting the downtown troubled community of Belfast on the correct path of new socio-economic growth (Soska in Jacob *et al.* 2015: 121).

This model of universities acts as a catalyst or anchor institutions and engines of community development and provides a vital path for the future of university-community engagement. According to Jacob *et al.* (2015: 121) such universities serve as facilitators, leaders and conveners in community engagement and community development. As a consequence, anchoring partner universities can channel their education and research towards the promotion of capacity building and the development of wellness projects (Soska in Jacob *et al.* 2015: 121). Furthermore, anchored universities are rooted and invested in their

communities well-being and therefore take on an active role in community development and community engagement (Soska in Jacob et al. 2015: 121).

Jacob *et al.* (2015: 15) stated that higher education institutions in China, are also becoming more global with regard to community development, cultural diversity and exposure. Participants from a recent survey in Shandong University in Jinan, China noted that environmental sustainability and environmental health was amongst the top concern and priorities for higher education community engagement (Jacob *et al.* 2015: 15). With the increase in the number of Chinese students studying abroad, the amount of community engagement exposure they gain, can have a positive impact on how they view engagement and sustainable development in their host communities (in Jacob *et al.* 2015: 15).

### **2.6.3. The impact of community engagement on student development**

A qualitative study by Nicholas (2017: 26) used purposive sampling to explore the perceptions of academics (n=10) who utilized community engagement and work-integrated learning (WIL) at a New Zealand Institute of Technology. The study also explored academics perceptions of the value and impact of community engagement using WIL. Findings from the study revealed that the New Zealand Institute of Technology does co-ordinate community engagement, which has enhanced student confidence when conducting WIL (Nicholas 2017: 26). Despite such progress all participants advocated greater access to WIL networks, expertise, best practice and related policy information, which they believed would further enhance student development and community empowerment WIL (Nicholas 2017: 26).

A mixed method study by Fisher *et al.* (2018: 42) at a Newcastle university investigated the impact of the community engagement on students' rural health placement experiences; from students and academics perspectives. Students (n = 96) were surveyed, using semi-structured questionnaires, whilst semi-structured interviews were conducted with academic staff (n =15). About half (47%) of the students 'strongly agreed' that they obtained valuable professional experience and 65% 'agreed' or 'strongly agreed' that it led to changes in their professional practice. Students reported an improved ability to communicate (70%) and engage with vulnerable community groups (62%) thus contributing to augmenting their knowledge and skills on health issues. A total of 75% of students either 'agreed' or 'strongly



agreed' that participation in a community engagement programme increased their knowledge of the social determinants of health. It was concluded that students gained an appreciation of the health care needs and priorities of the community and their perspective on how they could contribute to the health and well-being of the community was broadened (Fisher *et al.* 2018: 42).

In addition, academics from the above mentioned study reported, that their students gained generic knowledge about the context in which health care is delivered to specific societal groups and students were getting used to community engagement programmes. This was evident as almost half (43%) of students found community engagement to be an enjoyable and rewarding experience which enhanced their life experience and thus contributed to them becoming more confident in their health professional roles (Fisher *et al.* 2018: 45). Therefore, the following themes emerged: building confidence and showing motivation; expanding professional practice capabilities; and better understanding the nature of rural practice. Interviews with academics found that community engagement programmes strengthen and build on students' pre-existing capabilities. In addition, it was recommended that academic staff should work to intentionally develop learning opportunities that would benefit the students' future practice and broaden their professional skills (Fisher *et al.* 2018: 42).

## **2.7. UNIVERSITY–COMMUNITY ENGAGEMENT WITHIN A SOUTH AFRICAN CONTEXT**

In 2010, The South African Human Sciences Research Council (HSRC) conducted a survey on community engagement amongst five South African public universities to identify the degree and forms of interaction of South African universities with external partners (Luescher-Mamashela, Favish and Ngcelwane 2015: 205). The University of Cape Town's (UCT) approach to collaboration with its external social partners included distinctive features such as a clearly articulated and senate endorsed guiding policy and conceptual framework (Luescher-Mamashela, Favish and Ngcelwane 2015: 205). Unlike other public institutions influenced by HEQCs conception of community engagement, UCTs notion of social responsiveness included an intentional connection of teaching, learning and research with

regard to the public good, by means of partnership with external, non-academic partners such as local communities, community-based organizations, non-profit organizations, firms, government and development agencies (Luescher-Mamashela, Favish and Ngcelwane 2015: 205). According to their community engagement policy, in order to aid the distinction between a true community engagement activity and other activities that purely relates to teaching, learning and research, the following criteria ought to be applied:

- The activity should be linked interactively to an identifiable group within a community outside/inside the institution.
- Interaction should be actively linked to identifiable needs of both the university and the community, meaning that a clear benefit for both the community and the university must have been identified.
- The interaction should be a sustained activity conducted within a mutually defined relationship/partnership (Community engagement policy: North West University in Luescher-Mamashela, Favish and Ngcelwane 2015: 205).

In addition to the above criteria Biven, Haffenden, and Hall (2015: 19) stated that a framework for community- university research partnership should include four components. These include (1) policy: where university policies must recognize the existence and value of many types of knowledge within and outside universities, (2) infrastructure: staffing, funding, stakeholders and community help desks must be available, (3) main streaming in teaching and research: engagement activities need to be linked with curriculum and training resources being available, and (4) accessibility: group activities should be allowed to happen on campus and partnership research should be published as open access.

Favish, McMillan and Ngcelwane (2012: 37) stated that there is consensus among universities in South Africa with regards to the common elements that characterise community engagement. Favish, McMillan and Ngcelwane (2012: 37) and Favish, Ngcelwane, Schmidt and Perez (2013: 204) advocated community engagement strategies such as service-learning, clinical service, continuing education courses, and the collaborative production of popular educational materials. They also stated that community engagement activities should have an intentional public purpose and should form part of a broader notion of the social responsiveness of universities (Favish, McMillan, and Ngcelwane 2012: 37; Favish, Ngcelwane, Schmidt, and Perez 2013: 204).

Biven, Haffenden, and Hall (2015: 19) further stated that a valuable starting point is to illuminate core values and principles that must guide the engagement journey. They were of the view that values and principles are fundamental to institutionalizing and guiding community engagement in higher education. In this vein a qualitative study conducted by Bhagwan (2017: 171) across six universities in South Africa found that there were six core values and four principles that were valuable in steering community engagement at South African universities. The core values identified were social justice, integrity, inclusivity, trust, respect and care. These core values are also embedded within the Higher Education Academy's Framework (2015) for student Engagement through Partnership, which identified nine scholarly values viz. "authenticity, inclusivity, honesty, reciprocity, empowerment, trust, courage, plurality, and responsibility" (Healey, Flint, Harrington, 2016: 06).

Participants in Bhagwan's (2017: 171) study included members of executive management, members from the directorate of community engagement and members from the office of community engagement (Bhagwan 2017: 171). Findings revealed that the following seven aspects were important to institutionalizing community engagement: philosophy and mission of the university (each university should reflect, conform to, and support the vision, mission, and community engagement), institutional support (support from Vice Chancellor and other executive members), involvement of academics, institutional awareness (communication both on and off campus on what community engagement means), student involvement (courses on engagement for all undergraduate students) and community partnerships to disseminate knowledge to communities. She concluded that South African universities are moving steadily towards community engagement and with time and commitment the institutionalisation of engagement can be achieved.

Bhagwan (2017: 171) also sought to understand how community engagement was conceptualised by academics and community engagement administrators, at six selected South African universities. A total of 33 academics involved in community engagement and administrative members who were part of community engagement offices were interviewed (Bhagwan 2017: 171). The study found that academics defined and conceptualised community engagement in diverse ways across different higher education institutions (Bhagwan 2017: 176). Participants from Bhagwan's (2017: 171) study stated that community engagement is characterised by twin operational contexts; which are the community and the

university, and is an interaction between faculty, students, and administrators. Furthermore, participants were of the view that community engagement is about engaging for change, mutuality and reciprocity, co-designing solutions with communities, co-creation of knowledge and understanding indigenous knowledge (Bhagwan 2017: 176). Jacob *et al.* (2015: 13) agreed that although community engagement was a diverse but crucial concept, its contribution to health and community empowerment must be encouraged nationally and internationally.

Mitchison (2018: 02) reported on a Veterinary Professional Life community project in which a group of 60 veterinary science students implemented a community engagement project, in collaboration with Orange Valley community. The students who were split into four large groups of 15 students implemented an interactive project which focused on hands-on horse care skills and research into making horse halters from recyclable materials such as old T-shirts (Mitchison 2018: 02). Community member engaged with the students in planning and implementing the project and were committed to continue with the project (Mitchison 2018: 02). Both students and the community reported benefiting from the practical skills they had learned whilst working with each other (Mitchison 2018: 02).

The University of Pretoria developed a university-community plan, which proposed an anchor strategy, where the university worked with communities to upgrade and develop the community which regard to adapting to urban living (Hendricks and Flaherty 2018: 106). Similarly, Stellenbosch University, engaged in an integrated 'town and gown' development initiative with aimed at healthy living, community empowerment and community development related to safe real estate development (Van Heyningen in Bringle and Hatcher 2007: 79). Both communities have been recently been declared as 'innovation cities' that are now steering community development and empowerment (Bringle and Hatcher 2007: 79).

## **2.8. UNIVERSITY–COMMUNITY ENGAGEMENT AND ITS IMPLICATIONS FOR HEALTH**

Jacob *et al.* (2015: 288) and The Interagency Working Group on Climate Change (2010: 06) cautioned that the failures of health science universities to assume social responsibility, will result in moral and social poverty and the deterioration of health, as society battles with the

escalation of cancers, HIV and communicable diseases. As a result of awakening to them, an increasing group of scholars at universities are now acting to promote the health and well-being of their communities and enriching students learning and interaction with local neighbourhoods (Jacob *et al.* 2015: 288).

Jacobs *et al.* (2015: 13) wrote that many government reforms globally have revitalized how health care professionals are trained to include community engagement. For example, the Brazilian governmental policies on higher education in health began initiating community engagement (Jacobs *et al.* 2015: 13). In this regard the government of Brazil restructured federal universities by implementing a programme in support of plans for the expansion and restructuring of federal universities (REUNI), towards community engagement in Health Sciences (Jacob *et al.* 2015: 13). This called on higher education institutions to deliver a more interdisciplinary and team orientated approach to course work, including a health care curriculum that focused on community engagement that aimed to meet the social needs of society (Jacob *et al.* 2015: 13). Jacob *et al.* (2015: 13) stated that there needs to be a manuscript of policies and legislation that will move the traditional university toward civic engagement especially in Health Sciences. Such policies and legislations would need to be developed at a local, regional and national level (Saltmarsh 2017: 26; Jacob *et al.* 2015: 13). However, there is a need for the accumulation of knowledge, insight and vision to be put to the service of the community (Saltmarsh 2017: 26).

Urgent demands for enhanced graduate employability provided further impetus for university-community partnerships (Jacob *et al.* 2015: 13). For this reason, higher education institutions globally are now responding to the expectations of governments, employers and students for a curriculum that prepares graduates for work through the use of work-integrated learning (Sachs and Clark 2017: 85). The term work-integrated learning encapsulates a range of experiential education approaches such as cooperative education, internship, practicum and service-learning (Sachs and Clark 2017: 85). Sachs and Clark (2017: 85) concluded that in this way students are connected to the world of work and the community; through a partnership between academic institutions and workplaces. Amongst American Health Science universities and medical schools, there has been a similar re-awakening to social responsibility of the health professionals (Jacob *et al.* 2015: 288).

Heeding this call the University of Morelos in Mexico has had a positive impact on the health and well-being of its local community (Jacob *et al.* 2015: 289). According to Jacob *et al.* (2015: 289) this university is affiliated to a local church and is based on religious values. As part of the outreach spirit, the Faculty of Health Sciences in conjunction with La Carlota, created a community health centre (Jacob *et al.* 2015: 289). The facility was developed to facilitate health and healing, preventing disease, train students to facilitate their understanding of social needs and to develop research projects that address community needs (Jacob *et al.* 2015: 289). Students, faculty members and community leaders' e.g. religious leaders formed the core of the collaboration and strategic development of this centre (Jacob *et al.* 2015: 289).

## **2.9. UNIVERSITY-COMMUNITY ENGAGEMENT AS A VEHICLE FOR ECO-JUSTICE EDUCATION**

The term "education for sustainable development" (ESD) and community education related to the environment entered the academic vocabulary after the 1992 Rio Earth Summit, leading to formal (e.g. classroom-based) and informal (e.g. student activities) education for environmental justice (Iverson 2015: 24). Furthermore, sustainability comprises three dimensions: environmental, economic, and equity with environmental discussions; focusing on the reduction of negative human impact on the ecosystem (Iverson 2015: 24). Educating about this trilogy of sustainability is described as eco-justice education, an emerging model for analysing the intersections within social well-being and ecological violence (Iverson 2015: 24).

There is increasing awareness that higher education institutions, are part of a larger ecosystem and they have as much to learn from the community, as communities can learn from them (Longo and Gibson 2016: 70). Several higher education institutions are responding to the climate crisis by supporting climate change curricula for university students (Wachholz, Artz, and Chene, 2014: 128; Fahey, Labadie and Meyers 2014: 44). Current studies focus on bringing eco-justice into the classroom, specifically in the sciences where it can challenge hegemonic assumptions (Mueller 2011: 352; Martusewicz, Edmundson and Lupinacci 2011: 01). Similarly, eco-justice education emphasises the importance of community service-learning, including community revitalization that offers alternatives and answers to ecological

and social crises that communities face daily (Parker 2016: 09; Glasson 2011: 327). Eco-justice education goes beyond learning about environmental or social justice and sustainability issues by encouraging students to critically analyse the contexts and complexities of their lives and lifestyles within their own communities and the world at large (Parker 2016: 09).

The central theme in maintaining eco-justice and community well-being includes community education, community engagement and environmental conservation (O'Donnell 2015: 01). Griswold (2017: 08) concurred adding that in order to facilitate such transformative learning and positive change, community-based education and engagement should embrace eco-justice education. In this way the field of community-based education can serve as a catalyst for eco-justice education (Griswold 2017: 08). Griswold (2017: 08) went on to say that the goal of eco-justice education is to develop a community capable of creating a healthy and equitable existence for all. Furthermore, eco-justice education orientates existing community education to address sustainable development; which in turn develops community understanding, awareness, and training specific to eco-justice (Griswold 2017: 08). Such education, Griswold (2017:08) added is education which prepares communities to be far-seeing enough, flexible enough and wise enough to contribute to the regenerative capacity of the physical and social systems upon which we depend for community well-being and health.

De Leon and Ross (2010: 29) stated that eco-justice allows students and community members in collaboration with local stakeholders to identify and critically discuss eco-issues in their communities. Hence community education and community engagement becomes more powerful when made relevant to personal understandings and relationships and learning to protect the places we love is most likely when those places are studied in all their living complexity, rather than dispassionately or as an abstraction (De Leon and Ross 2010: 29). Furthermore, community-based education, regarding such human activities and eco-justice has the potential to relocate classrooms outside by asking students to see themselves and their learning as a necessary part of the immediate community surrounding them (Mitchell and Mueller 2011: 19). In agreement Lowenstein, Martusewicz, and Voelker (2010: 103) identified community engagement within an eco-justice education model, as engaging university students in identifying serious problems in their communities, analysing the roots of those problems and creating healthy relationships with each other in the context of our immediate

ecosystems. “Together, eco-justice education and community-based learning asks students to engage in learning that is intellectually rigorous, emotionally engaging, ethically charged, and spiritually fulfilling” (Lowenstein, Martusewicz, and Volker 2010:104).

For this reason eco-justice education requires academics, students and communities to focus their attention on the local places where they live and to consider which activities, beliefs, and practices in their own communities contribute to the support of living systems, and which do not (Lowenstein, Martusewicz, and Voelker 2010:103). Iverson (2015: 24) and De Leon and Ross (2010: 29) concurred adding that academics, students and community engagement in particular, should allow students to examine social and ecological problems that they may see in communities. When eco-justice education is used in this context, local communities and students can identify and engage their communities' assets, which may include all types of intergenerational knowledge and skills held by community stakeholders, that could help them address identified eco-justice problems, that will in addition contribute to community health and community well-being (Lowenstein, Martusewicz, and Voelker 2010: 103).

Lowenstein, Martusewicz, and Voelker (2010: 103) went on to add that stakeholder and community input can be facilitated at many levels: (a) through expert mapping exercises to document local knowledge on the location of habitats, species and specific uses and activities; (b) by involving local stakeholders/experts in development of objectives and goals; and (c) by soliciting input on the location of zones. Vera (2012: 04) stated that facilitating input from local stakeholders and experts allows for greater awareness, support and ownership of the plan, thereby improving the chance of compliance. According to Marsh, Kamuya, Rowa, Gikonyo and Molyneux (2008: 725) the main goals of community engagement include strengthening the partnership with key stakeholders; promoting adherence with good clinical practice and ethical guidelines for research and ensuring long term sustainability of the programme. Community input into research is therefore a consultative process which through social interaction with local residents can strengthen the understanding of ways, in which ethical principles can be put into practice (Marsh *et al.* 2008: 731).



## 2.10. THE ROLE OF FAITH-BASED LEADERS AS STEWARDS OF ECO-JUSTICE.

Justice for all human beings is a fundamental tenet of all major religions irrespective of how and if it is achieved (Hattingh 2013: 02; Tiede 2016: 03). Concurrently such justice should extend to the earth in the same way, as it extends to its human inhabitants (Hessel 2007: 04; Hattingh 2013: 02). This justice can also be called eco-justice (Hattingh 2013: 02). When viewed through this lens eco-justice can be regarded as the condition or principle of being just or equitable with respect to ecological sustainability and protection of the environment, as well as social and economic issues (Hattingh 2013: 02).

### 2.10.1. Eco-justice and spirituality

Eco-justice therefore encapsulates a spiritually grounded foundation that acknowledges fair treatment and justice for all of creation (Hattingh 2013: 02; Hessel 2007: 04; Tiede 2016: 03). In addition, eco-justice is shaped by religious insights and scientific knowledge, interwoven with social, economic and political experience (Hessel 2007: 04). Hessel (2011: 02) and Hattingh (2013: 02) noted that religious faith can make a valuable contribution to eco-justice. While science can offer value free guidance, religious communities can be the link, that provides what science lacks, a value-laden, unified understanding of creation, humankind, and our obligations as stewards of the Earth (Hessel 2011: 02).

#### ➤ The Hindu faith-based community

*“Ether, air, fire, water, earth, planets, all creatures, directions, trees and plants, rivers and seas, they are all organs of God’s body. Remembering this, a devotee respects all species.” (Srimad Bhagavatam 2.2.41)*

Tiede (2016: 02) affirmed that the Hindu religion calls for human beings to take action that will reduce the environmental crisis facing the world. He added that all Hindus believe that all organisms and nature are strongly connected and that if we hurt nature, we are therefore hurting humans (Tiede 2016: 06). The effect of global warming has already damaged

countless parts of nature, which includes forests, plants, rivers etc. that are held as sacred for healing of body and mind by Hindus (Tiede 2016: 02). This environmental damage affects human health and holistic healing (Tiede 2016: 02).

➤ **The Christian faith-based community**

*“The earth will not continue to offer its harvest, except with faithful stewardship. We cannot say we love the land and then take steps to destroy it for use by future generations.” (Pope John Paul 11).*

Pope Francis from the Roman Catholic church asserted that when nature is only seen as a form of profit and gain, the consequences are harsh for societal health and well-being (Tiede 2016: 02; Rocha 2012: 11). The Christian faith thus also added their view, that high environmental temperatures and pollution leads to health risks (Van Aken 2012: 01; Tiede 2016: 02). Tiede (2016: 02) and (Rocha 2012: 11) said that according to the Christian faith, Christians are called upon by God to care for all of creation. Since God created everything; God’s creation is perfect (Rocha 2012: 11). According to Rocha (2012: 11), God has given man the mandate to control and protect the earth hence it’s a sin to mistreat Gods creation. Instead, humans are supposed to be the caretakers of the universe (Van Aken 2012: 01; Rocha 2012: 11; Hand and Crowe 2012: 14).

➤ **The Islamic faith-based community**

*“The earth is green and beautiful and Allah has appointed you as his steward over it. The earth has been created a place of worship, pure and clean. Whoever plants a tree and diligently looks after it until it matures and bears fruit is rewarded.” (Sahih Hadith Bukhari & Muslim)*

The Quran also acknowledges that plants are an indispensable source of nutrition that supports health (Vincenti 2016: 104). In addition, Islam also holds the view that water is an extremely valuable life supporting element, hence any form of wasting, pollution and contamination is strictly unacceptable (Vincenti 2016: 102). According to Islam, by saving the planet and nature, humans also save themselves (Vincenti 2016: 26; Rocha 2012: 11). This gave rise to emerging eco-justice movements that promote eco-justice (Vincenti 2016: 26).

From this standpoint two contemporary international movements called “eco-Islam” and “greening of Islam” has striven to demonstrate that faith-based institutions, have the ability to educate and mobilize communities towards fighting against global ecological injustice (Vincenti 2016: 36). According to Vincenti (2016: 95), Islamic teachings have cautioned against excessive exploitation of the planet, as the planet sustains health and well-being. This is illustrated in the Holy Quranic verse, “the land and its soil guarantee sustenance and livelihood not only for humans but also all other creatures” (Vincenti 2016: 95).

In this vein Rocha (2012: 02) stated that faith-based institutions can be described as the most organized and the largest social network of members, where members can be harnessed to achieve immense behavioural and attitudinal changes with regard to how to live responsibly for human well-being and coexistence with nature. Since more than ninety percent of Africa’s population identifies with a faith group such institutions are influential and can contribute to steering eco-justice initiatives (Rocha 2012: 02).

#### **2.10.2. Faith-based leaders as advocates of eco-justice**

The Union of Concerned Scientists stated that “we must recognize the earth’s limited capacity to provide for us” (Tiede 2016: 03). Tiede (2016: 03) and Tucker and Grim (2016: 10) also recognized earth’s fragility and cautioned against allowing our earth to be ravaged. Tiede (2016: 03) stated that since scientists are aware of the enormity of our ecological situation, the Union of Concerned Scientists has requested the cooperation of academics, scientists, business leaders, community leaders and religious leaders to join the battle to help save the planet for future generations. In a review of communities who champion community engagement initiatives, Hattingh (2013: 02) stated that faith-based institutions can promote community engagement, eco-justice, and related research through their spiritual values and large congregation. Tiede (2016: 03) went on to add that faith-based leaders are vital stakeholders as they have a large influence within communities.

Furthermore faith-based advocates have a comprehensive view of the world, a strong sense of environmental justice in the face of increasingly inequitable distribution of wealth, spiritual motivations for living with limits, and a sense of caring for a sacred earth (Hessel 2011: 02).

Hence the concept of sustainability resonates with religious traditions (Hessel 2011: 02; Hattingh 2013: 02; Rocha 2012: 02; Hessel 2007: 04). Hence religious environmental activists have advocated for the responsibility of humankind, to conserve resources, protect biodiversity, and to respect all; both human and nonhuman (Hessel 2011:02; Hattingh 2013: 02; Rocha 2012: 02; Hessel 2007: 04).

Additionally, faith-based leaders advocate environmentally responsible public initiatives and policies, and faith-based leaders are willing to nurture members through the difficulties of the eco-justice journey (Hessel 2011: 02). The commitment to eco-justice, is common to all religions worldwide (Tiede 2016: 02). In order to promote respect for creation, most American faith-based communities' teachings are informed by insights from the natural sciences and these teachings are rooted in sacred religious texts (Hessel 2011: 02). Over the last decade there has been have a surge in the role of faith-based institutions in supporting eco-justice (Vincenti 2016: 26). In this vein faith-based communities have continued to emphasize eco-justice as they believe that eco-justice is expected from all who claim to care for creation (Hessel 2011: 02; Rocha 2012: 02).

## **2.11. FAITH-BASED LEADERS AND HIGHER EDUCATION INSTITUTIONS AS PARTNERS TO PROMOTE ECO-JUSTICE**

Following this mind-set O'Donnell (2015: 01), found that faith based institutions provide a critical re-vitalization of our relationship to nature's unique sacredness and therefore higher education institutions, should partner with them in driving eco-justice education. According to O'Donnell (2015: 01) and Vincenti (2016: 95) communities and most students of higher education, have affiliations to faith-based institutions. In addition, Crowe (2013: 75) found that the inclusion of spirituality and religious insight in education, links students to their meaning systems. This Crowe (2013: 75) found provides students with an authentic learning experience, which increases students' knowledge about earth's environment and encourages stewardship thereof. Thus, the integration of spirituality and religious traditions in education offers an alternative approach to curricula (Crowe 2013: 76).

Hence the purpose of taking eco-justice to universities and faith based communities is to increase knowledge and awareness about earth's environment and its potential scarcity (De Leon and Ross 2010: 29). Additionally, universities can assist in teaching skills that will lead to actions that will ensure its protection (De Leon and Ross 2010: 29). Furthermore faith-based communities provide a powerful influence on the worldview, values, attitudes, decisions and behaviour of people and societies at large; both positively and negatively (Sponsel 2007: 02). Through this lens what a person regards as sacred or spiritual, is more likely to be valued and protected (Sponsel 2007: 01; Bielefeld and Cleveland 2013. 442). Lowenstein, Martusewicz, and Voelker (2010: 103) affirmed that taking eco-justice education to universities creates an approach to pedagogy and curriculum, that asks academics and students to make relevant the places, people, living creatures, and ecosystems that students are a part of and helps them to see the harm done by not acknowledging the interconnectedness among all.

Tiede (2016: 03) stated that the call to religious leaders was to establish a coalition between the academic world, science and religion, hence creating a new ethic regarding religious environmentalism, as well as, help us understand the importance of engagement and eco-justice. This would reinforce the notion that every human being has a responsibility, to do all they can to reverse environmental crises (Tiede 2016: 03). Rocha (2012: 02) went on to investigate the importance of faith-based leaders and faith-based institutions as critical stakeholders in driving eco-justice. Rocha (2012: 02) found that faith-based institutions are the largest worldwide network of community members, who can harness great behaviour and attitude change in communities. This was evidenced when a total of 123 faith-based leaders in Ghana collaborated to work towards earth stewardship (Rocha 2012: 02). These faith-based leaders in Ghana established the "Faith in Action Programme" which is responsible for eco-justice community engagement programmes and other eco-justice educational programmes (Rocha 2012: 02).

In this vein Chen, Dolmat, Golman and Siedschlag (2010: 04) added that a Santa Barbara coalition of diverse faith institutions developed the Eco Faith project. The Eco Faith project has 21 faith communities and aims to educate and encourage communities to adopt environmentally sustainable lifestyles (Chen *et al.* 2010: 04). In addition, the Eco Faith project, works towards partnerships with broader communities to promote eco-justice which

will as a result, contribute to social well-being (Chen *et al.* 2010: 04). Similarly, Hill (2016: 13) interviewed thirteen environmental activists in Los Angeles, to determine their perceptions on social movements where they would like to see more on eco-justice. A majority of the participants stated that they use faith as a source of inspiration for their work (Hill 2016: 13). In addition, participants added that the communities of faith, served as a place to network and recruit activists for their environmental work (Hill 2016: 13). A further five interviews in Los Angeles by Hill (2016: 13) with Theology academics and Christian activists found that all participants saw eco-justice as part of their religious mission.

According to Tucker and Grim (2016: 05), the collaboration of faith-based leaders with universities to promote eco-justice is gaining momentum. Many faith-based institutions are heeding the call to reduce carbon footprints on our planet (Tucker and Grim 2016: 05; Schmitz 2016: 19; Rockstrom and Klum 2015: 01). In order to do so organisations, such as the Interfaith Power and Light group and Green faith have recognized the need for urgent education on eco-justice and the value that academic scholars and universities can add to addressing these challenges (Tucker and Grim 2016: 05). Such collaborations have taken the form of courses, where faith-based institutions in partnership with academics are developing and improving eco-justice related course work (Tucker and Grim 2016: 05). Tucker and Grim (2016: 05) added that a forum referred to as the Religion and Ecology was developed at the Monash University in Australia in the year 2011. Subsequently a course on this topic was replicated across North America and internationally with vibrant groups that focus on scholarship in this area (Tucker and Grim 2016: 06).

Additionally, a list of peer reviewed journal, with contributions from faith-based leaders has been published e.g. the Journal for the study of Religion, Nature and culture and Worldviews: Global Religion, Religion and Ecology (Tucker and Grim 2016: 05). Hence the field of religion and ecology is developing within academia with faith-based institutions and universities promoting scholarship to drive eco-justice and community engagement (Tucker and Grim 2016: 07). This urgent role of religious bodies and institutions is duly recognized globally and requires religious bodies to live up to responsibility as God's stewards of His creation (Rocha 2012:10; Bielefeld and Cleveland: 2013: 442).

## **2.12. PROMOTING ECO-JUSTICE THROUGH COMMUNITY ENGAGEMENT ACTIVITIES IN HEALTH SCIENCES**

Within the context of higher education, eco-justice reconnects students and individuals to their own local communities, to shared relationships within neighbourhoods, landscapes, and with the more than human creatures, that often go unnoticed as primary sources of knowledge and life-sustaining support (De Leon and Ross 2010: 29). De Leon and Ross (2010: 29) and Adamuti-Trache and Hyle (2015: 74) added that eco-justice allows students and communities, to identify both problems and assets in their neighbourhoods by collaborating with local stakeholders, family members, and elders, as they engage in critical problem solving around issues that matter to them. Hence learning is more powerful when made relevant to personal understandings and relationships, and learning to protect the places we love, is most likely when those places are studied in all their living complexity, rather than dispassionately or as an abstraction (De Leon and Ross 2010: 29).

Mitchell and Mueller (2011: 19) found that many years ago traditional farmers planted by the almanac of the moon and predicted weather by watching the sky and biological signs, such as the thickness of tree bark and animal activities, working with the land in a manner that was nurturing to the earth and sustaining for humans and other species. These farmers did not use modern technologies such as electronics and synthetic chemicals, but understood nature's patterns, cycles and nested systems (Mitchell and Mueller 2011: 193). Hence, Mitchell and Mueller (2011: 193) added that "our history of co-existing with our surroundings is written in the rocks, plant and animal ecology and on the "eco sociocultural fabric" of relationships between humans and other species." In contrast in present times the understanding of patterns in nature is de-emphasized for a human economy based on the exchange of money for material stuff and conveniences of life (Mitchell and Mueller 2011: 196).

Hence eco-justice education through community engagement should be holistic and should emphasize connectivity and the recognition of commonalities among organisms, thus promoting the strength that exists in diversity (Mitchell and Mueller 2011: 196). Additionally, it has the ability to foster respect and care for other humans, for other species and their ecological needs for survival; especially those species whose voices are not being heard

(Mitchell and Mueller 2011: 196). Ecological literacy further acknowledges the need for societies to develop a new understanding and a new awareness of mans' relation to his environment (Mitchell and Mueller 2011: 198). This is necessary to maintain the overall well-being of all creation including the well-being and health of our communities (Mitchell and Mueller 2011: 198; Adamuti-Trache and Hyle 2015: 74).

The purpose of taking eco-justice to universities and communities is to increase knowledge and awareness about the earth's environment, its potential scarcity and the effect it has on health (De Leon and Ross 2010: 29). Additionally, universities can assist in teaching skills, that will lead to actions that will ensure earth's protection (De Leon and Ross 2010: 29; Tanner 2013: 09). Furthermore Rocha (2012: 10); MacQueen *et al.* (2015: 03) and Sponsel (2007: 02) felt that faith-based organizations within communities can provide a powerful influence on the worldview, values, attitudes, decisions, and behaviour of people and societies at large both positively and negatively. Through this lens Sponsel (2007: 02) and MacQueen *et al.* (2015: 03) stated that what a person regards as sacred or spiritual is more likely to be valued and protected.

According to Kulnieks, Longboat and Young (2013: 121) there are some ecologically minded academics and students who seek opportunities to develop such relationships with their communities and the earth. Developing a healthy relationship with earth/environment, as expressed by Kulnieks, Longboat and Young (2013: 121) is essential because of the Earth's gift of water and food that sustains health and well-being. Hence an eco-justice model for students would empower students to assist their communities to develop a connection with the environment and to realize that all human actions impact and depend upon multiple daily interactions with food (Kulnieks, Longboat and Young 2013: 121). It can be concluded that although we depend on the environment to sustain us, some systems of education fail to recognize our reliance on ecological health (Kulnieks, Longboat and Young 2013: 121).

Eco-justice education analyses the destructive effects of a worldview organized by logic of domination and offers lecturers and students ways of responding in their own communities (Lowenstein, Martusewicz and Voelker 2010:102). Such education must emphasise that the world is facing enormous ecological and social problems such as topsoil loss, overfishing and acidification of our oceans, loss of portable water and access to safe food sources, and global



climate change. Furthermore, there is an increasing gap in world-wide control of resources as modern industrial cultures (the United States, Canada, Europe and Japan) representing about 20% of the world's population and enjoy 83% of the world's wealth gleaned from nature and human labour. Conversely, nearly half of the world's human population are forced to work for less than two dollars a day, hardly enough to feed themselves (Lowenstein, Martusewicz and Voelker 2010:102).

MacQueen *et al.* (2015: 09) agreed, adding that the fundamental ethical goal of community engagement in academic research was the protection of communities and community well-being. They stated that collaborative partnerships, with the community minimizes the possibility of exploitation, increases the likelihood that the research will have a long-term impact, and demonstrates an awareness of, and respect for cultural differences between the researchers and communities. Further, ethical goals for community consultation include enhanced protection, enhanced benefits, legitimacy, and shared responsibility for the conduct of the research (MacQueen *et al.* 2015: 21). Within this context, the Carnegie Foundation for the Advancement of Teaching (2015: 01) described community engagement as the collaboration between institutions of higher education and their larger communities for the mutually beneficial exchange of knowledge and resources, in a context of partnership and reciprocity.

In 2008 a colloquium of 33 international academic leaders met in Ohio to discuss civil responsibility and civic engagement in higher education (Saltmarsh, Hartley and Clayton 2009: 02). The primary objective was to develop a forum of both leaders in the community and leaders in higher education, who could collectively identify issues and problems followed by collective engagement and democratic citizenship (Saltmarsh, Hartley and Clayton 2009: 02). Saltmarsh, Hartley and Clayton (2009: 02) stated that the focus of the colloquium was to restore higher education to its original purpose of preparing graduates for a life of involved and committed citizenship. Findings by Saltmarsh, Hartley and Clayton (2009: 02) were that all the academics universally agreed, that nations face serious social challenges and higher education must play a role in responding to such challenges. The evidence of the aftermath of Hurricane Katrina was noted, as it resulted in serious negative health and well-being consequences (Saltmarsh, Hartley and Clayton 2009: 02).

As a positive consequence student/community engagement may result in the development of innovative products such as manuals, curricula, video presentations or websites that document their findings (Ulasewicz and Vouchilas 2011: 01). To this end, it is incumbent on academics and educators, to inspire creative means through which to involve students, recognizing that they are seeking new approaches toward engaging with their local communities and toward fostering relationships which can expand and develop in new and meaningful ways (Ulasewicz and Vouchilas 2011: 01). Furthermore, universities must function as places of research and learning for sustainable development, and as initiators and poles of activity in their communities and nationally (Ulasewicz and Vouchilas 2011: 01).

Environmental education has broad responsibilities to expand consciousness of the need to apply sustainability principles collectively and in our everyday lives (Lowenstein, Martusewicz and Voelker 2010: 102). Such education does not necessarily need to be in the classroom as informal environmental education, such as field work and work experience, can be an effective way of increasing understanding of environmental and sustainability issues, whilst also promoting on-going learning and greater personal involvement in environmental action (Scott and van Etten 2013: 244). This highlights the rationale for community engagement strategies such as environmental volunteering and workplace integrated learning (WIL) to be incorporated throughout higher education courses (Scott and van Etten 2013: 244).

## **2.13. INNOVATIVE COMMUNITY ENGAGEMENT STRATEGIES TO STEER ECO-JUSTICE**

Numerous scholars such as Lli and Wang (in Jacob *et al.* 2015: 243); Hattingh (2013: 02) and Russell (2008: 13) recognized community engagement strategies as necessary and beneficial. Hattingh (2013: 02) concluded that community engagement is positive, as community engagement is able to involve local people in workshops and focus on themes such as equalities and cohesion. Such strategies as per Lli and Wang (in Jacob *et al.* 2015: 243), Hattingh (2013: 02) and Russell (2008: 13) provide community members with the opportunity to work together, liaise with other organisations such as universities; develop community-managed projects; such as community gardens; facilitate community meetings; facilitate research and steer health promotion activity. The United States government also

established the Office of University participation in 1994, in order to steer community engagement (Benneworth, Humphrey, Hodgson and Charles 2008: 04). A report from the Office of University participation developed seven practices which they found to constitute community engagement (Benneworth *et al.* 2008: 04). The seven practices for community engagement were service-learning (service activities as part of course work), service provision, faculty involvement, student volunteerism, community in the classroom (courses for local communities), applied research and major institutional change initiatives (Benneworth *et al.* 2008: 04).

## **2.13.1. Community-based research**

### **2.13.1.1. Research as part of community engagement**

MacQueen *et al.* (2015: 21) stated that community engagement in research has been gaining momentum as a way of improving research and to ensure that community concerns are considered. Similarly, national and international bodies are now recognizing the value of community engagement in research (MacQueen *et al.* 2015: 21; Biven, Haffenden, and Hall 2015: 19; Healey, Flint, Harrington, 2016: 06 and Luescher-Mamashela, Favish and Ngcelwane 2015: 205).

Evidence suggests that research universities are resource rich as they have a large amount of intellectual and human capital; structural support mechanisms; laboratories; academic support facilities and the capital to generate more resources with their prestige (Soria, Mitchell and Nobbe 2016: 02). As such they are able to produce effective service-learning and community-based research. They have an understanding that such service-learning and community-based research should begin with careful planning, student orientation to service-learning and community-based research, reflection on subject matter, getting started and institutional support (Beere, Votruba and Wells 2011: 145).

Strand *et al.* (2003: 08) and Muhammad, Wallerstein, Sussman (2014: 01) who wrote from the perspective of higher education, noted that community-based research is the systematic creation of knowledge that is done with and for the purpose of addressing a community identified need. Hence a new approach to knowledge is used, by validating multiple sources

of knowledge and using multiple methods of discovery and dissemination (Strand *et al* 2003: 08; Hattingh 2013: 02). In this way attention is given to the need for social action and social change in order to advance the interest of social justice (Strand *et al* 2003: 08; Hattingh 2013: 02). This means that community organizations will gain information as part of their efforts to make the necessary changes, improve their programmes, promote their interests, attract new resources, understand their target populations, or in other ways contribute to a social action agenda aimed at improving the lives of people in their communities (Strand *et al* 2003: 13; MacQueen *et al.* 2015: 21).

According to a study by Strand *et al.* (2003: 200) before any community-based research is initiated, the university needs to begin strategic planning regarding:

- How the proposed research project fits into the institutions mission?
- What is the culture of institutions, faculty's belief about scholarship and publications, and institutional rewards?
- What is the nature of relationships between the institution and the community, both past and present?
- What are the communities' priorities and capabilities?
- What are the ways in which students are involved in the communities and what capacities do students possess to engage in collaborative research?
- What are some internal resources such as people, material, networks and finances?
- What is some potential external source of support for the community and university to undertake collaborative research?

In this way community-based research adds to the body of knowledge that in turn contributes to community-based education and community engagement (Strand *et al.* 2003: 200; Muhammad, Wallerstein, Sussman 2014: 01; MacQueen *et al.* 2015: 21). In the twentieth century there has been the emergence of three influences that have pointed towards the need for community-based research (Strand *et al.* 2003: 200; Hattingh 2013: 02). Strand *et al.* (2003: 200) noted that this has been a popular education model that emphasises the involvement of people in educating themselves for social change. Secondly, an action research model uses academics in conjunction with major social institutions and finally a participatory research model emphasises the involvement of people in doing their own

research for social change (Strand *et al* 2003: 200; MacQueen *et al.* 2015: 21, Chevailier and Buckles 2019: 05). The popular education model focuses on community generated needs while the action research model by Kurt Lewin describes an approach that increases worker productivity and satisfaction by democratic relationships (Strand *et al* 2003: 200).

#### **2.13.1.2. Participatory action research.**

Community-Based Participatory Research (CBPR) is an approach to research in which researchers and community stakeholders form equitable partnerships and co-construct research for the mutual and complementary goals of community health improvement, sustainable development and knowledge production (Kindon, Pain, and Kesby 2008: 90; Jagosh, Macaulay, Pluye, Salsberg, Bush, Henderson, Sirett, Wong, Cargo, Herbert, Seifer, Green, and Greenhalgh 2012: 311, Bergold and Stefan 2012: 31; Chevailier and Buckles 2019: 05). Community-based research involves the university and the community, in a reciprocal relationship that aims to assist with local problems and issues (Kim, Franco and Rennick. 2016: 17). According to Beere, Votruba and Wells (2011: 145), it is critical that students from a variety of backgrounds work as a cohesive team where there is a pooling of resources, and collaboration with faculty and relevant community leaders; which results in the understanding of community needs/problems and leads to solutions to critical issues that are important to them as literate and engaged citizens.

Lozano *et al.* (2017: 08) found that the application of participatory action research in educational settings comes from a tradition of transformative critical inquiry and emancipatory pedagogical approaches. In essence, participatory action research is similar to action learning in its communitarian philosophical approach and cyclic, reflexive nature (Lozano *et al.* 2017: 08; Navarro. 2012: 44). However, it emphasizes the collaborative approach of the research and the creation of knowledge by participants, especially non-academic community members who usually would be considered research subjects in a traditional research approach (Lozano *et al.* 2017: 08; Navarro 2012: 44). According to Jacquez, Ward and Goguen (2016: 79) such a research approach recognizes that researchers are equally based in the community and in academia and that they are co-researchers who have their own knowledge and expertise to address real world problems. Through such collaboration social and cultural change can take place as communities affected by the research problem become involved in

the process; as not only do they have knowledge of the problem but they also have possible solutions (Chevailier and Buckles 2011: 33) Jacquez, Ward and Goguen 2016: 79).

Finally, the participatory action research model focuses on the dominant approaches of social research, the possibility of objectivity, and relationships between the researcher and the researched (Muhammad, Wallerstein, Sussman 2014: 01; Lozano *et al.* 2017: 08). The practice of community-based participatory research or participatory action research has evolved over the past two decades with the recognition that health is best achieved, when academic researchers form collaborative partnerships with communities (Muhammad, Wallerstein, Sussman 2014: 01). Despite the above some researchers still cling to the outdated notion that community members cannot contribute meaningfully to science (Lozano *et al.* 2017: 08). Community engagement is however becoming increasingly important in community-based research (Lozano *et al.* 2017: 08). Woolf, Zimmerman, Haley and Krist (2016: 293) found that authentic community engagement encompasses far more than community members as study participants but involves stakeholders as full partners in all phases of research. Such engagement, although challenging, can enhance the quality and impact of studies on many levels, from ensuring that data is relevant to community needs to elevating the ethics of research, by showing respect to vulnerable populations (Woolf *et al.* 2016: 293; Lozano *et al.* 2017: 08).

#### **2.13.1.3. Research on eco-justice**

A fundamental purpose of the 21st century University is to initiate research on critical problems and issues that face our communities and society at large (Munsamy 2013: 82). Such research would promote the application of knowledge to society's problems (Munsamy 2013: 82). By involving university students in this process, students would be able to address these problems through a curriculum that emphasises scholarly work and which would have positive consequences for the student and the community (Munsamy 2013: 82). Furthermore, the need for collaboration and co-operation between universities and their communities has not been greater than now as such initiatives would focus on community problems (Munsamy 2013: 82).

Robbins (2015: 381) stated that research into higher education for sustainable development and problems related to eco-justice, has grown over the last two decades. Such research has

focused on providing sustainability education to future professionals and integrating sustainable development into higher education institutions, including community-based education, community-based research, operations, community outreach, assessment and reporting, collaboration with other universities, making sustainable development an integral part of the institutional framework and on-campus life experiences (Lozano *et al.* 2017: 08).

### **2.13.2. Community engagement and work-integrated learning**

Community engagement and workplace integrated learning (WIL), which are referred to by a variety of names, are key elements in the strategic direction of many international universities e.g. Australian universities, providing a bridge between students' academic work and their professional future (Martin *et al.* 2010: 01). According to Nicholas (2017: 01) work-integrated learning (WIL) is a community engagement strategy that is gaining momentum within institutions of higher education in order to enhance graduate skills, attributes and employability. Lazarus, Oloroso and Howison (2011: 337) and Scott and Etten (2013: 244) found that WIL is an authentic learning strategy that is embedded in the context of the learners and their work environment. Through WIL students are afforded the opportunity to apply theoretic and practical knowledge to practice, whereby what they learn, on campus is applied to the work environment (Lazarus, Oloroso and Howison 2011: 337; Scott and Etten 2013: 244).

Conversely students are then able to apply knowledge and skills from the work environment to university learning (Scott and Etten 2013: 244). In this vein, several institutions of higher education have started rebranding their institutions around WIL (Nicholas 2017: 01). As a consequence the Tertiary Education Commission in New Zealand, has mandated their tertiary educational institutions to provide learning environments that involve projects based on real problems, that simulate the workplace, that create internships, whilst also tracking post study outcomes to inform further programme development (Scott and Etten 2013: 244).

Higher education academics, who believe that teaching must prepare students for the workplace, therefore will recognize students' ability to apply knowledge to practice, as an indication of quality university-based curricula (Scott and Etten 2013: 244). WIL within communities is the strategic direction of many Australian universities, providing a bridge

between students' academic work and their professional future and promoting community engagement as a consequence (Scott and Etten 2013: 244). The Edith Cowan University (ECU) found that WIL engenders in students a sense of community connection and consciousness and environmental awareness (Scott and Etten 2013: 244). Students are given an opportunity to acquire and integrate academic knowledge, skills and experiences in a relevant community setting. Such experiential learning creates a direct encounter with the content that was studied rather than only thinking about the environment, as an abstract concept (Shelton 2016: 62).

### **2.13.3. Community-based learning: Service-learning**

As stated by the National Service-Learning Clearing House, service-learning, is “a teaching and learning strategy that integrates meaningful community service with instruction and reflection to enrich the learning experience, teach civic responsibility, and strengthen communities.” It has also been described as “a form of experiential education where learning occurs through a cycle of action and reflection as students seek to achieve real objectives for the community and deeper understanding and skills for themselves” (Barry 2014: 05). In this process, the student can link personal and social development with academic and cognitive development experiences that enhances understanding (Barry 2014: 05). As university-society relationships strengthen, so has service-learning, as it links students and communities with specific educational and civic goals for both (Thomson *et al.* 2008: 01).

Hence service-learning as part of community engagement has increasingly become a valuable strategy for strengthening both civil society and higher education in the United States of America and Africa (Thomson *et al.* 2008: 01). Service-learning aims to integrate the academic institutions' three core functions of teaching, research and community service (Preece 2013: 115). A great portion of the South African academic literature has therefore been dedicated to service-learning as pedagogy (Preece 2013: 115). Preece (2013: 116) concluded that this approach has been adopted from the United States of America.

According to Beere, Votruba and Wells (2011: 140) service-learning can be described as a course-based, credit bearing educational experience in which students participate in an



organised service activity that meets needs identified by the community and provides reflection on the service activity, in order to gain a better understanding of the course content, a broader appreciation of the discipline, and an elevated sense of personal value and civic responsibility. In addition the office of Service-Learning and Civic Engagement, at Wright State University described service-learning as a “teaching and learning pedagogy that engages faculty, students and community members in a partnership to achieve academic learning objectives, meet community needs, and promote civic responsibility” (Barry 2014: 05). This is congruent with Beere, Votruba and Wells (2011: 140) and Sachs and Clark (2017: 83) who emphasised that for civic learning to benefit the community, it should lead to positive social change, social justice and civic agency. Similarly Sachs and Clark (2017: 83) emphasised that by engaging with the community fully, academics can develop a better understanding of community issues and problems that are of critical concern and community members can develop skills and capabilities that can be used for the improvement of their community (Sachs and Clark 2017: 84) .

Similarly, Choi, Clabough, Eder, Greenbaum and Haas (2016: 01) described service-learning in higher education, as a form of civically engaged pedagogy that takes university students out of their classroom and into communities where students interact with the community in a mutually beneficial manner, while also engaging in instructor-mediated reflection. Instructor-mediated reflection focuses on both critical reflective teaching and individual civic responsibility (Choi *et al.* 2016: 01). Kulnieks, Youngboat and Young (2013: 02) stated that learners can learn about environmental destruction and resultant health problems, through the experiences and the teachings of local elders in the community. Service-learning courses which are built into the academic curriculum, are also designed to promote civic engagement among university students (Billings and Halstead 2015: 01). In creating service-learning programmes Young boat and Young (2018: 02) stated that there is a need to consider, understand and respect the communities’ values if the programme is to lead to social change and social justice.

Billings and Halstead (2015: 01) added that service-learning provides university students with the opportunity to participate in organized service activities that meet community needs while students receive academic credit and are able to reflect on their experiences. In a similar vein Jacoby (2003 in Bowers 2013: 30) defined service-learning as “a form of experiential

education in which students engage in activities that address human and community needs together with structured opportunities intentionally designed to promote student learning and development”. Butin (2010: 02) concurred with Billings and Halstead (2015: 01), adding that a service-learning pedagogy rejects the downward transfer by knowledgeable educators to passive learners. Such pedagogy subverts silent lecture rooms for a scholarship of engagement, where students are connected to their communities for real world learning (Butin 2010: 02).

Williams, Soria and Erickson (2016: 85) wrote that students who participate in service-learning develop skills in critical thinking, moral reasoning, intercultural consecutiveness, psychological well-being and political and social involvement. Trolan, SanGiovanni and Jacobson (2016: 181) noted additional benefits to students who participated in service-learning as the following: moral development, sense of personal efficiency, leadership skills, citizenship skills, commitment to service, academic learning, real world application, career development and satisfaction with higher education experiences. A review of 55 studies that examined diversity outcomes and social engagement by Holsapple (2012:15) found that service-learning is also linked to tolerance of differences, stereotype confrontation, recognition of universality, interaction across differences, knowledge of the served community and a belief in the value of diversity.

#### **2.13.4. Place-based environmental education**

Lozano *et al.* (2017: 08) added that place-based environmental education was another strategy that provides an opportunity for community engagement. They described place-based environmental education as teaching and learning that provides people with knowledge and experience to care for their own environments (Lozano *et al.* 2017: 08). It aims to connect both scientific understanding and emotional attachment within a specific geography, cultivating a richer sense of place in students (Lozano *et al.* 2017: 08). Lozano *et al.* (2017: 08) found that place-based environmental education usually focuses on experiential learning within a specific location and is usually multidisciplinary. Hence students who engage within a community setting have the opportunity to consider their socio-cultural relationship with food, plants and animals, and relationships that have given life and health to the generations that have lived and flourished previously (Kulnieks, Youngboat and Young 2013: 02).

### **2.13.5. Experiential learning**

Conversely, experiential learning takes students into the community, through internships and apprenticeships, trainings, service-learning and advocacy programming, cooperative education, and other workshops (Sherraden, Lough, and Bopp 2013: 07). These activities link field and work experience to students' development (Sherraden, Lough, and Bopp 2013: 07: 30). Such teaching and learning opportunities could or could not have a direct reflection on an academic component, however they are often arranged to align with a student's area of study (Sherraden, Lough, and Bopp 2013: 07: 30).

### **2.13.6. Community outreach**

Community outreach refers to the ability to help a community solve a specific problem while using the opportunity, to provide education and support to communities in respect of the identified issues (Barry 2014: 07). Such an approach draws from local and indigenous knowledge; as well as generalized university-based intervention to assist in solving such identified problems (McNall *et al.* 2015: 09). According to the Northern Kentucky University, community outreach refers to the provision of programmes, services, activities, and or expertise to those outside the traditional university community (Breere, Votruba and Wells 2011: 14). Such university outreach is seen as a one-way service with the university being the provider either on a grant basis or for a prescribed fee (Breere, Votruba and Wells 2011: 14).

Tindana *et al* (2015: 01) identified town hall meetings/community gatherings/meetings/forum, focus group discussions, case studies, fieldwork and in-depth interviews, as ways to reach out to communities and to provide education. According to Tindana *et al* (2015: 01) engaging directly with the target 'community' often involves approaches that promote direct, face-to-face interactions between the research team and the target community. In contrast community meetings would involve fewer people and can target specific groups of people within the larger community (Tindana *et al* 2015: 01). In this way in-depth rich information can be collected (Tindana *et al* 2015: 01). Such information can be utilized to solve community problems such as environmental health problems, and to initiate community engagement projects (Tindana *et al* 2015: 01).

In addition to this, newsletters, websites and videos are simple but effective community engagement tools to reach out to communities (Tindana *et al.* 2015: 01; Tindana *et al.* 2007: 01; Russell 2008: 13). Using such methods can also be beneficial to community engagement, as community members can also be involved in producing such newsletters, websites and videos on community problems (Russell 2008: 13). Russell (2008: 13) also stated that the establishment of community forums can be a platform for community representation and community meetings. These forums can be used to create community task groups and to promote voluntary participation by community members and students (Russell 2008: 13). Such initiatives have the potential to promote community engagement and to empower students and community members (Russell 2008: 13).

#### **2.13.7. Community Association Bodies (CABs)**

The creation of Community Association Bodies (CABs) can additionally serve as a liaison between the research teams and research participants, as they can bring in the voice of the target community and also feedback information about the research to the community (Tindana *et al.* 2015: 01). In this way the CAB model presents opportunities to build trust and improve relationships between the research team and the community, as well as facilitate the recruitment and retention of study participants (Tindana *et al.* 2015: 01). Community engagement in this context provides the opportunity for informing and educating communities about eco-justice and the effects of environmental damage on health (Bowers 2013: 330; Tindana *et al.* 2007; Tindana *et al.* 2015: 01).

In the context of a research study, community engagement allows for the exchange of information between academic institutions and the community (Scott and Etten 2013: 244; Tindana *et al.* 2007; Tindana *et al.* 2015: 01). The university must be able to facilitate a two way communication process with the community (Scott and Etten 2013: 244). This allows for sharing of views, raising questions and the reporting of barriers and challenges (Breere, Votruba and Wells 2011:18). Additionally, feedback needs to be given using open forums, focus groups, emails, discussion boards, feedback cards and telephone access (Breere, Votruba and Wells 2011:18). This empowers communities to contribute to eco-justice

initiatives and projects. Since faith based-leaders are critical stakeholders in communities their role is also important (Tindana *et al.* 2007; Tindana *et al.* 2015: 01).

#### **2.13.8. Student volunteerism**

Another community engagement strategy, that is similar to service-learning is student volunteerism (Sherraden, Lough, and Bopp 2013: 07). Student volunteerism is recognized as part of service-learning but may not involve critical thinking activities or academic learning (Sherraden, Lough, and Bopp 2013: 07). The emphasis of volunteerism has traditionally focused on student learning and the development of citizenship attitudes and behaviours, yet its design has mainly been a response to entreaties for greater engagement from universities, in the reduction of community problems. Universities have traditionally supported volunteerism as a means of creating student's civic responsibility, developing students' life skills and enhancing educational achievements (Johnston, Acker and McQuarrine 2018: 02). Astin and Sax (in Porterfield 2016: 64) concurred that students who participate in volunteer projects develop civil responsibility, life skills and academic skills.

Additionally, it has been suggested that universities have a responsibility to support community engagement for community well-being and for the development of future graduates and citizens (Johnston, Acker and McQuarrine 2018: 02). Volunteerism at universities is associated with the following benefits for students viz. opportunities to develop and practice a range of personal skills, including problem solving and communication; the experience gained can be included on resumes and used to show desirable characteristics to future employers and volunteering is usually associated with enhanced student learning and overall satisfaction with university experience (Johnston, Acker and McQuarrine 2018: 02)

Such involvement also allows students to work with other students from different backgrounds. In this way undergraduate students who volunteer, gain in aspects of racial understanding, commitment to their communities, leadership abilities and social values (Hynes and Nykiel 2004 in Allen 2014: 10). Further, volunteerism undertaken by undergraduate students broadens students' experiences of service and helping others while providing job skills (Johnston, Acker and McQuarrine 2018: 02). Research has found that

exposing students to voluntary projects can change their perspectives of social responsibility, the meaningfulness of life, and their future commitment to community engagement (Reed, Jemstedt, Hawley, Reber and Du Bois, 2005 in Allen 2014: 10).

Johnston, Acker and Mac Quarrie (2018: 06) noted that exposing students to real people in real life settings offers students opportunities, to interact with community members in an authentic setting. Holsapple (2012: 15) reviewed 55 studies in the USA, that examined the effects of volunteerism by students. Holsapple (2012: 15) found that student volunteerism, led to students volunteering willingly in communities after graduation. In addition, students' were able to socialize with persons from different racial or ethnic groups and students' were able to develop a meaningful philosophy of life. In an under privileged rural community Johnston, Acker and Mac Quarrie (2018: 06) observed paramedic students participating in volunteer work. These students were reported to have improved social and communication skills post volunteering (Johnston, Acker and Mac Quarrie 2018: 06). Another group of Austrian paramedic students who cared for elderly community members reported, that they had developed the ability to deal with death and dying, as well as the ability to communicate with the elderly (Johnston, Acker and Mac Quarrie 2018: 06). Overall findings were that volunteering is associated with improved problem solving skills, enhanced leadership skills, conflict resolution abilities and enhanced feelings of self-esteem (Johnston, Acker and Mac Quarrie 2018: 06).

In another study of 191 paramedics from Charles Sturt University, participants had to complete 50 hours of health screening volunteering and work-integrated learning within local communities (Johnston, Acker and Mac Quarrie 2018: 06). Students were subsequently surveyed regarding their experience (Johnston, Acker and Mac Quarrie 2018: 06). A total of 77.3% of participants responded that they felt a sense of civic duty and felt that they had made a positive contribution to the community (Johnston, Acker and Mac Quarrie 2018: 06). A further 67% of participants felt that they improved the likelihood of future volunteering (Johnston, Acker and Mac Quarrie 2018: 06). In addition, all participants agreed that their lecturers were positive and supportive. The best outcome according to Johnston, Acker and Mac Quarrie (2018: 06) was that university lecturers promoted reflection while integrating experiential learning. The main key characteristics of effective university–community relationships was that the engagement was mutually beneficial and important to both partners

while maintaining a student centred philosophy that was grounded by a university strategy (Johnston, Acker and Mac Quarrie 2018: 06).

#### **2.13.9. Community engagement and community-based teaching**

Community-based teaching can be defined as a variety of institutional methods and programmes that academics use to connect what is taught at universities to local communities, and to share such knowledge with such communities (Guerrero 2018: 02). Students who study the environment can raise community awareness regarding damage to environment (Allen 2014: 11). There is also potential for students who are involved in eco-justice projects, to become ambassadors, by promoting and implementing nature conservation measures (Chuen 2010: 03; Allen 2014: 11). This is evident in Hong Kong where several environmental students are involved in eco-justice education (Allen 2014: 11). The Eco-tour Guide Scheme of Hong Kong Wetlands Park is one such programme (Allen 2014: 11). In this programme the message of wetland conservation is delivered by a team of trained student volunteers through narration and tour guiding during weekends and public holidays at different exhibits within the Wetland Park (Chuen 2010: 03).

Iverson (2015: 20) stated that over the last two decades, environmental activism has made inroads into higher education, with an effort to institutionalize environmental sustainability across universities in the United States of America. Efforts ranged from “greening” facilities to “minimize the ecological footprints of universities” to curriculum developments that require “educating about and for sustainability” (Iverson 2015: 20). The latter according to Iverson (2015: 20) stated that education for sustainable development calls for restructuring courses and curriculum to yield “graduates with the personal and professional knowledge, skills and experience necessary for contributing to sustainability. Sustainability of the earth should also extend to the marine environment (Thornton and Scheer 2012: 07).

#### **2.13.10. Community engagement and eco-justice projects**

Community engagement has great potential to advance eco-justice. Examples of community engagement projects include wildlife preservation projects, marine life protection projects,

environmental conservation projects and climate change awareness projects (Iverson 2015: 20). The American Association for the Advancement of Science (AAAS) wrote that more than 97% of climate research has documented that climate change is largely caused by human activities (Zocher 2015: 02). Such human activities run the risks of unpredictable and potentially irreversible environmental and socio-economic changes (Zocher 2015: 02). Additionally the AAAS felt that professional educators and researchers have a civic responsibility to become eco-justice advocates by preparing students and communities to respond quickly in order to lower the risk to all the cost of taking action for the 21<sup>st</sup> Century (Zocher 2015: 02). The essential role that research and science plays in conservation, is widely recognized in the literature and in conservation legislation (Agostini, Grantham, Wilson, Mangubhai, Rotinsulu, Nur Hidayat, Muhajir, Mongdong, Darmawan, Rumetna, Erdmann and Possingham 2012: 02; Hessel 2007: 04). There is however a disconnection between science and conservation in practice, especially in locally-based projects, where the results of ecological research rarely translate to local ethics (Hessel 2007: 04). This is especially true in community-based research conservation efforts, which should attempt to include local communities to create projects that are more equitable and locally relevant (Hessel 2007: 04).

Furthermore, researchers should also develop projects that conserve biodiversity outside designated protected areas (Lipman 2008: 04). In this vein community-based research and conservation is called upon to help translate scientific knowledge into specific action (Lipman 2008: 04). Bridging this gap has been assisted by a new era of scientific endeavours, in which the focus and urgency of scientific work has changed (Lipman 2008: 04). Despite comprising more than 70% of the Earth's surface, marine environments remain among the least understood of ecosystems. Despite this they are increasingly under threat from development, degradation, climate change, and other forces (Thornton and Scheer 2012: 07). In marine biology, an increasing percentage of papers are being devoted to documenting the deterioration and dysfunction of populations, ecosystem and global levels (Lipman 2008: 04). In response additional research is suggested to develop amelioration strategies (Hessel 2007: 04; Lipman 2008: 04).

A lack of local and traditional ecological knowledge is increasingly recognized as an important component of scientific research, conservation, and resource management (Thornton and Scheer 2012: 07). In terms of practical community engagement, the importance of



relationships and trust and respect is emphasized in successful community collaborative projects (Thornton and Scheer 2012: 07). Many researchers and scientists have noted the important role that on-going relationships in a given community play, in community engagement (Agostini *et al.* 2012: 02; Thornton and Scheer 2012: 07). Answering international calls to take action against environmental destruction, loss of species and loss of ecosystems, Shearon (2013: 03) found that Canada was the first major industrialized nation to ratify the Rio Convention on Biological Diversity, at the meeting of world leaders in 1992. As part of its commitment to the conservation and sustainable use of biodiversity, Canada passed the Species at Risk Act (SARA) to offer legal protection to rare species and those threatened by human activities, as well as a framework for the recovery of species at risk of extinction (Moore *et al.* 2016: 01). As of mid-2012, approximately 470 species of plants and animals, have been classified under SARA as being threatened, endangered or of special concern (Ryan 2012: 02).

According to a Canadian national eco-justice survey, Shearon (2013: 03) stated that a large majority of participants (85%) agreed that it was important to protect endangered plants, animals and marine life. These participants (85%) agreed that diverse and abundant populations of endangered plants, animals and marine life play a crucial role in supporting the country's economy and health (Shearon 2013: 03). Shearon (2013: 03) further stated that it's about interdependence, supporting the delicate relationship between economic growth and preserving the ecosystems that sustain this growth, our lives and those of other species. Saxe (2013: 30) added that healthy and intact ecosystems, supply our drinking water, enrich our soil and regulate the climate, providing clean air, water and land that all of humankind needs to survive.

A community-based South African study by Storr (2013: 14) declared that local participation is often a decision point made first in the development process by organizations and institutions outside of communities. These exogenous groups may refer to brief consultations, as participation rather than extensively involving community members in decision-making processes (Storr 2013: 14). Such an approach according to Storr (2013: 14) is common in developing countries and is described as induced or coercive forms of participation that cannot be sustainable since it undermines community empowerment by leaving control over decision-making processes to groups or organizations outside of the community. Also, in

extreme cases it may lead to retaliatory acts of sabotage or vandalism on development structures and natural resources (Storr 2013: 15). To ensure the ethical and scientific quality and outcome of proposed research, its relevance to the affected community and its acceptance by the affected community researchers and trial sponsors should consult communities through a transparent and meaningful participatory process, which involves them in an early and sustained manner in the design, development, implementation, monitoring and distribution of results (MacQueen *et al.* 2015: 13).

Barnard (2012: 12) stated that social-ecological projects are concerned with the well-being of communities and the environment. Therefore, these projects overlap all three spheres of the social-ecological framework and are mapped at the intersection of the human component, its subcomponent of conservation ethics, and the environmental component (Barnard 2012: 12). In addition, eco-justice projects may place ecological success as a priority which can have positive social impacts for communities (Barnard 2012: 14). The Kellogg Commission (2000, 2001) issued a series of reports challenging higher education, to become more engaged with communities through collaborative partnerships rather than as experts with pre-conceived solutions to complex problems. South African academics and higher education institutions have an opportunity to conduct research and develop meaningful and dynamic teaching programmes that promote community engagement and eco-justice (Saltmarsh, Hartley and Clayton 2009: 02). The integration of community engagement, eco-justice and research can result in rich benefits for universities and communities (Saltmarsh, Hartley and Clayton 2009: 02). This can add rich scholarly work whilst promoting community engagement and eco-justice (MacQueen *et al.* 2015: 09).

## **2.14. CONCLUSION**

Washington *et al.* (2018: 06) and Hawkins (2010: 68) argued that humanity is facing a serious predicament due to its own action. As a consequence, there is an accelerating ecocide and mass extinction of nonhuman life on Earth (Washington *et al.* 2018: 06). Such action has been aided by a dominant anthropocentric worldview that denies nonhuman life any value or justice (Washington *et al.* 2018: 06). Academia however has been slow to address the issue of eco-justice, and has focused more on social justice, and environmental

justice just for humans (Washington *et al.* 2018: 06). Even those who acknowledge the intrinsic value of nature often fail to advocate for eco-justice (Washington *et al.* 2018: 06). Instead, they seem to push justice for nature into the periphery of social justice (Washington *et al.* 2018: 06).

Several scholars cautioned that this is unethical and doomed to fail as a strategy to protect all types of life on Earth (Hawkins 2010: 71; MacQueen *et al.* 2015: 09; Shearon 2013: 03; Storr 2013: 14). Hawkins (2010: 68) added that the consequences of failing to recognize and respond to this ecological crisis will result in the destruction of the very environment that sustains human life. Hence it is timeous for health professions and academia to join the call for a new ecological paradigm that integrates eco-justice issues (Hawkins 2010: 71). The literature reviewed provides a snapshot of the interrelated social, economic, health and spiritual factors that need to be considered in the development of an eco-justice model for health sciences specifically.

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1. INTRODUCTION**

A research scholar must draft out a blueprint that will guide the research process. Despite there being an array of research approaches, a researcher must select the research paradigm that best underpins the study objectives (Delpont, Fouche and Schurink 2011: 297). In keeping with the aim of developing an eco-justice model to guide community engagement within Health Sciences, it was necessary to adopt a design that would complement such a model. Chapter three begins with a description of the research methodology chosen to aid in the development of the eco-justice model for Health Sciences. It will describe the research design, the population and samples used in the study, the data collection instruments, the data collection and analysis processes, critical issues of trustworthiness and the various ethical considerations that form the backdrop to this study.

#### **3.2. THE RESEARCH DESIGN**

A research design is seen as the blueprint for conducting a research study (Grove, Burns and Gray 2013: 91). A research design is also a plan of action that outlines how observations will be made and how the study will be conducted (Polit and Beck 2012: 15). Given that the broad aim of the study was to develop an eco-justice model, which would guide community engagement in Health Science, the model would need to engage students and communities synergistically; to understand eco-justice issues. In order to develop a model Delpont, Fouche and Schurink (2011: 473) and Polit and Beck (2012: 15) stated that a research study must follow a research paradigm.

Denzin and Lincoln 1995: 349 and Polit and Beck (2012: 15) defined a research paradigm as the basic belief system or world view that guides the research study. Additionally, Delpont, Fouche and Schurink (2011: 473) stated that a research paradigm is the researcher's frame of reference that underpins a study. Such a paradigm, as stated by Delpont, Fouche and

Schurink (2011: 473) and Polit and Beck (2012: 11) relate to ontology (nature of reality), epistemology (the relationship of the researcher and the phenomenon being researched), axiology (the role of values) and methodology (the research process). Therefore, in the absence of a research paradigm the justification, intent and expectations of research will remain indistinct (Polit and Beck 2012: 15). With this in mind, the developmental research paradigm was chosen, as being most suitable to guide the research process. While the study was conducted using the developmental research paradigm, qualitative research methodology was also used to guide the research process, and more specifically to collect and analysis data. A description of the Developmental Research and Utilization Model is outlined below followed by a description of the qualitative research methodology.

### **3.3. THE DEVELOPMENTAL RESEARCH AND UTILIZATION MODEL (D R and U)**

The Developmental Research and Utilization Model (D R and U) draw its methods largely from the behavioural sciences and the model examines research questions relevant to social welfare (Delpont, Fouche and Schurink 2011: 473). Further the model assists with the creation of empirically based programmes by designing, testing, evaluating and refining social technology (Rothman and Thomas 1994: 20). The Developmental Research and Utilization model (D R and U) is a feature of Intervention research which provides systematic procedures for the designing, testing, evaluating, refining social technology and for the dissemination of empirically based models and programmes (Rothman and Thomas 1994: 20). Since this study aimed to develop an eco-justice model for Health Science, the D R and U Model was chosen.

The D R and U Model comprises of five phases: analysis, development, evaluation, diffusion and adoption (Braun and Clarke 2006: 77; Delpont, Fouche and Schurink 2011: 473). The D R and U model, however, does not require that the developmental process embrace all five phases (Braun and Clarke 2006: 77; Delpont, Fouche and Schurink 2011: 473). The first three phases relate to development, while the last two phases relate to utilization (Braun and Clarke 2006: 77; Delpont, Fouche and Schurink 2011: 473). Delpont, Fouche and Schurink (2011: 473) stated that although utilisation research is an important process for dissemination it is not

a pre-requisite of the development research model. In this study, only the eco-justice model will be developed, and not disseminated. Hence, only the first three phases of the D R and U Model viz. analysis, development and evaluation was operationalized. Since the phases of analysis, development and evaluation were only utilized, this is called developmental research (Delport, Fouche and Schurink 2011: 473).

The phases of the Development Research Model are sequential in nature (Delport, Fouche and Schurink 2011: 473). This implies that the researcher must complete one phase before moving to the next phase (Delport, Fouche and Schurink 2011: 473). Each phase of the Developmental Research Model comprises of two main areas i.e. material conditions and operational steps (Braun and Clarke 2006: 77). The material conditions identify what the present condition is, while the operational steps focus on what needs to be done to address the material conditions (Braun and Clarke 2006: 77). Table 1 below outlines the phases of developmental research, the material conditions, the operational steps and the samples, utilized in the study.

<b><u>PHASES</u></b>	<b><u>MATERIAL CONDITIONS</u></b>	<b><u>OPERATIONAL STEPS OF THE D R AND U MODEL</u></b>	
<b>Analysis</b>	<b><i>The problematic human condition:</i></b> Communities are functioning with little regard for the growing health and environmental problems facing human and nonhuman well-being. Higher education institutions are not engaging with communities (Tanner 2013: 01).	<b><i>What needs to be done:</i></b> State-of-the-art literature: Review on community engagement and eco-justice and health related problems. State-of-the-art literature review on community engagement and eco-justice (international and national). Conduct interviews with Health Science academics. Conduct interviews with faith-based leaders. Conduct focus groups with Health Science students.  Collate data from interviews and focus groups, from relevant stakeholders Analysis of the data from interviews and focus groups using thematic data analysis.	<b><i>Information sources:</i></b> Journals, books, policies etc. on community engagement and eco-justice.  Sample 1: Academics from the Faculty of Health Sciences: Nursing, Homeopathy and Environmental Health (DUT). Sample 2: Faith-based leaders in KwaZulu-Natal. Sample 3: Students from the Faculty of Health Sciences: Nursing, Homeopathy and Environmental Health (DUT).
<b>Development</b>	There is no eco-justice Model to guide community engagement in Health Sciences	Gathering and analysing of information from the analysis phase. Supporting data with literature.  Development of an eco-justice model based on data analysed and supporting literature.	Sample 1: Academics from the Faculty of Health Sciences: Nursing, Homeopathy and Environmental Health (DUT). Sample 2: Faith-based leaders in KwaZulu-Natal. Sample 3: Students from the Faculty of Health Sciences: Nursing, Homeopathy and Environmental Health (DUT).
<b>Evaluation</b>	Evaluation of the eco-justice model by a group of experts in the areas of community engagement and eco-justice.	Appraising the eco-justice model.	Sample 4: Experts who were academics and post graduate students from the Faculty of Health Sciences (DUT). These experts were not part of the main study.

**Table 1: Phases, material conditions, operational steps of the Developmental Research and Utilization Model (Adapted from Rothman and Thomas 1994)**

The phase of the Developmental Research and Utilization Model will be discussed in detail.

### **3.4. THE PHASES OF THE DEVELOPMENTAL RESEARCH AND UTILIZATION MODEL**

#### **Phase 1: Analysis**

According to Rothman and Thomas (2013: 27) and Thomas (1984: 02) phase one of the Developmental Research Model (analysis) embraces the following three material conditions viz. a problematic human condition, state of existing interventions and finally the relevant information and resources available. To understand community engagement in higher education and issues related to eco-justice a comprehensive search of relevant literature was conducted from journals and books. This enabled a state of the art review of current projects and models. A review of the best national and international studies on community engagement and eco-justice was also conducted. This was presented in the literature review of the study and formed a data source in the developmental process. In addition, data from interviews with academics and faith based leaders, and focus groups with Health Science students was conducted, recorded and transcribed. Collectively the data from this phase enabled the developmental phase of the study.

#### **➤ Problem analysis and identification**

A problematic human condition must exist prior to the initiation of any developmental activity (Rothman and Thomas 2013: 27; Thomas 1984: 02). According to Mueller and Tippins (2010: 994) the lands' capacity to feed and sustain humankind's health and well-being is diminishing. If not enough, much of the earth's environment and endangered species is being threatened as global warming, is at its worst (Mueller and Tippins 2010: 993). In response, the Rio Convention on Biological Diversity, at the meeting of world leaders in 1992, called for action against environmental destruction and action against the loss of species and ecosystems (Ryan 2012: 02). The Convention aimed at supporting a global commitment to sustainable development by representing a critical step towards the conservation of biological diversity,



the sustainable use of its components, and the fair and equitable sharing of benefits arising from the use of genetic resources (Ryan 2012: 02). In addition, the adverse effects of climate change and global warming on health was also reviewed (Ryan 2012: 02). Health related illnesses escalated by extremes of climate change were also reviewed and found to be escalating (Mueller and Tippins 2010: 993).

In response to the above there has been a growing impetus for higher education institutions, to work with communities for social responsibility and engagement initiatives that would champion eco-justice (Tondur, Balasubramaniam, Chavarie, Gantner, Knopp, Provencher, Wong and Simmons 2014: 214). Despite a commitment from higher education to work with communities, to reduce such health issues and promote eco-justice, not much progress has been made (Hawkins 2010: 71). Frank, Forsythe, Ellis, Schrandt, Sheridan, Gerson, Konopka and Daugherty (2016: 1033) and Drahota, Meza, Brikho, Naaf, Estabillo, Gomez, Vejnaska, Dufek, Stahmer and Aarons (2016: 163) expressed that if academic institutions were serious about community engagement, then communities could provide first-hand knowledge related to health and environmental issues, thereby increasing community engagement, research relevance, feasibility and eco-justice education.

A search of literature confirmed that there is a lack of understanding of eco-justice and community engagement related to eco-justice, within a South African context (Tippins, Mueller, Eijck and Adams 2010: 02). The need for a community engaged approach to eco-justice, was therefore the problematic condition identified, and formed the reason for the developmental activity in this study. An eco-justice model to guide community engagement was then conceived. Thomas (1985: 01) argued that the process of problem analysis and identification involved the identification and analysis of the problem for which the intervention might be needed. This justified the need for the current study.

#### ➤ State of the art review

Rothman and Thomas (2013: 40) and Thomas (1984: 01) wrote that a critical review of the state of existing interventions must occur as part of the developmental process. According to Rothman and Thomas (2013: 40) and Thomas (1984: 01) a review of existing interventions,

programmes or models assists to identify what current interventions exist, the strengths and weaknesses of existing interventions and which further interventions are warranted. Rothman and Thomas (2013: 40) and Thomas (1984: 01) added that a review of existing technology may include an assessment of literature, discussion with knowledgeable participants or attendance at conferences and workshops.

For the purpose of this study a critical review of the literature on eco-justice and community engagement was undertaken. The concepts eco-justice (White 2013:11; Saxe 2013: 30; Brown 2017: 10; O'Donnell 2015:11) and community engagement (Jacobs 2011: 01 *et al*: 01; Bartkowiak-Theron and Anderson 2014: 13; Saltmarsh and Zlotkowski 2011: 245) were interrogated. The effect of environmental damage on health was reviewed (Saxe 2013: 30). Studies, legislations and policies on community engagement and higher education responding to eco-justice initiatives and challenges were also researched. Academics from the Faculty of Health Sciences (DUT), faith-based leaders and students from the Faculty of Health Sciences (DUT) were also asked to conceptualize the terms eco-justice and community engagement and to consider ways to advance eco-justice.

#### ➤ Feasibility study

A feasibility study also referred to as a pilot study, allows for the existing information and resources to be tested to determine whether the developmental efforts are "technologically feasible" (Rothman and Thomas 2013: 40; Thomas 1985: 492; Polit and Beck 2012: 195). This determines whether the development effort has merit. For this study, three academics from the Faculty of Health sciences and two Health Science students from the Faculty of Health Sciences were asked to appraise the data collection instruments. The feedback from these academics and students was that the questions from the data collection instruments were clear, concise, credible and reliable.

The eco-justice model that was later developed was evaluated by an independent group of five experts from Health Sciences (DUT) (sample 4), who gave credence to the model. This group of experts comprised of academics and post graduate students from the Faculty of

Health Sciences who were not part of the main study, but were chosen because they had experience in community engagement projects.

➤ Selection of technological objectives

According to Rothman and Thomas (2013: 40) and Thomas (1981: 01) the technological objectives are analogous to the new social technology to be developed. For this study the main technological objective was to develop an eco-justice model to guide community engagement in Health Sciences. An eco-justice model for Health Sciences would be timeous as damage to the environment is escalating and has serious negative consequences for human health (Brown 2017: 01; O'Donnell 2013: 11). This model could be of benefit to academics and students at institutions of higher education. As a result, community engagement would be promoted and a collective responsibility for health and eco-justice be maintained.

➤ Selection of information sources

The information sources for technological development can be derived from several areas (Rothman and Thomas 2013: 40; Thomas, 1985: 01). For this study, information was accumulated from scholarly research journals articles, policies and textbooks on eco-justice, community engagement and health. Additionally, information was gathered from interviews with academics from the Faculty of Health Sciences (DUT), interviews with faith-based leaders in KZN and focus group discussions with students from the Faculty of Health Sciences (DUT).

## Phase 2: Development

According to Rothman and Thomas (2013: 40) and Thomas (1981: 601) the data once analysed, is transformed and shaped into a new product. Such development comprises of three processes i.e. gathering and evaluation of technological resources, design of social technology and technological realisation (Rothman and Thomas 2013: 40; Thomas 1981: 601).

➤ Gathering and evaluation of technological resources

Information can be gathered from basic research, applied research, scientific technology, allied technology, legal policy, indigenous information, practice experience, personal experience and professional experience (Rothman and Thomas (2013: 40). Thomas (1984: 152) and Thomas (1984: 152) added that information derived from these sources usually are in the form of raw material and needs to be transformed, thereby leading to the formulation of empirical generalizations based on a literature review in the area of intervention. This together with data from interviews and focus group discussions brings about something that is technologically different. In this study the data from interviews and focus group discussions were utilized for this purpose.

➤ Design of social technology

According to Rothman and Thomas (2013: 40) and Thomas (1984: 152) design is an art and requires imagination, inventiveness and creativity which results in something valuable and new. New knowledge is created and can be translated into application (Rothman and Thomas 2013: 40; Thomas 1984: 151). The design process requires setting the objective of the innovation, identifying what is required, selecting information sources, gathering and processing information, assembling design components and describing how the innovation might be used (Rothman and Thomas 2013: 40; Thomas 1984: 151). In chapter one of this study the aim, objectives and significance of the model was discussed. This was followed through by the literature sources, sampling process and the data collection process, from which information needed to design the model could be gathered.

➤ Technological realisation

The last step within the developmental phase involves bringing the technological product or the interventional innovation into being. This refers to the eco-justice model that was created, utilizing information from the literature review and data from academics, faith-based leaders and students. Rothman and Thomas (2013: 40); Thomas (1981: 601) and Braun and Clarke (2006: 77) stated that the developmental phase is the heart of the Developmental Research Model; as it is during this phase that the interventional innovation is created. For this purpose,

rich data from the literature review together with the data analysed from the interviews and focus group discussions was used to develop an eco-justice model for Health Sciences.

### Phase 3: Evaluation

It is in this phase that the newly developed model was appraised by a group comprising of five experts who are academics and post graduate students from the Faculty of Health Sciences. These participants made up sample four and were not part of the interview process or focus group discussions of the study. Additions to the model were done as recommended by the expert group. The eco-justice model for Health Sciences was finalized and accepted by the participants of sample four. In addition to development research, a qualitative research strategy was utilized to enhance the collection and analysis of the relevant data in this study. This type of research methodology may be used to gather data systematically for purposes of evaluating the innovation (Rothman and Thomas (2013: 40; Thomas 1984: 151). It appraises and makes revision of the innovation if necessary, using the following two steps: trial use and collection of evaluative data, and evaluation of technology redesigning as necessary.

- Trial use and collection of evaluative data

Trial use of the interventional innovation allows for the collection of evaluative data (Thomas 2013: 40). Trial use was not implemented in this study for practical reasons and time constraints. Trial interventions such as workshops and seminars could however have been valuable in identifying problems related to content and implementation.

- Evaluation of technology: redesigning as necessary

Thomas (1984: 151) stated that it may be necessary to revise the innovation, repeat trial use, collect new evaluation data and reappraise the revised product. Once the innovation is found to be worthy can it then be disseminated and implemented. The eco-justice model was appraised by an expert group (sample four), who found the model to be acceptable. As part of evaluation the phases of the Research and Utilization model were also aligned to the objectives of the study and the samples of the study (Table 2)

Objectives of the study	Samples	Phase
1. To explore how Health Science academics and students conceptualize eco-justice and community engagement.	Interviews with academics Focus groups with students	1
2. To inquire about how eco-justice can be promoted through community engagement activities in Health Science education.	Interviews with academics. Focus groups with students.	1
3. To explore how faith-based organizations conceptualize eco-justice.	Interviews with faith-based leaders.	1
4. To explore the views of leaders of faith-based organizations with regard to how they may partner with universities to promote eco-justice.	Interviews with faith-based leaders.	1
5. To develop a model to guide eco-justice activities as part of community engagement in Health Sciences.	The eco-justice model for Health Sciences was appraised by a group of experts i.e. academics and post graduate students from the Faculty of Health Sciences – DUT	2 and 3

**Table 2: The objectives, samples and phases of the D R and U Model.**

### **3.5. THE QUALITATIVE RESEARCH PARADIGM**

Qualitative research is the development of concepts which helps us to understand social phenomena while giving due emphasis to the meanings, experiences, and views of all the participants (Polit and Beck 2012: 488; de Greeff 2011: 352). The qualitative research

paradigm focuses on the interpretation of phenomenon from an individual's frame of reference (Strydom and Bezuidenhout 2014: 173; MacDonald 2012: 35). In this regard, qualitative research places the researcher in the real world and focuses on the whole human experience, and the meanings ascribed by individuals living the experience (MacDonald 2012: 35). In this vein, qualitative research can be seen as a form of social inquiry, that focuses on the way people interpret and make sense of their experiences and the world in which they live (Elmusharaf 2012:10). A broader understanding and deeper insight into complex human behaviours thus occurs (Polit and Beck: 2012: 491; MacDonald 2012: 35). In addition, qualitative research integrates observation, documentation, analysis, and the interpretation of human phenomena under study (MacDonald 2012: 35).

The purpose of qualitative methodology is to describe and understand, rather than to predict and control (Fouche and Schurink 2011: 308; Polit and Beck 2012: 491). The researcher gains first-hand experience of the problems experienced by particular communities, and through the research process the members of the community are empowered to solve their own problems (Strydom 2011: 498). Qualitative research comprises of a set of interpretative material practices that makes the world visible (Fouche and Schurink 2011: 310). Such practices turn the world into a series of representations that include using field notes, interviews, conversations, photos, recordings and memos (Fouche and Schurink 2011: 310). According to Anderson (2010: 74) and Polit and Beck (2012: 489) qualitative research typically involves interviewing or observing participants who are central to the research topic.

Qualitative research involves an interpretative, naturalistic approach to the real world (Fouche and Schurink 2011: 311). In essence, qualitative research, studies phenomenon in their natural setting and interprets phenomena according to the meaning people bring to them (MacDonald 2012: 35; Polit and Beck 2012: 489; Fouche and Schurink 2011: 310). Braun and Clarke (2014: 01) stated that the field of health and well-being scholarship, has a strong tradition of qualitative research and rightly so, as qualitative research offers the researcher

rich, compelling insights into real world experiences and perspectives of patients and health care professionals in ways that are completely different to the knowledge that can be obtained through the use of quantitative research methods. Hence a qualitative approach is one in which the researcher makes knowledge claims based primarily on the meanings of individual experiences (Pope, Ziebland and Mays 2000: 114; Strydom and Bezuidenhout 2014: 173). In this regard the researcher collects open-ended emerging data with the primary intent of developing themes from the data (MacDonald 2012: 35).

A qualitative approach allows for the utilization of various data collection strategies (Brink, Van der Walt and van Rensburg 2012: 11; Polit and Brink 2012: 532). The merging of various qualitative approaches which underpins qualitative data collection allows a researcher, to utilize more than one data collection strategy (Brink, Van der Walt and van Rensburg 2012: 11). For this study two data collection approaches viz. in-depth interviews and focus groups discussions were used in the phases which underpin the Developmental Research Model (Brink, Van der Walt and van Rensburg 2012: 11). According to Brink, Van der Walt and van Rensburg (2012: 11) and Strydom and Bezuidenhout (2014: 174) qualitative approaches allow for the understanding of a phenomena, in its entirety as the researcher is interested in the depth of human experience. The use of a qualitative approach in this study enabled the researcher to have sustained interaction with the participants (Strydom 2011: 504; Crowe 2013: 75). In this study the researcher was able to gain in-depth knowledge from academics, students and faith-based leaders.

Data was collected through semi-structured interviews and focus group discussions that were recorded. This allowed for a collection of rich personalized information related to community engagement and eco-justice. This was followed by the development of an eco-justice model, which was then appraised by a group of experts. Through this, the researcher obtained knowledge of participants' understanding of community engagement and eco-justice issues, and insight into some of the challenges experienced by communities, which consequently affect their health (de Vos *et al* 2011: 504). Through the research process, it was envisaged that the members of the communities can be empowered to solve some of their own problems with the assistance of community leaders and stakeholders (Strydom 2011: 504; Polit and Beck 2012: 539). In this study it would be the faith-based leaders who are respected community leaders and stakeholders, and form part of the present study. It is envisaged that



they were encouraged to take up eco-issues through a greater awareness of same during the focus group discussions.

## **3.6 POPULATION AND SAMPLE:**

### **3.6.1. Population**

A population refers to the total aggregation of cases in which the researcher is interested in (Polit and Beck 2012: 273; de Vos *et al* 2011: 193). A population includes all individuals who possess the character traits that the researcher is interested in (Strydom and Bezuidenhout 2014: 97). This study comprised of three sets of populations. They comprised of 45 academics from the Faculty of Health Sciences, 900 students from the Faculty of Health Sciences, and faith-based institutional leaders within KwaZulu-Natal. The number of faith-based leaders is not known by the researcher, as there is no current data base for faith-based leaders in KwaZulu-Natal. There is, however, the KwaZulu-Natal Interfaith Religious Council which has interfaith leaders who belong to the Council. The KwaZulu-Natal Interfaith Religious Council is a non-profit interfaith organization that focuses on bringing together religious leaders of all faiths to deal with challenges facing society, and to educate communities on matters that enhance well-being. Faith groups represented on the Council include the Christian faith, the Hindu faith and the Islamic faith. The researcher made enquiries with the KwaZulu-Natal Interfaith Religious Council, which provided the researcher with a list of its 30 members with their contact numbers. This group of faith-based leaders served as the population for faith-based leaders in this study.

### **3.6.2. Sample**

A sample refers to a subset of subjects from the population of interest (Polit and Beck 2012: 273; Grove, Burns and Gray 2013: 91). These are the participants that the researcher can access from within the population under study (Polit and Beck 2012: 273). This study will comprise of four sets of samples. These samples were split into two parts. Part A was the participants involved in the interviews. These were the academics from Health Sciences (sample one) and faith-based leaders (sample two). Part B was the participants involved in

the focus group discussions. These were the students from Health Sciences (sample three). A group of experts (sample four), appraised the eco-justice model for Health Sciences. These experts were academics and post graduate students from the Faculty of Health Sciences who had experience with community engagement projects. This group will be discussed later in this chapter. These participants were used in the four sequential phases of the Developmental Research paradigm.

### **3.7. THE SAMPLING PROCESS**

#### **Part A:**

##### *Sample one (academics)*

As it was not be possible to include all academics within the Faculty of Health Sciences, sample one consisted of a purposive sample of Health Science academics from Nursing, Environmental Health and Homeopathy. According to Polit and Beck (2012: 272) and Creswell and Clark (2011: 05) purposive sampling or judgmental sampling involves identifying and selecting individuals or groups of individuals that are especially knowledgeable about, or experienced with a phenomenon of interest. Additionally, purposive sampling is often used, when the researcher seeks a sample of experts or key informants who are knowledgeable about the specific issues under study (Polit and Beck 2012: 279). The departments selected for this study were chosen because their courses had extensive community placements, which required them to work within local communities.

The reason for including academics from these Departments was because of their academic qualifications, knowledge in matters related to health care and their clinical background in health care. They also have clinical, theoretical and teaching experience. There were a collective total of 17 academics from Nursing, Environmental Health and Homeopathy. They had also been involved in community engaged projects. The purpose of choosing this sample was to inquire about their understanding of community engagement, eco-justice, and what they saw as important components of an eco-justice programme for Health Sciences.

Data was collected from fourteen academics using in-depth semi-structured interviews. Data saturation had been reached and hence no further interviews were done. The academic sample was a purposive sample that included academics from the departments identified in the Faculty of Health Sciences at DUT. An email inviting all academics from the Departments of Nursing, Environmental Health and Homeopathy was sent out, once the relevant gate-keepers permission had been obtained from the Faculty Research Committee, Institutional Research Ethics Committee and Heads of the above departments in Health Sciences. This was followed up with telephone calls to each Head of Department to get their permission to conduct interviews and focus groups.

*Inclusion criteria:*

- Academics from the Faculty of Health Sciences (Nursing, Environmental Health and Homeopathy) - DUT.
- Academics from the Faculty of Health Sciences (Nursing, Environmental Health and Homeopathy) – DUT, who were willing to participate in the study.

*Exclusion criteria:*

- Academics from other Departments of Health Sciences i.e. Basic Medical Sciences, Biomedical and Clinical Technology, Chiropractic, Dental Sciences, Emergency Medical Care and Rescue, Medical Orthotics and Prosthetics, Radiography and Somatology - DUT.
- Academics from the Faculty of Health Sciences (Nursing, Environmental Health and Homeopathy) – DUT, who were unwilling to participate in the study.

*Sample two (faith-based leaders)*

Sample two consisted of a sample of faith-based community leaders from the KwaZulu-Natal Interfaith Religious Council. Purposive sampling was used, to explore key eco issues within the community. Since faith-based leaders are becoming more involved in community programmes, politics, environmental issues and health issues; they seem to be beneficial in terms of contributing to the objectives of the study. Furthermore faith-based leaders are

respected by communities and have a large influence on community health and wellness. The faith-based institutions within KwaZulu-Natal included churches, mosques and temples. As it was not possible to interview all faith-based leaders in KwaZulu-Natal, faith-based leaders per religious affiliation was interviewed to make up a group that was reflective of all religious faiths in KZN. In-depth semi-structured interviews were used to collect this data. An electronic invitation that briefly outlined the study was sent to-faith based leaders from the KwaZulu-Natal Interfaith Religious Council once the relevant gate-keepers' permission was obtained from IREC at DUT and the Gatekeeper Committee at DUT. The faith-based leaders were given a two week timeframe to respond to the invitation. Data was collected from thirteen faith-based leaders, using in-depth semi-structured interviews. At this time data saturation was reached and data collection ceased

<b>Type of faith-based leader</b>	<b>Number of participants (faith-based leaders</b>
Church leaders- Christian	5
Mosques leaders- Islamic/Muslim	3
Temple leaders- Hindu	5

**Table 3: Faith-based leaders and number of participants**

*Inclusion criteria:*

- Faith based leaders who are members of the KwaZulu-Natal Interfaith Religious Council.
- Faith based leaders from the KwaZulu-Natal Interfaith Religious Council who were willing to participate in the study.

*Exclusion criteria:*

- Faith based leaders who are not members of the KwaZulu-Natal Interfaith Religious Council.
- Faith based leaders from the KwaZulu-Natal Interfaith Religious Council who were unwilling to participate in the study.

## **Part B: Focus groups**

### *Sample three (Students)*

As it was not possible to include all Health Science students in the study, sample three consisted of a purposive sample of final year undergraduate Health Science students from the Departments of Nursing, Environmental Health and Homeopathy. Health science student nurses are required to work in communities; hence they became an ideal purposive sample. Final year students were chosen as they were coming to the end of their training and would have gained knowledge during their training.

Nursing students were selected because a large portion of their practical training occurs in community settings, and their nursing curriculum is based on health care and health promotion. Furthermore, Health care is moving towards promotive and preventative care as opposed to curative care as nursing education works towards implementing a new community centred curriculum (Regulation 171) from 2020 (SANC 2019: 02). These students will spend two thirds of their training, working within communities (SANC 2019: 02). Environmental Health students were chosen, as their focus is the environment in relation to health. Their training also occurs in community settings. This allows them to have continuous interaction within communities and to conduct community projects. Homeopathy students also use natural ingredients from the environment for health benefits. A portion of their course work is studying natural remedies to promote health. Hence, the above three groups were suitable for the study.

Two focus group discussions using purposive sampling were used to collect data from this sample. According to Greeff (2011: 305) like most qualitative studies, focus groups rely mainly on purposive sampling. A cross section of final year undergraduate students from the aforementioned three Departments of Health Sciences, were used to put the focus groups together. Students from each Department, who agreed to be part of the study were invited to be part of the focus groups. The researcher addressed the students during their lecture block on campus, once the relevant gatekeepers' permission had been obtained (Faculty Research Committee, Institutional Research Ethics Committee, Gatekeepers at DUT and Heads of Departments of relevant Departments in Health Sciences). Students were then invited to participate in the focus groups on campus.

*Inclusion criteria:*

- All final year undergraduate Health Science students (Nursing, Environmental Health and Homeopathy).
- All final year undergraduate Health Science students (Nursing, Environmental Health and Homeopathy) who were willing to participate in the study.

*Exclusion criteria:*

- Undergraduate DUT students outside the Faculty of Health Science.
- Students from Health Science (Nursing, Environmental Health and Homeopathy) who were unwilling to participate in the study.

The data collected together with the literature reviewed was then used to develop a draft eco-justice model to guide community engagement in Health Sciences.

*Sample four (expert group)*

This draft model was then evaluated by a purposive group comprised of three academics and two post graduate students from the Faculty of Health Sciences who was not part of the main samples. These participants had experience with community engagement projects. Hence the fourth sample constituted five participants who eventually appraised and finalized the eco-justice model for Health Sciences.

*Inclusion criteria:*

- Health Science academics and post graduate students from DUT who had experience in community engagement projects and had conducted research in community engagement.

*Exclusion criteria:*

- Health Science academics and post graduate students from DUT who had experience in community engagement projects and had conducted research in community engagement, but who were unwilling to participate in the study.

- Health Science academics and post graduate students from DUT who were part of the main study.

### **3.8. DATA COLLECTION INSTRUMENTS**

The data collection instruments for this study, comprised of two interview schedules and two focus group schedules. The first interview schedule (appendix 1) was used for interviews with academics, and the second for interviews with faith-based leaders (appendix 2). An additional two focus group schedules were used. One was for students (appendix 3) and the other for the expert group (appendix 4). These tools will be discussed below.

#### **➤ Interview schedule for academics**

An interview schedule was utilized to guide interviews with academics (Appendix 1). Greeff (2011: 348) and Polit and Beck (2012: 537) favoured semi-structured interviews as providing guidance for a purposive approach to obtain evidence, whilst still being conversational and situational. This approach allows for the capturing of robust insights and stories, thereby drawing upon more layers of meaning in order to produce thick description (Cousin 2009: 05). Semi-structured interviews proved to be an effective way of understanding the heart of a participant's experience from their personal perspective, through the stories the participants relate (Cousin 2009: 05; Polit and Beck 2012: 537).

The interview schedule utilized for academics comprised of five open ended questions. They asked academics how they conceptualize community engagement, the role of the university in promoting community engagement, what they understood about the term eco-justice, what could be done to create community awareness on eco-justice, how they saw Health Science engaging with the community and what the major components of an eco-justice model for Health Sciences should be?

➤ Interview schedule for faith-based leaders

The interview schedule (Appendix 2) for faith-based leaders was the next instrument utilized. It comprised of six open ended questions that asked about their faith-based institution, what they understood by community engagement, how they saw Health Sciences engaging with the community, the communities relationship with the environment, their understanding of eco-justice, and how community members and universities across KZN could work collaboratively to promote an awareness of eco-justice.

➤ Focus group schedule for students

A focus group schedule was used for the group discussions with Health Science students (appendix 3). A focus group schedule is similar to an interview schedule with the only difference being that the questions from the schedule, are posed to the entire group, and the answers are open to the entire group for discussion (Polit and Beck 2012: 537). The focus group schedule comprised of four open ended questions that gathered information on students' understanding of community engagement, what they thought the university's role was in promoting eco-justice and community engagement, their understanding of the term eco-justice and what they thought students could do to promote eco-justice.

➤ Focus group schedule for the expert group

Once the draft eco-justice model was developed a focus group schedule (appendix 4) comprising of four open ended questions was used to appraise the model. Three academics and two post graduate students from the Faculty of Health Sciences (DUT) were asked about the strengths and weaknesses of the new model and ways it can be improved.

### **3.9. PILOT STUDY**

A pilot study commonly referred to as a feasibility study, is generally used in quantitative research however it can also be used in qualitative studies (Dikko 2016: 521; Polit and Beck 2012: 537). These mini versions of the research study test a small segment of the population, from which the study sample will be drawn (Strydom 2011: 332). The study instrument was



piloted by three Health Science academics who piloted the interview schedules for academics and faith-based leaders, and two Health Science students who piloted the focus group schedule for students. These participants were not part of the actual study sample, as participants who test the study instrument are not used in the main study (Bowling, A. 2014: 01; Dikko 2016: 521). The pilot sample found the questions to be clear, concise and consistent with the aim and objectives of the study. No changes to the interview schedules needed to be made. This allowed the researcher to begin the data collection process.

### **3.10. THE INTERVIEW SETTINGS**

The interview setting refers to the venue where interviews take place (Polit and Beck 537; Fouche and Delport 2011: 65). According to Fouche and Delport (2011: 65) qualitative research allows researchers to collect data at the site where the study is undertaken. Hence interviews with academics took place at DUT, in the office of each of the academics. Interviews with faith-based leaders were scheduled at faith-based institutions within the community, in a private room arranged by the faith-based leader or arranged by the institution's secretary. The focus group interview with Health Science students was conducted on the premises at DUT in the Health Sciences faculty board room. This was followed by a group discussion with an expert group of academics and post graduate students who had experience in community engagement projects and research related to community engagement. This expert group appraised the model. The group discussion was also conducted at DUT, in an office of one of the academics.

### **3.11. THE DATA COLLECTION PROCESS**

Data collection commenced in October 2018 after full ethical clearance had been received from the DUT Institutional Research Ethic Committee. Written permission from the gatekeepers at DUT was also obtained prior to accessing any Health Science participants at DUT (Appendix 5). In addition, permission from three Heads of Department: Nursing, Environmental Health and Homeopathy were sought prior to any interview or focus group discussion. Data collection and data analysis then followed in four phases.

### **Phase One: Interviews with Health Science academics (sample one)**

Phase one began with in-depth semi-structured interviews of 45 to 90 minutes duration, with a purposive sample of DUT Health Science academics. Semi structured interviews are planned around an area of specific interest but still allows for depth and flexibility (Greeff 2011: 347). These are conversations that assess the views, opinions and beliefs on a specific phenomenon using open-ended questions (Strydom and Bezuidenhout 2014: 97; De Franzo, 2014: 01). Semi-structured interviews are face to face providing an opportunity for the researcher to talk directly with participants, thereby receiving spontaneous stories from the soul (Greeff 2011: 347).

According to Evans (2018: 02) semi-structured interviews are the most widely used data collection method utilized in the social sciences. They are valuable because they allow researchers to explore subjective viewpoints (Graue 2015: 05) and to gather in-depth accounts of people's experiences. Semi-structured interviews allow the researcher the opportunity to explore, in an in-depth manner, issues that are unique to the experiences of the participant, thus allowing insights into how different phenomena of interest are perceived (McGrath, Palmgren and Liljedahl 2019: 1002). Most importantly semi-structured interviews are face to face hence the researcher is able to capture the participant's emotions and behaviours, which is not possible during online and mobile surveys (DeFranzo 2014: 02). Brown and Danaher (2019: 76) found that interviews have a better response rate than mailed questionnaires, and participants who cannot read and write can respond to interview questions.

In phase one of data collection, academics from the Departments of Nursing, Environmental Health and Homeopathy were invited to partake in the study via email and through telephonic follow up. Appointments with academics who agreed to be part of the study were scheduled at the convenience of the academics. Further correspondence to confirm or reschedule times was conducted telephonically. All academics were interviewed in their office at DUT, at a time that was suitable to the participants. Although an initial number of fifteen participants (five per department) were stipulated data was collected till saturation. A structured interview schedule (Appendix 2) was utilized for this purpose. The researcher completed fourteen interviews (Table 2) at which point data saturation had been reached. Participants were given a letter of

information and a consent form to sign prior to interviews. Participants were also given the option of withdrawing from participation at any time. All interviews were recorded using two dicta recorders. The researcher also made her own field notes. Interviews with academics commenced in the month of October 2018 and were completed during the month of February 2019. All recordings, dictatapes and field notes were securely kept in a fireproof safe by the researcher. The safe was password secured. The computer and flash drives used to upload interview and focus group discussions, was also password secured. Such devices were also stored in the fireproof safe when not in use.

### **Phase two: Interviews with faith-based leaders (sample two)**

Phase two consisted of a series of one on one interviews which lasted between 45-90 minutes, with a purposive sample of faith based leaders from the KwaZulu-Natal Interfaith Religious Council. An electronic invitation that briefly outlined the study was sent to faith-based leaders from the KwaZulu-Natal Interfaith Religious Council. The faith-based leaders were given a two week timeframe to respond to the invitation. Initially the response to email invitations was poor with only two positive responses. This was followed by telephonic inquiries, by the researcher to gain their support and to set interview dates. The first four to five participants from each faith group who accepted the invitation to be interviewed was selected. Appointments with willing participants were set up for interviews. Several further calls were needed for confirmation of time, venues and rescheduling of interviews; and this was done via further telephonic consultations. The researcher travelled to the faith based institution to conduct the interviews.

Participants were given a letter of information and consent form to sign. Participants were also made aware that they could discontinue participation without any repercussions. All participants participated willingly. Data was collected by conducting semi-structured interviews, using an interview schedule (Appendix 3). All interviews were recorded using two dicta tape recorders. Field notes were also taken during the interview process. These interviews were conducted within the months of December 2018 and February 2019 as interviews were dependent on the availability of participants. Participants were also not available during religious celebrations thus extending the intended timeframe for the

interviews, as envisioned by the researcher. All recordings and field notes were securely kept in a fireproof safe.

### **Phase Three: Focus group discussions with Health Science students (sample three)**

In phase three the researcher contacted the Head of Department of Nursing, Environmental Health and Homeopathy, telephonically to set a date to meet with students from the Departments of Nursing, Environmental Health and Homeopathy, to introduce the study. Students were briefly addressed in their lecture rooms collectively. Since the study was to comprise of a purposive selection of undergraduate students, the 30 students who agreed to participate in the study were contacted once the dates for the focus groups has been set. A total of 10 and 14 participants respectively, arrived for the focus group discussions on the scheduled days. The study setting was a boardroom at DUT. The two focus group discussions were guided by a focus group schedule (Appendix 3) of 90 minute duration. These interviews were conducted in February 2019 and July 2019 respectively.

A focus group is a carefully planned discussion that is aimed at ascertaining perceptions related to a specific area of interest in a safe and permissive environment (Kellmereit 2015: 42; Strydom: 2011: 361; Polit and Beck 2012: 537). During a focus group discussion, the researcher assembles a group of individuals to discuss a specific topic, with the aim of drawing from the complex personal experiences, beliefs, perceptions and attitudes of the participants through moderated interaction (Nyumba, Wilson, Derrick and Mukherjee 2017: 20). In addition a focus group can be likened to a group interview, which simultaneously gains insight into the participants' preferences, behaviour attitudes and likes or dislikes (Strydom and Bezuidenhout 2014: 183). According to Carey and Asbury (2016: 17) a focus group discussion allows for complex issues to be explored with richer data than individual interviews could elicit. The synergy in the group interaction usually prompts greater breadth and depth of information, and comparison of views within a group leads to greater insight into experiences (Carey and Asbury 2016:17).

According to Polit and Beck (2012: 537) a total of five or more participants is usually the number for a focus group, however a total of six to ten participants is ideal as it allows each

participant to contribute (Greeff 2011: 366). This is similar to Nyumba *et al.* (2017: 20) who wrote that the number of participants per focus group should range from 2 to 21, with a median of 10 participants per group. In cases where participants have a great deal to say, a smaller group size of between four to six is more suitable (Greeff 2011: 366). However, Ochieng Wilson, Derrick and Mukherjee (2019: 20) reported that the number of participants per focus group ranged from three to 21, with an average of 10 participants. It is for this reason that the two focus groups for this study consisted of 10 Health Science students in group one, and 14 Health Science students in group two. According to Kellmerit (2015: 42) and Krueger Morgan *et al.* in (Ochieng *et al.* 2019: 20) focus group discussions are comparatively easier to conduct than interviews, since participants are in one location at the same time. Hence a focus group discussion reduces travelling between locations and allows for the collection of a large amount of data within a limited time frame, as compared to an equivalent number of interviews (Ochieng *et al.* 2019: 20; Kellmerit 2015. 42).

The purpose of the focus group was explained to the groups. Students were given time to introduce themselves, and the rules of the focus group was then presented. The rules were as follows: each student would have time to give their response. Students were not all allowed to answer at once, and students were to respect each other. The participants were then given time to read the letter of information and to sign the informed consent. Participants were encouraged to talk freely. A focus group schedule of written questions guided the focus group discussion process. According to Polit and Beck (2012: 537) this allows the participant freedom to provide as many illustrations and explanations as they wish. The researcher facilitated the focus group process. The focus group discussions were recorded using two dictatape recorder and field notes were scripted by the researcher. All recordings and field notes were securely kept in a fireproof safe. The same process was followed for the next focus group discussion.

#### **Phase four: Expert group (sample four)**

This group discussion was conducted at the end of the study, once data had been analysed and the model was developed. Hence it will be discussed later in the study, in chapter four.

### 3.12. DATA CAPTURING AND DATA ANALYSIS

According to Richey, Klein and Nelson (2004: 1112) qualitative research methods are often employed in developmental research studies. These studies frequently employ structured interviews to gather data from participants (Richey, Klein and Nelson 2004: 1112). Furthermore Richey, Klein and Nelson (2004: 1117) stated that data analysis and synthesis in developmental research projects are not different to other qualitative research projects/studies. There are largely descriptive data presentations and qualitative data analyses using data from interviews, literature and observations (Richey, Klein and Nelson 2004: 1117).

Thorne (in Clarke and Braun 2013: 120) wrote that the data analysis process is the most complex phase of any qualitative research project, however it is the one phase that receives the least amount of discussion in literature. Additionally, data analysis and interpretation are interrelated as the researcher may have to analyse and interpret the data concurrently as the qualitative study proceeds (Clarke and Braun 2013: 120). For this reason, data analysis in qualitative research is on-going, emergent and interactive as the researcher may have to pursue a line of questioning that he had not initially planned for (Polit and Beck 2012: 562).

Qualitative data capturing and data analysis is a continuous process of inductive reasoning, thinking, and theorising which requires continual reflection and interrogation of the data (Pope, Ziebland and Mays 2000: 114; Strydom and Delpont 2011: 398; Elo, Kaariainen, Kanste, Polkki, Utriainen, Kyngas 2014: 02). This process gives structure, order and meaning to the data by reduction, and identification of significant patterns (Fereday 2006: 82; Bezuidenhout and Cronje 2014: 232). The data needs to be timely transcribed to allow the researcher to notice emerging differences and similarities and to constantly compare data (Strydom and Delpont 2011: 410; Elo *et al.* 2014: 02; Graue 2015: 08). For this purpose, various types of coding, such as descriptive codes and process codes needs to be applied to the transcribed data (Strydom and Delpont 2011: 410).

According to Fereday (2006: 82); Schurink, Fouche and De Vos (2011: 399) and Polit and Beck (2012: 557) qualitative data analysis is a constructionist process which puts segments together to create meaningful conceptual patterns thereby providing structure and meaning from data. The analysis of qualitative materials typically begins with a search for broad

categories or themes referred to as thematic data analysis (Fereday 2006: 82; Fouche and de Vos 2011: 91; Braun and Clarke 2014: 02; Graue 2015: 08). Braun and Clarke (2014: 02) wrote that thematic data analysis appeared as a method for data analysis in the 1970's. A few years later Boyatzis (1988: 02) promoted thematic analysis with good specification and guidelines around coding of data and theme development. This was followed by a paper publication on thematic analysis by Braun and Clarke (2006: 02), after which thematic analysis became a widely used approach that really took off within the Social Sciences and Health Sciences. Additionally, thematic analysis offers a toolkit for researchers who want to use robust analysis of quantitative data, but at the same time present data in a way which is accessible to those who are not part of the academic community (Braun and Clarke 2014: 02).

Daly, Kellehear, and Gliksman (1997 in Fereday 2006: 83) defined thematic data analysis as a search for themes that emerge and become important to the description of the phenomenon under study. Clarke and Braun (2013: 120) advocated thematic data analysis as an essential method for identifying and analysing patterns in qualitative data. The process involves the identification of themes through reading the data carefully and then re-reading the data (Rice and Ezzy 1999: 258 in Fereday 2006: 83). This allows for the recognition of a pattern within the data, where the themes that emerge become the categories for analysis (Rice and Ezzy 1999: 258 in Fereday 2006: 83). According to Braun and Clarke (2006: 82) "a theme captures something important about the data in relation to the research question and represents some level of patterned response or meaning within the data set". Braun and Clarke (2014: 77) expanded this definition stating that "thematic data analysis requires the identification of salient themes, recurring ideas or language and patterns of belief that link people and settings". In this study the five phases of thematic data analysis according to Braun and Clarke in (Javadi and Zarea 2016: 36) were utilized. The phases were as follows:

#### Phase 1: Familiarisation with the data:

This phase requires the researcher to read and re-read the data, so that the researcher is immersed and intimately familiar with the content therein (Javadi and Zarea 2016: 36). In this study data obtained from all three samples i.e. academics, faith-based and students was

digitally recorded and transcribed verbatim. All the interviews and group discussion were transcribed. The researcher read and re-read the data to obtain an overall understanding.

#### Phase 2: Coding:

In this phase the researcher generated succinct codes/labels that identify important features of the data that were relevant to answering the research questions (Javadi and Zarea 2016: 36). The researcher coded the entire data (Javadi and Zarea 2016: 36). Thereafter all data were collated, and the relevant data extracted (Javadi and Zarea 2016: 36). In the present study the researcher created a preliminary list of ideas that emerged from the data. The data was then organized into significant groups and given labels.

#### Phase 3: Searching for themes:

Here the researcher examines the groupings and collates the data to identify significant broader patterns of meaning (potential themes) (Javadi and Zarea 2016: 36). Data relevant to each theme is collated, so that the researcher can review the viability of each theme (Javadi and Zarea 2016: 36). The researcher in this study identified themes related to community engagement and eco-justice from the codes/labels. Similar labels were brought under a set. Similar emerging themes were grouped and categorised according to the content they represented. A title was given to each set and a concise explanation for that name of the set was noted by the researcher.

#### Phase 4: Reviewing themes:

This phase involved checking the themes against the data, to determine that the data reflect a correct narrative of the data, and that the themes answers the research questions correctly (Javadi and Zarea 2016: 36). Themes are then refined which required themes being split, combined or possibly discarded (Javadi and Zarea 2016: 36). In this study the researcher went back to the extracted codes/labels of each theme and noted whether these codes/labels formed a consistent pattern. The validity of themes, in relation to the entire data set was



checked. The researcher then checked on the differences between the themes to have an idea of the story that was told about the data. Phases 1 to 4 made up part of the analysis phase of Developmental Research.

#### Phase 5: Defining and naming themes:

This phase involved developing a detailed analysis of each theme by determining the focus of each theme and finalizing each theme (Javadi and, Zarea 2016: 36). Consequently, each theme is given an informative name (Javadi and Zarea 2016: 36). The researcher in this study summarized the scope and contents of each theme. The researcher then gave each theme a name. The researcher ensured that names were clear and accurate and were able to show the reader what the theme is about at a glance. Phase five made up part of the Development phase of developmental research.

#### Phase 6: Writing up:

In this final phase the researcher weaves together the data extracts, and finally contextualises the analysis in relation to the existing literature (Javadi and Zarea 2016: 36). In keeping with the Developmental phase of Development Research (Table 1) themes created from the interviews and focus group were used to develop the components of the eco-justice model. In addition, the data from the state-of-the-art literature review on community engagement and eco-justice was used. This included best practices on eco-justice and community engagement obtained from international and national literature, principles of community engagement and eco-justice, and community engagement strategies. The model was evaluated and appraised by the expert group (sample four) of the study. Once the eco-justice model was finalized the researcher was able design the final version of the model.

### **3.13. TRUSTWORTHINESS**

Since qualitative research does not use numerical evidence, as in quantitative studies, to measure reliability and validity, a set of different criteria is required (Bezuidenhout and Cronje

2014: 232). Bezuidenhout and Cronje (2014: 232) described trustworthiness as the overarching term used to ensure validity and reliability in qualitative research. Lincoln and Guba (in Polit and Beck 2012: 584) suggested four criteria for developing the trustworthiness of a qualitative inquiry which are credibility, dependability, confirmability, and transferability. It was this criterion that was used as a golden thread throughout the study.

#### ➤ Credibility

Credibility involves two important aspects: firstly, conducting the study in a way that enhances the believability of its findings, and secondly, taking steps to demonstrate credibility in the research report (Lincoln and Guba in Polit and Beck 2012: 585; Schurink, Fouche and de Vos 2011: 420). In addition, the researcher must have confidence in the truth of the data and the interpretations thereof (Polit and Beck 2012: 585). Selecting the most appropriate method of data collection and the amount of data is important in establishing credibility (Polit and Beck 2012: 585). The use of interviews with academics and faith-based leaders, and focus groups with students allowed the researcher to clarify any answers that she found unclear. In this study the researcher captured all data and analysed all the data received. Credibility also deals with how well themes cover data ensuring that no relevant data is excluded, and no irrelevant data is included (Schurink, Fouche and de Vos 2011: 420). Hence the researcher attempted to give attention to the themes so that the data analysis was comprehensive and accurate.

#### ➤ Dependability

Dependability refers to the stability (reliability) of data over time and conditions (Schurink, Fouche and de Vos 2011: 420; Polit and Beck 2012: 585). Dependability asks whether the findings of an inquiry, be similar if it were replicated with the same or similar participants in the same or similar context (Polit and Beck 2012: 585). The researcher was able to review literature related to university students, community engagement and eco-justice. The researcher was also able to see if findings would be similar to this study. This helped to point out the consistency of findings and to rectify any inconsistency.

#### ➤ Transferability

Transferability, according to Polit and Beck (2012: 585) indicates the degree to which findings can be transferred to or be applied in other settings or groups. The researcher must provide sufficient thick descriptive data so that the applicability of the data to other contexts can be evaluated (Polit and Beck 2012: 585). The researcher in this study was able to provide a thick description of the study context, the selection and characteristics of participants, the data collection process and the process of analysis to enable someone interested in conducting a similar study (making a transfer) to reach a conclusion about whether transfer can be contemplated as a possibility.

#### ➤ Confirmability

Confirmability refers to how well the collected data is able to support the findings of the research findings (Schurink, Fouche and de Vos 2011: 421). Hence the collected data will need to be representative of what the participants actually stated and there must be no manipulation by the researcher; thus maintaining accuracy and objectivity (Polit and Beck 2012: 585). Data in this study was therefore recorded and transcribed verbatim with no adjustments or omissions. In this study the researcher recorded the participants' actual voice and the conditions of the inquiry using a dicta-tape voice recorder. The participant's emotions were also noted without bias and the interpretation of data was honest and not invented to sway the findings for the researcher's benefit.

#### ➤ Triangulation

Triangulation can be used to enhance credibility and conformability of qualitative studies (Hadi and Closs 2016: 641; Creswell 2006). Triangulation involves using at least two related data sources, data collection methods or researchers with the aim of reducing inherent bias associated with a single source, method or researcher (Hadi and Closs 2016: 641; Creswell 2006). To use triangulation in this study there were four different sets of samples and data was collected using interviews and focus group discussions, thereby aiming to reduce bias of a single data source or a single data collection method.

➤ Self-description/reflexivity

According to Hadi and Closs (2016: 641) and Long and Johnson (2000: 30) self-description and self-reflection encourages qualitative researchers to make use of reflective journals and to keep detailed field notes that can be reviewed to recognize any personal biases. This allows for reduction of researcher bias by enabling qualitative researchers to discuss the ways in which their personal beliefs and/or previous training may influence the research findings (Long and Johnson 2000: 30). It is for this reason that the researcher in this study made use of field notes which she continuously updated and reviewed to recognize and reduce personal bias (Hadi and Closs 2016: 641; Creswell 2006). Such notes were stored in a steel safe to maintain privacy and confidentiality.

➤ Peer debriefing

Lincoln and Guba (1985); Long and Johnson (2000: 30) and Anderson (2010: 74) all stated that peer debriefing is a strategy in which the researcher discusses the research methodology, data analysis and interpretations continuously throughout the research process with a skilled researcher who can meaningfully question the researcher's interpretations, provoke critical thinking, and provide alternative/additional perspectives and explanations. Lincoln and Guba (1985) further stated that for research students, their supervisors can act as debriefers. In this study the researcher was continuously in discussion with the researcher's supervisor and co-supervisor. Draft findings and notes were reviewed by the researcher's supervisor and co-supervisor. In addition, the researcher presented some of the findings of the study at a community engagement conference at DUT. Long and Johnson (2000: 37) wrote that other forms of peer debriefing includes presentation of findings at conferences, presentations at interested groups and regular discussions with an expert qualitative researcher.

➤ Prolonged engagement

According to Creswell (2006) prolonged engagement with participants is recommended in order to establish rapport and to collect in-depth data. Although the researcher in this study did not have prolonged interaction with the participants, data collection continued until data

saturation. Additionally, all interviews and the focus group were over 45 minutes to allow prolonged engagement. This according to Creswell (2006: 02) contributes to the trustworthiness of a study.

➤ Member checking

Member checking refers to the validation the findings and conclusions of the study (Long and Johnson 2000: 30). According to Anderson (2010: 74) and Creswell and Miller (2010:124) member checking is also referred to as participant validation and can be seen as the single most important method to check a study's credibility. Hence the aim of member checking is to maintain the dependability and credibility of the data findings and data interpretations (Anderson 2010: 74; Long and Johnson 2000: 30). For this study a validation group to validate the data was arranged, and is presented below.

### **3.14. VALIDATION OF THE DATA**

The validation of the analysed data is an important aspect of qualitative research (Creswell and Miller 2010:124). The aim of such validation is to ensure that the researcher interprets and presents the data analysed correctly; without bias or manipulation. For the purpose of this study the researcher presented a segment of transcripts and the interpretation thereof, to a group of five Health Science academics from DUT. These participants were not part of the main study and were not part of the expert sample, but had been involved in research and community engagement. The transcripts and the interpretation thereof were presented using a power point presentation. The academics were asked to validate the transcribed data in correlation with the interpretation thereof. They found the data interpretation to be accurate, consistent and object.

### **3.15. ETHICAL CONSIDERATIONS**

Ethics can be described as “a set of moral principles which is suggested by an individual or group, and is subsequently widely accepted, and which offers rules and behavioral

expectations about the most correct conduct towards experimental subjects and respondents, employers, sponsors, and other researchers, assistants and students” (Strydom 2011: 129). Simply put it is a matter of integrity and commitment to trustworthiness and respect (Louw 2014: 262). Ethic involves the following principles:

➤ **Beneficence**

Beneficence implies that it is the responsibility of the researcher to prevent risk to participants by maximizing benefits and keeping harm to a minimum thus preventing any injury or discomfort to participants (Polit and Beck 2012: 152). In this study the participants were not exposed to any harm as there were no evasive interventions.

➤ **Respect for human dignity**

Polit and Beck (2012: 154) stated that human dignity refers to a participant’s right to be free from coercion or threats of penalty, should the participant withdraw their participation. This right to self-determination and full disclosure means that prospective participants can voluntarily choose to partake in the study without risk of prejudicial treatment (Polit and Beck 2012: 154). In addition participants should have the right to refuse giving information; a right to ask questions and be able to withdraw from the study without penalties (Polit and Beck 2012: 154). In this study, participation was voluntary and participants knew they could withdraw participation at any time with no penalties.

➤ **Justice**

Participants must have the right to privacy and the right to fair treatment; meaning that participants who decline participation, and who withdraw from the study after the initial agreement must not be prejudiced or held accountable for their withdrawal (Polit and Beck 2012: 155). In this study participants were treated with fairness and they knew that they could withdraw participation at any time, with no penalties. No participant was prejudiced in relation to this.

The study only commenced after full ethical clearance had been received from the DUT Institutional Research Ethic Committee. Written permission from Gatekeepers Committee at DUT was received prior to accessing Health Science academics or students (Appendix 5). In addition, written permission from all gatekeepers was received prior to any focus group discussion or interview. This included the three Heads of Department i.e. Nursing, Environmental Health and Homeopathy.

All participants were required to complete a consent form (Appendix 7), that was locked in a steel safe, which was password secured. Any hard copy documents will be shredded after 5 years, thus maintaining total confidentiality. A letter of information (Appendix 6) accompanied the consent form, outlining full details of the study thus maintaining transparency. Participants were able to withdraw from the study at any stage without any repercussions. No participant who agreed to participate withdrew their participation. Participant confidentiality was assured as participants' personal/identifying details were not recorded or written on any field notes, thereby maintaining anonymity. Each participant was given a code number thereby preventing linking of participants to their consent forms. All recorded and written transcripts were also locked in a steel locker and will be destroyed after 5 years.

### **3.16. CONCLUSION**

This chapter provided a detailed description of the research methodology. The Utilization and Developmental Model and the qualitative research paradigm were introduced in relation to how it was applied in the study. The research population and sample which comprised of four sets of participants was discussed. The data collection instruments, which comprised of four different interview schedules, for each sample respectively, was described and the data collection process discussed. The processes for data capturing and analysis was also discussed. The chapter concluded with a discussion on the ethical considerations. The next chapter presents the findings from the analysed data, as it emerged through the methods described in this chapter.

## CHAPTER FOUR

### AN ANALYSIS AND DISCUSSION OF FINDINGS

#### 4.1. INTRODUCTION

*We're dying of increasing heat  
That kills us and the food we eat  
Directly, and too bakes the land  
Diminishing our room to stand  
That rising seas also decrease  
As melting ice caps all release  
More water than returns as snow.  
What's more there is decreasing flow  
From glaciers on mountain tops  
And where flows end life clearly stops.  
As ice declines death rates speed up  
By flooding and an empty cup.*

*Heat also melts the permafrost  
Releasing plagues that were long lost,  
And methane gas which kills as well  
By making earth a deadly hell.  
As heat is killing food we plant  
It heats the oceans so they can't  
Breathe life into marine supplies  
On which humanity relies.  
It's heat that science also blames  
For turning forests into flames*

*That burn Earth's lungs and also leave  
Her breath impossible to breathe.  
Increasing heat too fills the sky  
With floods of tears that are Earth's cry*



*Of mourning, for the view is stark.  
We're floundering and there's no ark (Barr 2015: 01).*

The preceding chapter contained a description of the research design, the data collection process, implementation and the data analysis. In chapter four, the current chapter, data is presented together with a discussion of the findings. Chapter four begins with an extract from a poem by Barr (2015: 01) that encapsulates the consequences of injustice to the ecosystems. Barr (2015: 01) expressed the reality that faces our communities, should eco-justice and community engagement be ignored. It contains the broad themes and subthemes related to community engagement and eco-justice that were extracted from the transcripts during a content analysis of same. Such themes and subthemes needed to be understood and were analysed for the creation of an eco-justice model that could be used to guide how higher education institutions could engage communities in furthering their work. .

In chapter four higher level interpretative analyses focused on the meaning of the responses from participants. Since all the samples were asked similar questions the data obtained was analysed holistically. This involved summarizing the data into broad themes and subthemes, in line with the research questions. The aim of such higher level interpretative analysis was to identify the dominant themes and subthemes that made up the eco-justice model. Relevant findings from literature were also used to understand, link, expand or dispute findings. The results and findings were then presented. The presentation of results was divided into two sections. Section A began with the demographic profile of participants. This was followed by section B, which presented the responses from academics from Health Sciences, faith-based leaders and students from Health Sciences respectively.

The excerpts from academics were identified as “A” for academics, followed by the corresponding interview number e.g. (*A 1 interview*). The excerpts from faith-based leader were recorded as “FBL” followed by the corresponding interview number e.g. (*FBL 2 interview*). Excerpts from students were identified as “S” followed by the student number and the focus group discussion number e.g. (*S3 FGD 1*). As there were two focus groups, they were identified as “*FGD 1*” or “*FGD 2*.” The excerpts from the expert group were identified as “E” for expert followed by the expert number e.g. (*Expert 1*).

## **SECTION A**

### **4.2. DEMOGRAPHIC DETAILS OF PARTICIPANTS**

For the purpose of this study the participants demographic details were analysed as per the following four parts. Part A focused on the demographic details of Health Science academics, part B focused on the demographic details of faith-based leaders, while part C focused on the demographic details of Health Science students. Part D focused on the expert sample made up of academics and post graduate students from the Faculty of Health Sciences.

#### **4.2.1. Part A: Health Science academics**

A total of 14 Health Science academics participated in the study. From the 14 participants a total of five academics were from the Department of Nursing, five from the Department of Environmental Health and the remaining four were from the Department of Homeopathy. All academics were involved in teaching within their departments.

#### **4.2.2. Part B: Faith based leaders**

A total of 13 faith-based leaders participated in the study. From these participants, a total of four participants belonged to the Christian faith; four of them were from the Hindu faith and the remaining three belonged to the Islamic faith. These three faith groups are the most prevalent faith-based groups in KwaZulu-Natal (Chandramohan 2013: 50). All faith-based leaders from this study were actively involved in working with their communities.

#### **4.2.3. Part C: Health Science students**

Health Science students made up part C, of the participants. These participants formed two focus groups. Focus group one comprised of 10 fourth year Health Science nursing students, while focus group two comprised of 14 Environmental Health students. Participants from

these two focus groups were identified as participant one to 10, and participants 11 to 24 respectively. All participants were in their final year of training.

#### **4.2.4. Part D: Health Science experts**

The expert sample made up part D of participants. Three academics from Health Sciences (one from the Nursing, one from Environmental Health and one from Homeopathy), and two post graduate students (one from the Nursing, one from Environmental Health) made up this sample.

## **SECTION B**

### **4.3. FINDINGS FROM INTERVIEWS AND FOCUS GROUPS**

A total of 28 interviews and two focus groups were conducted for this study. Interviews schedules were used to guide the interviews with Health Science academics and faith-based leaders and focus groups schedules guided the focus group discussions with Health Science students. The data from the interviews and focus groups were analysed concurrently. This was possible as similar questions were asked during interviews and focus group discussions. Participants were asked the following: (a) how they conceptualized community engagement and eco-justice (b) the role of the university in promoting community engagement; (c) how community members and universities across KZN can collaborate to promote an awareness of eco-justice and (d) what the major components of an eco-justice model for Health Sciences should be. In addition, faith-based leaders were asked about the communities' relationship with the environment. During the basic level analysis, a total of nine broad themes and 41 subthemes emerged from the transcribed data. These themes and subthemes are introduced and discussed below (Table 4).

THEMES	SUBTHEMES
The conceptual issues	<p>Conceptualizing community engagement</p> <ul style="list-style-type: none"> <li>• A symbiotic relationship between the university and the community</li> <li>• Collaboration between academics and key stakeholders</li> <li>• Building inroads into the community</li> <li>• Identifying community needs</li> <li>• The role of the university as a facilitator and catalyst for positive change within the community</li> <li>• Sustainability</li> </ul> <p>Conceptualizing eco-justice</p> <ul style="list-style-type: none"> <li>• Eco-justice as a new concept</li> <li>• Caring and being gentle towards the environment</li> <li>• Being fair and maintaining the rights of the environment</li> <li>• Maintaining balance and harmony with the environment</li> <li>• Eco-spirituality as part of eco-justice</li> </ul>
Values and principles underpinning community engagement.	<ul style="list-style-type: none"> <li>• Developing civic responsibility</li> <li>• Developing respect and trust</li> <li>• Meaning communication between universities and communities</li> </ul>
Teaching content relevant to eco-justice	<ul style="list-style-type: none"> <li>• Respect for community assets and cultural commons</li> <li>• Fairness towards the ecosystems</li> <li>• An ethics of care and stewardship for the environment</li> <li>• Rationale for the preservation of the ecosystems for future generations.</li> <li>• Communication at a grassroots level</li> <li>• Creating awareness regarding the importance of the environment</li> <li>• Creating sustainable eco-justice initiatives</li> </ul>
The building of community-university partnerships	<ul style="list-style-type: none"> <li>• Connecting with communities</li> <li>• Breaking barriers between the universities and communities</li> <li>• Creating a mutually beneficial partnership</li> </ul>

	<ul style="list-style-type: none"> <li>• University as a driver of community engagement</li> <li>• Creating awareness about the importance of the environment</li> <li>• Acknowledging the community as a source of knowledge</li> <li>• Capacity building of the community</li> </ul>
Faith-based leaders assisting with community engagement	<ul style="list-style-type: none"> <li>• Utilizing faith-based leaders as inroads into communities</li> <li>• Faith-based leaders steering community development</li> </ul>
Transdisciplinarity that promotes community engagement	<ul style="list-style-type: none"> <li>• Working synergically across multiple disciplines to strengthen engagement and eco-justice</li> <li>• Bridging the gap between academics and community members</li> <li>• Mutual respect for all academics and community members.</li> </ul>
Bringing community engagement and eco-justice into the curriculum	<ul style="list-style-type: none"> <li>• Facilitating community-based research</li> <li>• Inclusion of community members in research</li> <li>• Shared decision making between universities and communities</li> <li>• Providing financial and material resources for projects</li> </ul>
Developing community engagement projects	<ul style="list-style-type: none"> <li>• Building inroads into the community</li> <li>• Initiating community engaged eco-justice projects</li> </ul>
Developing and nurturing community engagement strategies	<ul style="list-style-type: none"> <li>• Community-based education, workshops, seminars, work-integrated learning, and community-based research and service-learning.</li> <li>• Promoting volunteerism</li> </ul>
The universities role in promoting community engagement	<ul style="list-style-type: none"> <li>• Developing undergraduate capabilities</li> <li>• Providing opportunities for undergraduate participation in community service-learning and volunteerism.</li> </ul>

**Table 4: Relevant themes and subthemes from the data**

#### **4.3.1. Theme 1: The conceptual issues**

The first theme that emerged from the data was conceptual issues. Two subthemes underpinned these conceptual issues viz. community engagement and eco-justice.

##### **Subthemes 1.1: Conceptualizing community engagement**

All participants were asked how they conceptualized community engagement. Participants' responses resulted in the following subthemes:

##### **Subtheme 1.1.1: A symbiotic relationship between the university and the community**

A majority of academics and a few faith-based leaders described community engagement as a symbiotic relationship between the university and the community. These participants agreed that the relationship between universities and communities should be a shared partnership. Participants described as follows:

*"Community engagement should be symbiotic; it should work for the community and it should work for the person that's actually engaged in community engagement". (A1 interview)*

*"A relationship between the educational institution and communities. It is founded on a notion of partnership and service". (A9 interview)*

*"A shared partnership, as well, it is actually sharing and giving them back responsibility to take control of their lives". (A12 interview)*

*"It should not be unequally balanced. The community should get out as much as the university person actually doing it". (A10 interview)*

*"So, for me, it is interactive. It's a two-way process as both should benefit". (Participant 4)*

*"I think in a way it's like working together for the benefit of the community, and to achieve our goals, because we always have some goal or standard, we hope to achieve. So, it's like a relationship where we engage with them to get something back, and also for their benefit". (A11 interview)*

*“Community engagement is a process of sharing a relationship and working together between a university and a particular community, with the aim of helping the community for actualisation of its well-being, and students gaining knowledge”. (FBL9 interview)*

*“It’s where we as academics are actively involved with the community. I think in a way it’s like working together for the benefit of the community, and to achieve our goals because we always have some goal or standard we hope to achieve so it’s like a relationship where we engage with them and show some responsibility for their benefit”. (A11 interview)*

### **Subtheme 1.1.2: Collaboration between academics and key community stakeholders**

Most of the academic sample and a few faith-based leaders understood community engagement, as the university collaborating with key community leaders. They said as follows:

*“You got to work with key leaders first. It’s a principle of working together”. (A12 interview)*

*You know, all leaders and stakeholders must be involved right from the outset. They must be involved in decision making”. (A13 interview)*

*“I believe if we, religious groups merge with universities and if we share our time our vision, our aspirations and our goals for what we are looking at to make this egocentric environment. I believe we can do more. And working together is important. We cannot work in isolation; we have to work in collaboration with each other”. (FBL1 interview)*

### **Subtheme 1.1.3: Building inroads into the community**

Several academics stated that faith-based leaders make the best inroads into the communities.

*“It requires lot of interaction with the religious heads and leaders of these communities because without them you cannot have access to the community from the outside”. (A4 interview)*

*“From my understanding you know you have these community religious leaders and you have to seek their permission, so I think then the community is fairly involved”. (A10 interview)*

*“I believe the community leaders have a great impact on community and what your spiritual leader presents to people they accept. And they believe in them”. (FBL 1 interview)*

#### **Subtheme 1.1.4: Identifying community needs**

Participants believed that community involves identifying community needs.

*“I think community engagement also involves a wide consultation with the people, with the stakeholders explaining whatever you know or we may even try and look to identify the needs of the people around the specific issue, and they also need to contribute and be part of that process”. (A13 interview)*

*“Once needs identified we are better able to understand the needs of the community, the gaps, the deficits and then able to structure health care models that will cover those particular needs”. (A3 interview)*

*“If the community find a lack in that community then they the university must work together with them to try and help overcome that lack”. (A11 interview)*

*“Community engagement is getting members involved in the problems solving of community issues throughout the process of identifying, getting their ideas, inputs on matters”. (S13 FGD 2)*

*“As an academic the concept of community engagement encompasses the involvement of health care professionals in a community of marginalised individuals who previously did not have access to health care, medication or other services; and there is an exchange and a transfer of information that takes places by way of consultation with members of the community”. (A3 interview)*

*“Community engagement is engaging with the community to solve the problems facing the community, passing knowledge to the community about ways of improving the health and well-being of the community, getting knowledge from the community about what they need*



*and ways to solve them. Providing resources to the community that will help improving their health". (S20 FGD 2)*

### **Benefits of community engagement**

Participants believed that this will help make the community a better place as highlighted in the statements below:

*"I think community and health facilities and universities can work together in order to make a community a better community, to prevent diseases and help the community in decision making that will help the community". (S2 FGD 1)*

*"It is important for us to all work together and uplift the community and make it better". (A4 interview)*

### **Subtheme 1.1.5: The role of the university as a facilitator and catalyst for positive change within the community**

Academics stated that community engagement is about the university acting as a facilitator and catalyst for positive change within communities. The following comments reflect the views of participants:

*"I see it where the university is a facilitator, to mobilise community, to be a catalyst to bring about change. I see integration; the principle of integration definitely". (A12 interview)*

*"Community engagement for me it means universities be too involved, or to mobilise communities to participate in community issues that are affecting their rights. Community engagement is very, very important". (A13 interview)*

### **Subtheme 1.1.6: Sustainability**

Academics believed community engagement initiatives should be sustainable.

*“It must be that the community is left better off after a community engagement project”.*

*(A11 interview)*

*“It’s something that is sustainable that you start, and it needs to have continuity, it needs you to give the best of your knowledge but without imposing on others”. (A4 interview)*

*“I suppose I will talk at some point, factors of sustainability that under no circumstances would we go into a community and establish a facility if we could not guarantee that, that facility would be able to continue into the foreseeable future”. (A12 interview)*

*“You can’t predict things endlessly; but I felt that it was totally inappropriate for us to go into a community and start offering a service that we would not be able to sustain, not be able to sustain for 3 month, not be able to sustain even for a year; that was unacceptable to go into an engagement and to pull out”. (A9 interview)*

*“It relates to the idea of servicing, that if you are going into a community and you are offering a service and you are building a relationship on trust which is what it is that you do, not have the right to break that trust to, to withdraw the service. Yes, it is a learning opportunity, but you cannot use the learning opportunity as such; it has to ultimately be an act of service, and so those clinics that we have established must keep for years and years and years”. (A11 interview)*

### **Key points**

- A symbiotic relationship between the university and the community

As reflected in the aforementioned data Health Sciences academics conceptualized community engagement as a symbiotic relationship between the university and the community, where there is benefit for both the community and the university. Several scholars also conceptualized community engagement as a process that brings together higher education institutions and stakeholders (including individuals, communities, organizations,

and institutions) to build symbiotic relationships, and collaboration with the goal of improving the collective well-being of academic institutions and communities (Fitzgerald, Burack, Seifer and Votruba 2010: 441; Jacob *et al.* 2015: 02). Other scholars such as Matthews, Newman, Anderson, Castillo, Willis and Choure (2018: 08) and the Carnegie Foundation for the Advancement of Teaching (2015: 01) also said that community engagement is a process of collaboration between higher education institutions and communities for the mutually beneficial exchange of knowledge and resources, in a context of partnership and reciprocity.

➤ Collaboration between academics and key community stakeholders

Both the academic and student sample in the study were of the view that community engagement refers to the collaboration between key stakeholders in the community. Groark and McCall (2018: 07) and Musesengwa, Chimbari and Mukaratirwa (2017: 08) supported this saying that university-community engagement is the process that brings together stakeholders such as religious organizations, businesses, and community institutions, who build relationships and work together with the goal of improving community well-being and health. This can contribute to developing and sustaining successful community engagement projects that will ultimately uplift communities (Musesengwa, Chimbari and Mukaratirwa 2017: 08).

A majority of the academics, faith-based leaders and students also agreed that community engagement is about communities working with universities to enhance the well-being of communities. The National Co-ordinating Centre for Public Engagement (2013 in Wynne 2014: 1473) affirmed that community engagement was a two-way process, involving interaction and listening and working together, with the goal of generating mutual benefit. Participants further stated that university-community collaboration can provide knowledge and skills to the community and in turn students can gain practical skills whilst working with the communities. This was validated by a community engagement initiative by an Irish university who began sharing knowledge, skills and resources with Irish communities (Campus Engage 2013: 01). The Irish community reported that they gained skills and knowledge, and the community was empowered and developed (Campus Engage 2013 in Wynne 2014: 1474).

➤ Building inroads into the community

Academics, faith-based leaders and students from this study believed academics should be open to collaborate with faith-based leaders as they believed that faith-based leaders provide inroads into the community. Furthermore, participants from this study and from a study by Wynne (2014: 1474) agreed that faith-based leaders are respected within their communities and can assist with gaining access into the community.

➤ Identifying community needs

All participants believed that community engagement is about universities and community members identifying needs in the community and working together to meet these needs. In this way community needs, resources and strengths can be uncovered and utilized (Murphy 2013: 01). Similarly, Hewitt, Heeley, Abramovitch, Hynes, Bartlett-Esquillant, Asghari, Rideout, Knight and Sheldon (2017: 586) wrote that community engagement was “the process of working collaboratively with and through groups of people affiliated by geographic proximity, special interest, or similar situations to address issues affecting the well-being of those people”. Murphy (2013: 01) expressed that each community has its own unique culture, social structure, needs and assets; hence an assessment of community needs will help the university gain a deeper understanding of the community.

➤ The role of the university as a facilitator and catalyst for positive change within the community.

Academics in this study believed that engaged, academic institutions should be facilitators and catalyst for positive change. This would be of beneficial to the health and well-being of the community, and higher education institutions (Wynne 2014: 1474). Adekalu, Krauss, Ismail and Suandi (2018: 201) found that it is crucial that institutions of higher learning serve as change agents in order to promote economic and socio-cultural development by involving communities in their scholarly research projects. Such engagement offers communities the necessary skills and attitudes that will enhance quality of life (Adekalu *et. al.* 2018: 201).

### ➤ Sustainability

Most participants stated that community engagement initiatives should be sustainable, and this is only possible when there is mutual co-operation and consultation between academics and communities. Rooney (2018: 04) concurred stating that sustainable community engagement should include the ongoing participation and empowerment of community members in progressing community development strategies, hence enabling its systems, structures, culture, and traditions to continue, for generations to come.

## **Subtheme 1.2: Conceptualizing eco-justice**

Under subtheme two, all participants were asked how they conceptualized eco-justice. Participants stated the following:

### **Subtheme 1.2.1: Eco-justice as a new concept**

Firstly, most academics stated that eco-justice was a new concept to them. Some academics admitted that they had not heard of the concept “eco-justice” before. The following responses were noted:

*“To tell you the truth it is a new term for me”. (A11 interview)*

*“I have not come across it before, but I could have been exposed to it indirectly and silently in some ways”. (A5 interview)*

*“Never. Absolutely never, and not together. It is the first time, so I am glad you orientated me to it. But for me it is very fascinating that someone would worry about the environment”. (A10 interview)*

*“This term eco-justice is not something I heard before”. (A11 interview)*

*“When I look at eco I think of the fact that it is to do with ecological something that is safe for people, not harmful or but beneficial. I don’t know if I am right about that, but it is my perspective and justice is maintaining the fact that you are following by law so whatever you*

*are looking in terms of health and interaction with community engagement you are caring and causing no harm. It's like the codes of ethics in whatever activities you are doing" (A5 interview)*

Although most participants said that eco-justice was a new concept to them, they were able to conceptualize eco-justice by separating the concept "eco" and "justice." This resulted in the following responses:

### **Subtheme 1.2.2: Caring and being gentle towards the environment**

Most academics and students believed that eco-justice was about humans showing care and being gentle towards the natural environment. They said as follows:

*"I think when you speak about eco, it comes to mind as eco-friendly, where we are called to take care of the environment; flora fauna, the atmosphere, pollution; those kind of things come to mind". (A11 interview)*

*"Saving the planet, it is about saving the environment. Each person should be responsible for the environment". (A1 interview)*

*"I feel that eco justice is where humans work with the natural environment as well. So, it's like where as a human you caring and do your part for the environment. So, preserving the environment and things like that". (FGD, P.6)*

*"We are talking about caring and preserving the environment." (FGD, P9)*

### **Subtheme 1.2.3: Being fair and maintaining the rights of the environment**

All three samples emphasized that eco-justice was also about being fair to the environment. Some participants felt that since the eco-system is a living system, it deserved fair and just treatment.

*"I think eco-justice encompasses the rights of the environment. Who speaks for the environment and when I say environment I mean nature, the oceans and marine life, birds,*

*animals because we are starting to see that it is us as in humans against the world.” (A3 interview)*

*“Equality of all resources to every living being on earth. Treating all living things equally, fairly”. (S20 FGD 2)*

*“So, it’s about living without harming anything, and even if we do, we don’t over use or over do certain things; so in order to preserve nature rather in the long run having it being extinct of which will cause more problems”. (A5 interview)*

*“I think it’s about being gentle to the environment/nature, and also being considerate so that we can live together without harming each other because we also need these things in terms of our daily lives”. (A6 interview)*

*“Eco-justice is being fair to natural environment. Protecting the environment. Conservation of natural resources”. (S12 FGD 2)*

#### **Subtheme 1.2.4: Maintaining balance and harmony with the environment**

Faith-based leaders believed that eco-justice was about maintaining balance in our eco-system. They said:

*“Eco-justice for us we believe there must be balance in symbiotic relationships where you know you’re not growing or developing at the expense of another. I think it’s basically a humanitarian principle, but love must be reciprocated you can’t be pouring into others and there’s no reciprocation”. (FBL5 interview)*

*“For me it is about bringing balance to nature, to the ecosystem. Get what you can without abusing nature. I was talking about don’t cut wood, I mean trees for firewood, get the dead wood in that way you are respecting nature. So eco-justice for me is balance in nature. I will be doing justice to nature for our world and also because I think if we destroy the environment, if we do injustice to the environment, if we don’t take care of the environment, the consequences in the future will be very bad”. (FBL11 interview)*

### **Subtheme 1.2.5: Eco- spirituality as part of eco-justice**

Faith-based leaders and a few academics stated that eco-justice was a spiritual act. Almost all faith-based leaders stated that eco-justice was part of being spiritual. Furthermore faith-based leaders stated that eco-spirituality was part of their scriptures and spiritual teaching as follows:

*“Caring for the environment is ultimately a spiritual act. We do it because we believe that it enriches us, that it raises our awareness. Its Gods work”. (A9 interview)*

*“As Hindus we honour mother earth” (FBL4 interview)*

*“We very particular about the environment. We actually have meditations, we reflect on the seeds and have meditation, and that vibration actually helps taking care of the environment”. (FBL6 interview)*

*“You will get to know more about the Brahma Kumaries World Spiritual University. Their vision of a society that is equal, peaceful and sees nature as Godly. A society free from any abuse, or indifferences towards any and all of God’s creation”. (FBL6 interview)*

*“One of the vision that the Christians have is that God made us carers of the Earth. Our job is to look after it and respect it, and to genuinely care”. (FBL8 interview)*

*“We equip people to be able to be good stewards of the universe that God has given to us”. (FBL5 interview)*

*“There is communion between humans and nonhuman realities in the universe and we are dealing with eco justice so indirectly trying to improve human living and human well-being also”. (FBL9 interview)*

*“So I think that the module should be both, should introduce the whole system of eco justice and also the history of it, and how important for the world, but also bringing the ethical aspect; that is the foundation of our relationship with the environment and the spiritual dimension as well”. (FB10 interview)*

Faith-based leaders expressed that communities show little concern for the environment and this mind-set should change. They said:



*“Communities are not concerned at all or don’t even have knowledge of the importance of preserving the environment”. (FBL5 interview)*

*“Well when it comes to the environment the community don’t have much knowledge and caring”. (FBL12 interview)*

### **Key points**

#### ➤ Eco-Justice: A new concept

Academics and students in this study found eco-justice to be a new concept. In contrast most faith-based leaders stated that eco-justice was part of their spiritual teachings, even though they did not refer to it as “eco-justice” Faith-based leaders practice eco-spirituality, which encapsulates a loving relationship between the nature and humans (Rabasso and Rabasso 2014: 68; Vaughan-Lee 2013: 01). Eco-spirituality is a fundamental belief in the sacredness of nature, earth and the universe (Rabasso and Rabasso 2014: 68). Furthermore faith-based leaders see humans as being inextricably related to all other life forms within an interrelated, interconnected web that is part of the Divine’s dance of eco-spiritual perspectives (Rabasso and Rabasso 2014: 68). For this reason, globally, more religions, spiritual traditions and faith-based communities are becoming active in environmental movements by going green and educating communities and members about their spiritual duties and obligations to protect our natural systems (O’ Donnell 2015: 02). This was in contrast with the academics and students who found eco-justice to be something they had not heard of before.

#### ➤ Caring and being gentle to the environment

Almost all participants agreed that eco-justice had to do with caring and being gentle to the environment, and all its inhabitants. This includes preserving the natural environment. Gray and Coates (2015: 502) cautioned that in order to preserve the natural environment human beings need to care and understand that eco-justice and transformative change is crucial for addressing the impacts of this global environment crisis. Social and environmental activists advocated gentle treatment and concerning care towards the environment (Boetto 2017: 56).

Such activists cautioned governments and businesses against over-emphasis of economic development at the cost of broader issues such as global poverty, social justice and depletion of the natural environment (Boetto 2017: 56).

➤ Being fair and maintaining the rights of the environment

Most of the three samples agreed that eco-justice is related to fairness and showing justice to ecosystems, by reducing over consumption and overuse of natural resources. Heydon (2018: 27) and Adekunle (2017: 23) concurred that eco-justice is a quest for fair and just treatment at two interrelated levels: fair treatment of people and fair treatment of the environment. For human-kind to enjoy the basic necessities of life, human beings need an enabling environment (Adekunle 2017: 23). Adekunle (2017: 23) cautioned that what is fair for the environment is that people protect the environment and keep it safe, so it can be sustained for the next generation (Adekunle 2017: 23). Blewitt (2015 in Boetto 2017: 56) added that any sustainable development should meet the rights and needs of the present generation of life form, without compromising the ability of future generations to meet their own needs.

➤ Maintaining balance and harmony with the environment

Faith-based leaders concurred that it is important to maintain balance in our ecosystem. Carlson (2018: 41) agreed that such balance was critical in order to maintain harmony between all forms of life. Integral ecology means that ecological integrity and social justice are linked because humans and nature are part of nurturing, interdependent life systems that must co-exist harmoniously (Tucker and Grim 2015: 39). Tucker and Grim (2015: 39) and Carlson (2018: 41) quoted from the Bible, stating that the original source of all that is good is an act of God, who created both the earth and man, allowing man to enjoy its fruits but not destroy God's creation; thus maintaining the circle of life.

➤ Eco-spirituality as part of eco-justice

Faith-based leaders and a few academics saw eco-justice as a spiritual act since they felt that all of creation, is a gift from God that must be respected and preserved for future generations. Boetto (2017: 54) agreed that religious and spiritual knowledge from traditional indigenous cultures was about living in harmony with the natural world and was based on spiritual beliefs, holism and collectivism which create a spiritual connection with the environment. In 2015 Pope Francis from the Roman Catholic church urged faith-based leaders to join him in speaking about justice for the environment and to educate communities about the human suffering that climate change was causing (Tucker and Grim 2015: 43). He went on to commission the United States General Assembly and United States Congress to highlight the urgent need for eco-justice initiatives, specifically climate change action (Tucker and Grim 2015: 43).

Some participants were of the opinion that that eco-justice includes elements of eco-spirituality. These participants felt that suffering and damage to Gods creation should be alleviated, especially since such suffering is a consequence of human behaviour toward natural resources. Participants believed that damaging and destroying God's creation, reflects disrespect towards God and people would have to be accountable to their creator. Vaughan-Lee (2016: 02) stated that eco-spiritual values can be found in all of the world's religious traditions and communities, no matter how they are articulated. It is these perspectives that recognize the importance and relevance of the immanent Divine, and the power of understanding, the human relationship to the planet, and their direct experiences of the natural world (Vaughan-Lee and Hart 2017: 02). According to Brinks (2014: 05) faith deepens as we strengthen our relationship with God and all his creation, of which the eco-system is a part of.

O'Donnell ( 2015: 02) found that the emerging eco-spirituality movement within faith based communities worldwide, provides both a critical re-vitalization of humankind's relationship to nature's unique sacredness and "a powerful ultimate reality leveraged spiritual imperative" (Rabasso and Rabasso 2014: 68). Such social institutions have the potential to provide Fsupport for the current secular sustainability movement's programmers and goals. Vaughan-Lee (2016: 02) and Brinks (2014: 01) concurred that people are increasingly yearning to live a life congruent, with the tenets of their faith and the will of ultimate reality, as they understand it

regarding the sacred values of nature and stewardship for nature. This view was also voiced by Boetto (2017: 54) who agreed that spiritual knowledge requires living in harmony with the Gods creation. In this way the spiritual connection with the environment and all of creation is maintained (Boetto 2017: 54). Arguably one of the most profound modern environmental publications by Pope Francis' encyclical letter 'Laudato si': On Care for Our Common Home', called for attention to the vast destruction of the environment that has been escalating in recent decades, as well as the blatant disrespect human's display for the natural earth and all its lifeforms (O'Donnell 2015: 01). The Pope drew on current environmental issues such as pollution, climate change, water shortages, biodiversity loss, and global inequality, to explain the causes of the overall decline in the quality of human life (O'Donnell 2015: 01). He reinforced the point that such behaviour is against all spiritual teaching (O'Donnell 2015: 01).

It is against this backdrop that ways to explore how businesses can serve humanity in its deepest sense, rather than creating a poverty of spirit, as well as an ecological wasteland (Boetto 2017: 54). According to Boetto (2017: 54) and O'Donnell (2015: 01) humanity needs to develop awareness that the all food, clothes, and energy used are not just commodities to be consumed, but rather a part of the living fabric of a sacred Earth. Contemporary approaches to economic, social and material development have failed to address what many believe to be humankind's abiding need for spiritual growth (Boetto 2017: 54). Material advancement can only be sustainable, when spiritual development is seen as an integral part of the human development (Mohamed 2014: 315). Deep ecology has maintained that the idea of endless economic growth is unsustainable and that businesses as usual will destroy the beauty and diversity of our world (Boetto 2017: 54; Mohamed 2014: 315).

#### **4.3.2. Theme 2: Values and principles underpinning community engagement**

Findings from interviews and focus group with all participants from this study revealed several values and principles that underpin community engagement. These values and principles made up the following sub-themes:

### **Subtheme 2.1: Developing civic responsibility**

Academics stated that lecturers must shift their mind-sets towards civic responsibility. They added that universities should serve their communities since universities are public institutions who benefit from the communities.

*“So, we must have some civic responsibility to the public and that is important part of higher education’s role as well, because we are public entities”. (A4 interview)*

*“Whatever we create and develop in these environments, we must be able to give back to the community and civic environment”. (A4 interview)*

### **Subtheme 2.2: Developing respect and trust**

Participants from all the samples stated that it is important for academics to build rapport with communities. Participants stated that by building a relationship of trust and respect, the universities will gain the support of their communities. Participants said:

*“I think you respect and build trust with the community and you create that awareness that they do exist”. (A10 interview)*

*“You have to push your agenda not your benefit, but for the health of the people. Then the community has faith and trust in you; that you have their concerns at heart”. (A12 interview)*

*“I think you build trust with the community and you create that awareness that we do exist as a university”. (A10 interview)*

*“The student develops an understanding of the relevance of their discipline to communities; that communities then have a relationship of trust with the particular individuals”. (A9 interview)*

*“Mutual respect and honesty as well in collaboration are important here”. (FBL10 interview)*

*“I feel universities should help us as students to create a trust relationship with community and stakeholders”. (S6 FGD 1)*

### **Subtheme 2.3: Meaningful communication between universities and communities**

Participants from all samples explained that there must be open dialogue between the universities and their communities.

*“Definitely, better communication skills. Education should be two-way. We are telling them something that we like to get back, but I think it is needed when it comes to maintaining the ecosystem”. (A1 interview)*

*“It comes down to good communication in an academic environment, a community environment; good interdisciplinary communication, good institutional communication, top down approach, lateral approach and communication communication, communication”. (A7 interview)*

*“It is when one is able to communicate with the community towards improving or achieving certain things as a community”. (S18 FGD 2)*

*“Yes, it is a partnership and a relationship. It is a process with a relationship and communication; and defining what they are going to achieve as a common goal together”. (FBL9 interview)*

*“I think that community engagement is part of the social engagements, so simply again a kind of dialogue established between institutions or organisations and the government or the Faith-based organizations or NGOs; simply teaching institutions with particular communities around the issue of eco system. The community should be open towards dialogue, but with the institution or Faith-based organizations”. (FBL10 FGD)*

Participants added that there should be a translator if there is a language barrier:

*“Communication is very important. Even if there is a language barrier, we try can to have a translator”. (A6 interview)*

## **Key points**

Three key issues emerged as part of the sub-themes under the theme of values and principles underpinning community engagement.

### ➤ Civic responsibility

Participants agreed that all academics must display civic responsibility in terms of protecting the environment. This was reiterated by Adekalu *et al.* (2018: 192) and Kearney, Wood and Zuber-Skerritt (2013: 113), who wrote that along with research and teaching, community engagement has been acknowledged as a core function of higher education, which helps in promoting the economic, environmental and socio-cultural development of communities. O'Sullivan and Taylor (in Liden, Findeisen and Bajec 2017: 25) argued that a “quantum leap in academic consciousness” is needed if we are to halt the destruction of the natural environment, since most environmental destruction, are rooted in human action and decision-making”. Participants were of the view that higher education institutions must develop a more socially responsible attitude when working with communities since public universities are publicly funded, therefore they have a responsibility to give back to their communities. Wynne (2014: 1474) argued that while academics have been benefiting from conducting research within communities, most academics do not acknowledge their role in giving back to the same communities. Kearney, Wood and Zuber-Skerritt (2013: 113) concurred, adding that it is about time that academics contribute to community development. For this to occur, several scholars recommended that universities share their academic expertise related to environmental sustainability with communities (Wynne 2014: 1474; Adekalu *et al.* 2018: 192; Liden, Findeisen and Bajec 2017: 25).

### ➤ Developing respect and trust

Respect was seen as crucial in terms of achieving the support of the community. This was consistent with some of the common values that South African universities uphold, which defined their institutional ethos and distinctive educational purpose and philosophy (Kearney, Wood and Zuber-Skerritt 2013:118). These values included (1) respect for diversity and for

the natural environment, excellence and integrity; and (2) *Ubuntu*, a traditional African concept characterised by human interdependence and open, friendly, supportive relationships. Respect and trust are therefore crucial to any community university project (Kearney, Wood and Zuber-Skerritt 2013:118). Academics and students therefore need to show respect and be trustworthy to the community. In this way the dignity of communities can be maintained (Kearney, Wood and Zuber-Skerritt 2013:118). Kolopack, Parsons and Lavery (2015: 09) wrote that showing respect means that all community members are treated as people whose interests mattered.

Participants voiced the need for deep reflection on community needs. According to Beere, Votruba and Wells (2011: 28) deep reflection refers to academic and students being empathic and having an understanding of the issues that affect communities. With regard to eco-justice, this involves having knowledge of the environment in which the community lives, as well as the lifestyle and culture of the community. Beere, Votruba and Wells (2011: 28) added that during reflection students' learning becomes deeper and meaningful as opposed to merely acquiring information and then providing a series of facts about a subject matter. In addition, deep reflection allows students to respect and understand the complexity of what they are studying, as well as its value to the community it serves (Beere, Votruba and Wells 2011: 28).

The study found that trust was important for successful community engagement) Beere, Votruba and Wells 2011: 28). Participants agreed that communities must be able to trust higher education institutions, before they agreed to work with them. Groark and McCall (2018: 15) agreed that the key to long-standing successful university–community collaboration is mutual trust and respect among the university and the community. Faith-based leaders stated that they are seen as trusted leaders by their community members, since they work closely with their communities. For this reason, higher education institutions should partner with faith-based institutions as these leaders understand their community needs and can assist with community-based teaching and community projects. Participants, especially faith-based leaders cautioned against the exclusion of faith-based institutions as they felt that leaders of such organizations provide inroads, into the community and give input into available groups from within the community for research projects. This view was supported by O'Donnell



(2015: 02) and Vaughan-Lee (2013: 02), who advocated for the inclusion of faith-based leaders in community, based projects, especially projects that promote the conservation of the ecosystems.

➤ Establishing open communication between academics and the community

Open and transparent communication between academic and community members also emerged as being important. Kelly, Wang, Lucas, Fraenkel and Gross (2017: 251), agreed that meaningful collaboration between universities and communities could be difficult, therefore it would be helpful to involve communities in advisory committees and participatory research, in order to achieve genuine and meaningful engagement through good facilitation and communication skills. Hence academics should have good communication skills (Kelly *et. al.* 2017: 251).

#### **4.3.3 Theme 3: Teaching content relevant to eco-justice (Values and principles)**

Participants from all the samples indicated what could be included when teaching eco-justice. The following subthemes emerged:

##### **Subtheme 3.1: Respect for community assets and cultural commons**

Academics and students emphasized the need to teach respect for the ecosystems which includes all forms of life.

*“We must show respect. This involves respecting the natural environment; plants, water, animals and marine life, which make up the cultural commons”. (A6 interview)*

*“As an individual if we respect the ecosystem, then we look at eco-justice, we put everything together; the plants, the animals, the air; the individual has control over. We then respect it all”. (A5 interview)*

*“Maybe, respect for the environment. I know it is covered to some degree. I know it is covered in Community Health, but I am not sure to what extent. Prevention of pollution and protection of the ozone layer because we need the flora is respecting”. (A11 interview)*

*“You must treat nature the same way you like to be treated, treat nature or environment in a good way and keep it safe”. (S15 FGD 2)*

Faith-based leaders also believed that faith-based organizations could help in spreading this respect to community members. Participants said:

*“I know my organisation has respect for the environment. We talk about it and we teach; don't mess and so forth”. (FBL4 interview)*

### **Subtheme 3.2: Fairness towards the ecosystems**

Participants from all samples expressed that eco-justice was about being fair in interactions with the environment. They said:

*“Eco-justice for me is being fair with regards to how we interact and communicate with various ecosystems or environments that we operate our communities in”. (A2 interview)*

*“I feel that eco-justice is where humans work with the natural environment as well. So, it's like where as a human you do your part for the environment. So be fair by preserving the environment and things like that”. (S6 FGD 1)*

*“It is about being fair to the environment in terms of the resources we use in an environment; and being fair and modest in terms of what we use and how we use it, and also not to ruin the environment, in a greater scheme of things with regards to global warming and other environmental crisis that is going on internationally and globally”. (A2 interview)*

*“Treating the environment fairly and ensuring that resources are widely used and not wasted, depending on the environment; plants, land, animals, sea creatures”. (S13 FGD 2)*

*“All people must follow laws that enforce eco-justice and educate people about the importance of eco-justice”. (Student 24 FGD 2)*

*"It is concerned with the fair treatment or relationship of the environment for future generations. Eco-justice means keeping the environment safe and clean for future generations". (Student 22 FGD 2)*

### **Subtheme 3.3: An ethics of care and stewardship for the environment**

Academics and faith-based leaders cautioned that it was important, to maintain an ethics of care and stewardship towards the environment, as opposed to harming the environment.

*"It's like working with the community mainly, in environmental and so forth, to show care. If you look at the pollution right now, the people are burning bags and so forth. Every day it is happening. We can talk to them about caring, and tell them don't do this and don't do that and why". (FBL4 interview)*

*"Not many people are aware of the dangers of damaging the environment. Not many people that live in our society are conscious of the importance of the environment like trees, the fish in the sea, the land, planting, being self-sufficient; so we have to educate them and tell them that you have been placed on this earth to have dominion over everything. And we have to take care of it". (FBL1 interview)*

*"People don't have the will to look after the environment. Its fine, it's not up to me. It's someone else's job and that's the attitude that actually needs to change". (A1 interview)*

*"I think it's about being gentle to the environment/nature and also being considerate, so that we can live together without harming each other". (A6 interview)*

Furthermore, academics and faith-based leaders stated that such an ethics of care and stewardship should also be reflected in the universities' academic programme and curriculum. This was verbalized by the following participants:

*"I think all Health Departments should be into caring; everyone comes together so like in our Department here, we come together whether you are in the management or the community health or primary health or whatever, and that we conceptualise one project, one big programme and then we allocate students different aspects of that project, then we have a sustainable project, then we know in that community we are making a difference to that community and they now know we care". (A8 interview)*

*“We had to plant trees, making sure that we are taking care of the environment not just getting from the environment but giving. I mean what it is the term they used in the universities, where students begin to work in a place as part of their training”. (FBL9 interview)*

*“So far they do community. They do the projects, community assessments and engaging in the community in some work. They do that in 1<sup>st</sup> year and 2<sup>nd</sup> year. I like to see it continue in 3<sup>rd</sup> and 4<sup>th</sup> year, and where in 4<sup>th</sup> year they do a big project. They get involved in a big campaign. To prepare them for their professional life, so they won’t put it on the shelf once they out. They take it with them”. (A 12 interview)*

*“There is a community component perhaps to just strengthen and evaluate, now whether it was beneficial and then re-plan for that. We need to take it to another level, go out and they need to be supervised by people who know what they are doing and people who have community at heart”. (A12 interview)*

#### **Subtheme 3.4: Rationale for the preservation of the ecosystems for future generations.**

Academics, students and faith-based leaders believed that the ecosystems must be preserved for future generations. Participants cautioned that failure to do so could result in future generations suffering, due to depletion of basic natural environmental resources.

*“In the long run we might need the same plant and the same environment only to find out it is no longer there”. (A6 interview)*

*“We need to understand what are we doing to our plants and our trees and we are killing it, the animals what are doing to them”. (A5 interview)*

*“We should also think about the other generations that will need for example water and we shouldn’t pollute water because fish also need water; because there is a food chain, we need fish to eat and the fish need water”. (S9 FGD 2)*

*“To preserve nature rather in the long run having it being extinct of which will cause more problems”. (A6 interview)*

*“Eco-justice means the act of using the things in the ecosystem in a sustainable manner so that they can be used in future”. (S24 FGD 2)*

### **Subtheme 3.5: Communication skills at a grassroots level**

Academics stated that it was important to introduce communication skills at a grass root level. This would enable students to communicate with local communities and build a rapport with them. The following relates to communication skills:

*“So, for me as part of a symbiotic relationship means you need to communicate with the community on grass roots level, so you need to work with them on a daily basis”. (A1 interview)*

*“Okay again it would be communication, and in order to communicate it will be easier to train some people, yes we can go into the community and we can do it ourselves, but we don’t want to train and then leave it. We want it to be a sustainable, something that can go on month in and month out”. (A5 interview)*

In addition one participant stated that a translator should be used if there was a language barrier:

*“If they don’t understand English someone needs to be there and explain it to them nicely and okay, so this is what is going to take place”. (A7 interview)*

### **Subtheme 3.6: Creating awareness regarding the importance of the environment**

Faith-based leaders stated that communities need to be aware of the issues that affect the environment. They said:

*“Not many people that live in our society are conscious of the importance of the environment; like trees, the fish in the sea, the land and plants. Being self-sufficient, so we have to educate them and tell them, that you have been placed on this earth to have dominion over everything. And we have to take care of it”. (FBL1 interview)*

*“Community people are not even concerned at all or don’t even have a knowledge of the importance of preserving the environment, but we will also be held accountable for the earth because it is a perishable resource. If it is not replenished through simple things that manage the environment better; recycling or basic commodities of not littering or understanding if you do plant, what kind of crops to plant, management of animals, like how you can drive animals away without necessarily killing them.” (FBL5 interview)*

*“It’s not only South Africa, it’s an international thing. The trees are cut down to build houses, the rivers are contaminated zones. We are contaminating the marine environment. The sea is in danger, fish, marine life”. (FBL7 interview)*

*“Especially in black Africa, which is my background, we are not sensitive enough, we throw things around in plastic, we just use, and so to begin to develop a spirituality, where people they work on their way of being in caring for the environment”. (FBL11 interview)*

### **Subtheme 3.7: Creating sustainable eco-justice initiatives**

Health Science students emphasised that eco-justice initiatives levelled by universities should be sustainable by the communities. They explained that such initiatives, should develop the community’s confidence, so that they can continue when the university students leave. They said as follows:

*“We can health educate people about going green”. (S1 FGD 1)*

*“As students we can teach the communities to recycle waste, like they can use plastic to make mat. They are so creative. We must not look down on them, so they can be able to carry on alone”. (S4 FGD 2)*

## ***Key points***

### ➤ Respect for community assets and cultural commons

All participants believed there should always be respect for the natural environment, which included plants, water, animals and marine life; all of which make up the cultural commons. This was emphasised by Adekunle (2017: 25) who stated that respect for the environment was a necessity for sustainable development and survival of all earth's species. For this reason, human beings need to realize that the earth's natural resources are not limitless resources (Adekunle 2017: 25). In enhancing human health and welfare, there must be attention to the health of the earth (Adekunle 2017: 25).

This was similar to the view of Strang (2016: 263) who stated that by privileging the needs of human beings over that of other living beings we are lacking respect, and consequently eco-justice is denied; as well as the rights of nature. Furthermore, if nature is ruled out as undeserving of any moral consideration, then justice for nature is abandoned proving that nature does not count and that nature is not seen to be a locus of intrinsic value (Washington *et al.* 2018: 369). Several scholars cautioned that this is ultimate disrespect and communities need to be educated against abandoning respect for nature (Strang 2016: 263; Washington *et al.* 2018: 369). Hence if this continued, human health and well-being would ultimately suffer as the earth would not be able to supply the sustenance, which was needed for survival (Adekunle 2017: 25). To achieve such balance and eco-justice, there should be a need for alternatives to the current expansion of capitalist consumer culture, including socio-economic changes which should aim towards the reduction of environmental racism, limiting resource exploitation and cultural colonization of non- Western societies and renewing environmental commons (Paige *et al.* 2018: 50).

### ➤ Maintaining fairness towards the ecosystems

Participants agreed that there was currently a lack of fairness to the ecosystems. Participants felt that there needs to be fair and just consumption and usage of natural resources from our ecosystems. To end this, participants stated that there must be usage that meets basic needs and not usage that ultimately leads to the depletion and destruction of the natural

environment. Participants stated that human beings are contributing to pollution, damage to the ozone layer, extinction of animal and plant life and toxicity of oceans, atmosphere and soil.

Fairness, as stated by most participants, is a principle of eco-justice that will ensure that natural resources are available for future generations. This is reinforced by Washington *et al.* (2018: 370) who argued that all nonhuman species have a moral right to distributive justice. This would require humans to acknowledge the rights of nonhuman species to environmental resources, which they too need for survival (Washington *et al.* 2018: 370). Failure to do so will deplete resources for generations of humans and nonhumans to come (Washington *et al.* 2018: 370). In addition, Adekunle (2017: 23) found that when land, water and air are indiscriminately treated, it is not only the wildlife that suffers, but also human life. Deforestation of vast areas of land, droughts, pollution and industrialization in the name of human progress has led to incalculable damage and depletion of natural resources that sustain human health and well-being (Adekunle 2017: 23). Another participant spoke about the need to display fairness towards all laws that govern justice for the environment.

➤ An ethics of care and stewardship for the environment

Although a majority of academics and students stated that they were not familiar with the concept eco-justice; most stated that eco-justice can be related to aspects of caring, respect, fairness and dignity of the environment and ecosystems. Participants further stated that there must be an ethics of care and stewardship for the environment. This was congruent with the views of Kulnieks, Longboat and Young (2013: 121) who believed that ecologically-minded academics are stewards of the ecosystems. Such academics can positively impact curricular development to enable knowledge system interactions (Kulnieks, Longboat and Young 2013: 121). Furthermore, academics have great influence on future scholarship and policy development in education (Kulnieks, Longboat and Young 2013: 121). In addition, Kulnieks, Longboat and Young (2013: 121) advocated that an interdisciplinary environmental education theoretical framework, within public education systems should inspire academics and students to develop an ethics of care and stewardship for their local environment. In this way



academics will be able to encourage students to think about themselves as being part of the environment in which they live (Kulnieks, Longboat and Young 2013: 121).

According to Paige *et al.* (2018: 50) we need a new set of values that will guide our actions and serve as stewards of care. Such values could be implemented in our educational institutions and could be initiated through community engagement (Paige *et al.* 2018: 50). In this way humans can develop the capability to be forward-thinking and altruistic (Washington *et al.* 2018: 370). In this vein curricular content and practical skills that develop an understanding of the earth, through developing a deeper relationship with plants, animals, and the way in which water connects us all, should be a primary focus in curricular development (Kulnieks, Longboat and Young 2013: 121). Kulnieks, Longboat and Young (2013: 121) concluded that because this is overlooked, it poses serious challenges in higher education and in the public systems of education in general.

➤ Communication skills at a grassroots level

Participants explained that there must be open dialogue between the universities and their communities at a grass roots level. Participants were of the view that good communication is important, as it enhances the relationship between the university and the community and assists the community to take ownership of projects. These findings are congruent with the views of Marais, Minkler, Gibson, Mwau and Corburn (2016: 445), who agreed that interpersonal communication skills are often the most valuable method of information sharing during community engagement and good communication and is invaluable to safe health and environmental practices.

Participants also emphasized that communication allows academics to understand the needs, skills and knowledge base of a particular community. Participants added that there may be a need to utilize a translator if there was a language barrier. A few participants stated that we have communities that have different cultural backgrounds and as these communities interact, there is cultural diffusion and cultural change. Due to the diversity of different cultures participants emphasized that students also need to understand cultural dynamics in order to work together. This would indicate that students require sensitive social and communication skills to interact with community members from different cultural backgrounds. This is

congruent with the views of Pera and Van Tonder (2012: 169) and Andrews and Boyles 2016: 376), who stated that culturally sensitive care requires effective intercultural communication, to create shared meaning between people who have divergent cultural views. It further allows for the understanding of the norms of communication of subcultures (Pera and Van Tonder 2012: 169; Andrews and Boyles 2016: 377).

➤ Creating awareness about the importance of the environment

Participants expressed that human beings are contributing to pollution, damage to the ozone layer, extinction of animal and plant life and toxicity of oceans, atmosphere and soil. They agreed that this is unjust and unfair towards the ecosystem. It is for this reason that they felt that communities and academics should have knowledge of the local and global ecosystem and the damage thereof. For this reason, engagement advocates, argued that community research findings and knowledge should be made accessible to affected communities and not just published as a thesis or articles (Wynne 2014: 1473). With this trend of thought Barrera (2015: 203), stated that as social consciousness is raised internationally higher education institutions should address the growing inequalities in our societies, issues of social justice and societal well-being. Community engagement must be seen as fair, must build trust and must maintain sustained relationships within and outside the communities (Reid 2013: 40).

Participants stated that community engagement can help in reducing the lack of knowledge regarding environmental damage as this is critical to maintaining health and wellness of all forms of life. According to Adekunle (2017: 22) most communities lack knowledge of the serious consequences of the industrial revolution. This was made evident when several scientists cautioned that a drastic reduction in carbon emissions is needed urgently in order to create a 50% reduction by 2030 and avoid devastating droughts, floods, extreme heatwaves and poverty (Taylor, Watts, and Bartlett 2019: 01). However, emissions are still rising and wildlife is continuously being annihilated, with the animal populations falling by an average of 60% since 1970 (Taylor, Watts, and Bartlett 2019: 01). Human existence is threatened by the decline of natural life-support systems, with 50% of the natural ecosystems now destroyed and a million species, now at risk of rapid extinction (Taylor, Watts, and Bartlett 2019: 01).

For this reason Adekunle (2017: 22) stated that communities need to be aware of the negative impact on the environment such as intensive use of water resources for industrialization and intensive use of energy which is needed to power heavy farm machines, produce nitrogen-based synthetic fertilizers, manufacture pesticides and transport food over long distances. As a consequence, there is air pollution due to the burning of large amounts of fossil fuels, which in turn leads to global warming (Adekunle 2017: 22). Alarmingly MacShane (2012: 02) stated that community members often lack knowledge regarding the resulting effects on health such as respiratory problems and carcinomas. For this reason, education is vital to prevent serious health issues (MacShane, 2012: 02). Furthermore, participants from this study stated that it would create much needed knowledge of local and global ecosystems.

➤ Creating sustainable eco-justice initiatives in education

Participants also noted that eco-justice initiatives by universities must be sustainable and should continue even after academics and students have left the community. Rooney (2018: 04) shared the same view stating that eco-justice initiatives are only beneficial, if they can be continued once the university has left. In order for such sustainability, the community must have been empowered with the requisite knowledge and skills to sustain eco-justice or any other community project on their own (Rooney 2018: 04).

#### **4.3.4. Theme 4: The building of community- university partnerships**

##### **Subtheme 4.1: Connecting with communities**

Participants felt that academics and students must go into the communities and get to know the community and their needs, strengths and weaknesses. Participants agreed that this will assist the universities to develop a connection with their communities. The following comments were made by participants:

*“DUT should have affiliations with community development organizations and connect with them. So, students can do community work with these organizations, to gain experience. Use*

*recycling system. Educate friends on respecting the environment and caring for it". (S13 FGD 2)*

*"Yes, community connection is a major major thread. It's by engaging with the community and the world. Engagement means really really going out there and not just talking but really engaging with them and understanding what their problem is, their needs and strengths". (A7 interview)*

*"In a community-university partnership, it's connecting. We need to understand them. They need to understand us. We can benefit from each other. I think if we are willing to go there and if they are also willing to come to us, if that makes sense". (A5 interview)*

#### **Subtheme 4.2: Breaking the barriers between universities and communities.**

Faith-based leaders admitted that it was not easy to get university academics to engage with communities and faith-based organizations. Participants said as follows:

*"I won't say that it is easy, it is quite difficult universities working with communities". (FBL4 interview)*

*"It is very difficult to get co-operation from the universities. Well depending who is there? If I go there and talk to the Dean and he say yes, but they just brush it aside and you hear nothing from them". (FBL4 interview)*

Participants also agreed that universities need to invest more time working with communities

*"The university should invest more in communities, involve more students and be open courses that promote participation between communities and students". (S16 FGD 2)*

Faith-based leaders added that despite their busy workloads, university students and academics should find time to go into the communities. This was noted in the following comments:

*"Well, I think because of a lack of education or the circumstances we are living in, all of us want to become urban and we are leaving behind the natural vegetation." (FBL3 interview)*

### **Subtheme 4.3: Creating a mutually beneficial partnership**

Participants found that any community-university partnerships should be of benefit to the community as well as to the university. They said:

*“Community engagement is symbiotic; it should work for the community and it should work for the person that’s actually engaged in community engagement. It should not be unequally balanced. The community should get out as much as the person actually doing it.” (A1 interview)*

*“The more the university engages with the communities we can have a reciprocal system, where we give to the community and the community gives back to us in terms of teaching, learning, research and experience, as well plus we have a purpose in that we serve the community in an attempt to transform our society.” (A1 interview)*

*“There is a training component obviously, in that students have the opportunity to exercise their skills within communities; there is a service that is provided that communities have access to knowledge skills and facilities that they might otherwise not have had access to.” (A9 interview)*

### **Subtheme 4.4: University as a driver of community engagement**

Participants were of the view that higher education institutions could become sources of community education and empowerment. Participants stated that academics and students have knowledge that they can use to educate their communities. Participants said:

*“I believe even the universities play a pivotal role in educating people. Yes, students can go into the community and also be of benefit to society as a contribution”. (FBL1 interview)*

*“The medical students spend 5 to 7 years at university and then they come out and go to the hospitals for an internship. What if they spent in the hospital and community areas, not only will they get more exposure to what they will be doing, they'll get more experience and can treat plus educate communities”. (FBL3 interview)*

*“They are members of the community that are educated through universities. I guess they are sent back to work in the community amongst ordinary people, so this is a very important role*

*and contribution universities make. Another way to is that there should be programmes organized by universities, that simply educate people about ecology or about the ecosystem and so on, so this is a very important role of the university, when it comes to South Africa. The context is multicultural and also multi-religious. The university should constitute the bridge when it comes to that". (FBL10 interview)*

#### **Subtheme 4.5: Acknowledging the community as a source of knowledge**

Participants stated that community members have a rich knowledge base, hence academics should be willing to learn from them. Participants agreed that we can learn new knowledge, from the community and not only from lectures and textbooks. This includes knowledge about their environment and the different methods they have been using to maintain and develop the environment. Participants said as follows:

*"To learn about their knowledge and I mean for example if we go to community-based, their community for example, a rural community, look at what they can do. I mean they know so much more about vegetation planting and things like that, trees and plants, they have the knowledge. They know how to do these things and you look at us on the other end, where we sit in offices. We jump in our cars, get to work and get home. We are not in that environment and if we go to them, we can learn from each other", (A5 interview)*

*"But I think it's when it comes to maintaining the ecosystem and when it comes to vegetation and planting, they could actually teach us a thing or two." (A11 interview)*

*"When you say indigenous knowledge remember we are living in a multicultural society and people look at different ways of healing. Different ways of treating their illnesses and again it comes back to this whole eco-justice. There is a lot of illnesses that are actually caused because of pollution and lack of eco-justice knowledge. If I can say so I am hoping that by actually engaging with the community, there are lots of ideas that can actually come forth". (A7 interview)*

*"University of course is a place where knowledge is cultivated, theoretical knowledge and it needs to be tested, otherwise it just remains knowledge and so if knowledge is being*

*generated here and taken to the community, to be shared with the community and to see if it works". (FBL 11 interview)*

*"It is both sides. In a sense that we both have separate knowledge of what is going on; okay they say you bring some of the theoretical knowledge we can take to the community, to try to explain something and then community has practical knowledge, they bring something to the table and so when we engage we work together and therefore we are in a partnership and one group benefitting the other ". (FBL11 interview)*

*"So, it's in keeping with our universities vision in terms of student engagement and student centeredness. The more the university engages with the communities we can have a reciprocal system where we give to the community and the community gives back to us in terms of teaching, learning, research and experience as well, plus we have a purpose in that we serve the community in an attempt to transform our society". (A2 interview)*

A few faith-based leaders felt that academics could be aloof. They expressed:

*"Yes, I also come from an academic background and I know there's some sort of arrogance that comes with academia. And they want to divorce themselves from the less academic and the only time that they will want to interact with the less academic is if their point of view is pushed through and for me". (FBL3 interview)*

*"They are purely academic really; they only go there for students placement, who need to do practical's with communities. Otherwise the university orientation, it's not working with adversity. They are aloof." (FBL7 interview)*

#### **Subtheme 4.6: Capacity building of the community**

Participants agreed that the academics should adopt a community centred approach to empower the community. Participants agreed that community engagement, community awareness, community well-being and community development must be at the forefront of any research project as stated below:

*"Academic must want to develop the community. Do research with and adopt a way to empower the community. If the community becomes involved in the research, then they will*

*then go and tell others. It gives them insight and understanding on certain things that maybe they were not aware of.” (A6 interview)*

### **Key points**

#### ➤ Connecting with the communities

According to the participants community–university connectedness is critical to community engagement. Participants felt that academics and students must go into the communities and get to know the community. They felt would allow the academics to gain an understanding of community needs; further academics will be able to identify strengths and weaknesses that are found within the communities. Participants agreed that this would assist universities to develop a connection with their communities. According to Baijnath (2012: 01) and Townson (2018: 178) institutions of higher education have kept their distance from society for far too long. As a result, they have failed to respond to the knowledge needs of their developing communities. Baijnath (2012: 01) argued that this needs to change. Wilson (2013: 222) added that professionals need to develop civic responsibility, as they have knowledge of the needs of the community, which would allow students to develop their competencies.

Participants stated that when universities connect with the community, there is the development of community awareness, whereby the academic fraternity becomes aware of community needs. Participants felt that this is possible if universities invest time in the communities. Jacquez, Ward and Goguen (2016: 78) wrote that community relationships, takes place when time is invested in communities and when community members take part in research/community projects. Furthermore, results from research projects can easily be disseminated to key stakeholders in communities who can use results to develop interventions and inform policies (Jacquez, Ward and Goguen 2016: 78). Hence results will not just be published in academic journals (Jacquez, Ward and Goguen 2016: 78).

McNall *et al.* (in Wynne 2014: 14711) wrote that within the literature on community-university partnerships, there is substantial agreement on four general characteristics of effective community partnerships and community connection viz: cooperative goal setting and planning; shared power, resources and decision making; group cohesion and partnership



management. Additionally, community engagement should achieve equitable, meaningful and active community participation and should acknowledge and utilize community strengths to accelerate improvements in health prevention and promotion (Matthews *et al.* 2018: 08).

➤ Breaking the barriers between the community and academics

Participants believed that the barrier between communities and academics must be broken. Since access and acceptance into communities can be a challenge some participants wanted assistance with community accessibility and gatekeeper approval in order to break this barrier. Participants believed that community leaders and faith-based leaders are gatekeepers to their communities and can assist with breaking barriers between communities and universities. Additionally, De Santis, O'Connor, Pritchard, Franco, Ahmed and Nelson (2012: 02) found that there are significant demands for effective community engagement practices from community leaders, such as faith-based leaders and academic leaders within universities.

➤ Creating mutually beneficial partnerships

Participants were of the view that university community partnership should be symbiotic in nature where each are actively involved and benefit equally. Consequently, participants felt that positive values underpin all aspects of university engagement, from how a university defines its community, to how a 'good' citizen is perceived when developing pedagogical, curricular and non-curricular strategies. Civic engagement advocates have argued that public scholarship means that the 'goods' produced by scholarship, should be public in benefits (inclusive), public in decision making (participatory) and public in fair and just consumption (Ming Khoo 2009: 01). In this way such conceptions shift an understanding of the university and by extension of the academic, from expert creator and transmitter of knowledge, to a co-creator of knowledge.

Participants spoke about mutually beneficial relationships between higher education institutions and communities. Participants stated that when higher education institutions and communities work together, the rewards benefit both these groups. Participants emphasised that through these relationships, students and academics are able to develop practical skills

and experience whilst communities become empowered to sustain their own environment. Woolf *et al.* (2016: 592) were in favour of universities working with the community, as they felt that community members developed a feeling of ownership and commitment for moving from research to action. In this way there is power sharing, and community members can take on leadership roles and have input into all aspects of engagement hence both the community and university benefit by gaining skills knowledge whilst achieving community development (Woolf *et al.* 2016: 592).

➤ Encouraging attitude change of academics towards working with communities

Several participants stated that the mind-set of academics towards civic responsibility must change. Participants went on to explain that for this to happen academics need to give back to the communities. Most participants stated that universities should serve their communities, since universities are public institutions who benefit from the communities. Participants agreed that this requires a feeling of social responsibility. A few participants felt that there is little attention towards caring for the environment, as people tend to focus on financial, industrialization and personal gain at the expense of the ecosystem. Participants stated that this attitude needs to change in order for the next generation to enjoy a safe quality of life. According to Adekunle (2017: 24) attitude change on the part of people, towards treating the environment with respect is critical. Should such arrogance continue the results will be food crises, flooding, and threat to both wildlife and human life (Adekunle 2017: 24). Boetto (2017: 54) was of the belief that communities needed to change their attitude towards the natural environment, by recognizing that ecological resources are finite, and that over-consumption and over-production will eventually deplete the earth's natural resources.

➤ Acknowledging the community as a source of knowledge

Participants stated that community members have a rich knowledge base hence academics should be willing to learn from them. Also, academics should work with community members to create new knowledge. Curry (2011: 175) saw traditional ecological knowledge as a mixture of "ecological wisdom, spiritual values and corresponding ritual practices," which re-

embodies traditions, preserves knowledge, and “reconnects new ways with a very old sensibility.” Participants were of the opinion that indigenous knowledge from community members, can inform many academic programmes and curricula. This view was shared by Boetto (2017: 54) who agreed that academics can learn from indigenous cultures about how to live in harmony with the natural environment. Furthermore Boetto (2017: 54) recognized that traditional indigenous cultures have a rich knowledge of the land and that they use many environmentally sustainable practices that have been lost through modern and western invasions. When there is such socio-cultural collateral learning, value of respect, reciprocity, tradition, and humility can be integrated and shared (Rutherford-Nielsen 2014: 31). Following the same mind-set Prakash (2009 in Kulnieks, Longboat and Young 2013: 122) stated that community backyards can be a great source of education with regards to learning about healing our bodies and healing the earth. For this to happen academics should provide opportunities for learners to think about what they can learn from their grandparents, parents and community elders, who may still remember how to engage with practices that are ecological.

Kulnieks, Longboat and Young (2013: 121) believed that such ecologically-minded academics can positively impact curricula development to enable knowledge system interactions. Furthermore Kulnieks, Longboat and Young (2013: 121) found that academics have a great influence on future scholarship and policy development in education. In addition, Kulnieks, Longboat and Young (2013: 121) advocated that an interdisciplinary environmental education theoretical framework, within public education systems should inspire students to develop an ethics of care and stewardship for their local environment. Additionally, academics should encourage learners to think about themselves as being part of the environment where they live (Boetto 2017: 54). Practices that develop an understanding of the earth, through developing a deeper relationship with plants, animals, and the way in which water connects us all, should be a primary focus in curricula development (Kulnieks, Longboat and Young 2013: 121). The fact that this is overlooked poses serious questions not only in higher education but in the public systems of education in general (Kulnieks, Longboat and Young 2013: 121).

All participants agreed that the academic curriculum should pay attention to understanding and conserving the ecosystem. According to several participants failure to do so will lead to increased mortality and morbidity of our communities. Washington *et al.* (2018: 372) and Kulnieks, Longboat and Young (2013: 121) concurred that the failure to acknowledge the need for eco-justice, in curricula content will accelerate mass destruction of the ecosystem. Also, any meaningful education must advocate the value of eco-justice and the implications for all forms of life should it continue to be ignored (Washington *et al.* 2018: 372). In this vein Washington *et al.* (2018: 372) and Kulnieks, Longboat and Young (2013: 121) urged academics to foreground eco-justice as a requirement for health and survival of all life forms.

Participants also stated that humankind do not learn everything from lectures and textbooks. They agreed that new and creative knowledge and information can be acquired from the community and their surroundings. This includes knowledge about the environment and the different methods they can use to maintain grow and develop their environment. They stated that this would benefit the overall well-being of its people, thus contributing to community development. According to Beere, Votruba and Wells (2011:19) knowledge is not only created in the university laboratory or classroom but is also created in the real world as knowledge is not valuable unless it is enacted in the field of practice or the community it serves. Furthermore, knowledge and expertise already exist within the community and academics must be open to such expertise that lies within the community (Beere, Votruba and Wells 2011:19). A common basis with regard to definitions and debates on community engagement, is the inclusion of language about mutuality and reciprocity. Practitioners in university-community partnerships are attuned to what happens when institutional mores and culture, meet community mores and culture (Wynne 2014: 14710).

#### ➤ Capacity building of the community

Participants felt that higher education institutions have the ability to contribute to the capacity building of students and communities. Participants added that community members have an abundance of knowledge that must be tapped into. In this vein higher education institutions should recognize that when addressing complex social, environmental, health and educational issues it is more effective when solutions are not only derived by educational

experts (Saltmarsh 2017: 03). This would create collaborative knowledge generation and problem solving in ways that redefine where knowledge comes from and who has the expertise (Saltmarsh 2017: 03). Such collaborative effects by higher educational institutions, acknowledge that the experience and knowledge of communities are important portals for knowledge creation (Saltmarsh 2017: 03).

Participants expressed that in order for Health Science students to engage with communities they need the requisite academic, practical and social capabilities. This was reinforced by Soria, Mitchell and Noble (2016: 01) who wrote that as the world has become interconnected, it will require future leaders who will be skilled for responsible participation in critical issues that face the health and well-being of our people. Beere, Votruba and Wells (2011: 29) agreed that such student engagement and education results in good leadership skills, better academic results, an interest in further studies, greater knowledge of subject content, an ability to apply theory to practice in the community, critical analytical skills and positive civic responsibility.

One participant felt that universities should contribute to the empowerment of youth by reducing ignorance e.g. providing career expos and workshops. In this way the younger generation could then empower their communities. Bricker, Jackson and Binkley (2014: 04) were in favour of empowering the youth within communities, in areas such as farming, so that the youth in turn would share these skills with the broader communities. This was later reinforced by Kirk and Grohs (2016: 129) who warned that if community engagement and service-learning is not properly designed to include the younger generation and if not well implemented with community outcomes as a priority, then it will not be the 'magic bullet' for community education and community development as envisaged.

This immediately has implications for how knowledge is generated and disseminated and for those who are involved in this process (Wynne 2014: 1476). It suggests a shift from thinking of the community in deficit terms to conceiving of the community as a site of expertise (Wynne 2014: 1476). In this way, community partners then become integral to the knowledge production process (Wynne 2014: 1476). Emphasis is placed on public scholarship, on sharing the expertise of the university more broadly, and on learning from communities, both local and further afield, to contribute to public problem solving and community empowerment (Kistnasamy 2014: 594; Wynne 2014: 1479).

#### **4.3.5. Theme 5: Faith-based leaders assisting with community engagement**

##### **Subtheme 5.1: Utilizing faith-based leaders as inroads into communities**

Participants stated that faith-based leaders have a larger influence on community members, as they can provide inroads into the communities. This was supported by the following comments:

*“I think one of the key things universities should do is when they are looking at communities, they should in my opinion they should consider faith -based organisations like ourselves as an intricate part of the community”. (FBL5 interview)*

*“I think the university should rather go into the community through a FBO as opposed to going straight through a community itself. Because when the university is long gone that FBO can follow up on whatever interventions where started”. (FBL5 interview)*

*“Community engagement happens when you enter or infiltrate the community through the gatekeeper such as councillors, priests or ministers or pastors. If you break through those then they release the whole community to come listen to you. They even offer a church for the meeting, a kraal; it's a traditional court, community hall. They even offer meals for the occasion to happen. If you break through that then you have the community with you. It is very difficult to go directly into the community to mobilize. You mobilize through such leaders” (FBL7 interview)*

##### **Subtheme 5. 2: Faith-based leaders steering community development**

Several participants emphasized that faith-based leaders can contribute to educating community members on environmental and health issues. This was noted in the following comments:

*“Community leaders, religious leaders, church organisations, Ashram organisations; all these people need to actually, you know be involved, and I actually think eco-justice to me is an under-researched area”. (A7 interview)*

*“It is important for us to all work together and uplift the community”. (FBL4 interview)*

*“One of our biggest projects is rejuvenating rivers which have been gone for years about 136, there is water going into the houses. Also, here in the Western Cape we tied up with the locals. They don’t do anything to the land. So we started developing a food circle security, food farming where these people can grow their own in their backyard and it has been very successful with these people, a lot of the seeds are organic seeds which has gone into the market and they are doing a lot of farming in that part of the world”. (FBL02 interview)*

*“So, one of the things we were doing to concertize the community is with them, we were planting a lot of trees in the area at least to maintain the ecosystem, if that makes sense”. (FBL9 interview)*

*“So, I went into the rural clinics and I met with all the Inkosi's, Indunas as well. We have clinics and mobile clinics. My job was giving education there. Giving educational talks, like on health and keeping the environment clean and safe”. (FBL6 interview)*

A few participants stated that faith-based leaders also provide education through their own religious university. Faith-based leaders stated that most faith-based institutions provide education on eco-justice and are eco-friendly. The participants made the following statements:

*“We have our own university. It’s called Shri Shri University in “Udesa.” It is being considered as the most green building. It is completely eco-friendly and no smoking in that environment completely. Lot of people are looking into one of the faculties is Architecture aspect where they do building structures based on the ecosystem. So that university is pretty big”. (FBL2 interview)*

*“We always educate about the situations of the area that we live in; sometimes health problems it is environmental, we need to talk about the usage of water, no wastage of water, remembering that it is not just for us because even if we save from our own borehole it affects all other living other organisations around us. We talk about the use of light and we emphasize on recycling what can be recycled”. (FBL9 interview)*

*“It would say it would be very interesting to make an ecosystem curriculum. Very, very important and where they can take all those kids who are seriously interested in the*

*ecosystem, to another country and tie up with some there and see how they do all these things. I mean a small thing like permaculture, a lot of people doing permaculture in this country". (FBL2 interview)*

### **Key points**

- Utilizing faith-based leaders as inroads into the community

A few faith-based leaders felt that academic institutions tend to be either unapproachable or too busy to work with them towards assisting with issues that affect communities. Participants agreed that this must change. Participants emphasized that the university must work with key community leaders first in order to gain the support and commitment of the communities. These participants saw faith-based leaders as key stakeholders. Participants agreed that such community leaders were the best inroads into any community. This was congruent with Marais *et al.* (2016: 442) views, who wrote that during the process of community engagement it is importance to identify community leaders such as faith-based leaders (imams, priests and traditional healers) as they are community leaders who have the respect of their communities. Baijnath (2012: 01) noted that community engagement opportunities could be made easier with the approval of such leaders as they provide inroads into these communities. Pope Francis from the Vatican felt strongly that faith-based leaders are able to lead communities in efforts to partner with institutions who focus on saving the earth from global warming and other forms of damage to the ecosystem (Tucker and Grim 2015: 43; Tucker, Grim, Boff and McDonough 2015: 01). Scholars agreed that such efforts would contribute to sustaining human mortality and reducing morbidity (Tucker and Grim 2015: 43; Tucker *et al.* 2015: 01).

- Faith-based leaders steering community development through community engagement

Faith-based leaders stated that they are continuously involved in community development. Faith-based leaders believed that through working with the community on projects such as eco-justice projects, they could offer eco-justice education and support to communities. This was evidenced in the latter half of the twentieth century, when many faith-based organizations became motivated by their religious faith and began working towards community development



and earth preservation (Clarke and Ware 2015: 01). This was in the form of creating environmental sustainable projects and educational motivation sermons on love for God's creation (Clarke and Ware 2015: 01; O Donnell 2015: 01). This was in aid of improving the material well-being of the world's poor (Clarke and Ware 2015: 01).

#### **4.3.6. Theme 6: Transdisciplinarity that promotes community engagement**

##### **Subtheme 6.1: Working synergically across multiple disciplines to strengthen engagement and eco-justice**

According to several academics it would be beneficial if there was an integration of Departments within Health Sciences, when working within communities. Participants made the following comments:

*"Each department could come up with eco-friendly solutions building, eco-friendly nurses, and homeopaths". (A1 interview)*

*"When you look at health sciences you look at it in isolation the different departments you would look for example at Nursing, at Homeopathy, at Chiro and all these different departments and Child and Youth and Environmental Health, and you think why are looking at it in silos". (A7 interview)*

*"We need to have an integrated Health Sciences, in other words a little bit of the Nursing a little bit of the Homeopathy, a little bit of the Enviro all these departments need to come together". (A 7 interview)*

*"So, if there is this interaction this cooperation between the different departments within the faculty of Health Sciences then because each department or profession has its own merits and limitations. So, this can bridge the gap". (A13 interview)*

### **Subtheme 6.2: Bridging the gap between academics and community members**

Several academics agreed that the gap between academics and community members must be bridged so that community members feel comfortable when working with academics. They said the following:

*“I think any project would fall apart if the community never had a major role. For this the community must feel comfortable as they work”. (A04 interview)*

### **Subtheme 6.3: Mutual respect for all academics and community members**

One academic felt that there must be mutual respect, between all academics that work together. This respect must also prevail between academics and community members. The following statement was made:

*“When you consult you need to show respect, you need to explain to the people, and you need to talk about the benefits of whatever project is being established and you need to show that kind of respect”. (A13 interview)*

### **Key points**

- Working synergically across multiple disciplines to strengthen engagement and eco-justice

Participants stated that integration within the Faculty of Health Sciences is important as each department has input specific to their area of speciality, which when combined will be of benefit to communities. According to Van Bower (2017: 339) transdisciplinary integration in Health Sciences involves the transcending of disciplinary boundaries by sharing of knowledge, skills and decision-making. This involves a focus on real-world problems faced by communities and the inclusion of relevant stakeholders including universities, communities and community stakeholders (Van Bower 2017: 339). This was in line with the findings of Kneipp, Gilleskie, Sheely, Schwartz, Gilmore and Atkinson (2014: 352) who investigated common public health problems and research teams within Health Sciences. They said that the models of scientific collaboration differ by the level of theoretical and methodological integration that occurs within teams and that the academic, career, and societal/health

outcomes from the research vary based on the level of integration (Kneipp *et al.* 2014: 353). In essence, transdisciplinary research is considered to be the most progressive and is conducted when team members integrate or fully synthesize concepts, theories, and/or methods across disciplinary perspectives (Kneipp *et al.* 2014: 352). In addition, numerous scholars have acknowledged the contributions that nurse scientists are able to make as members of interdisciplinary teams, because of the skills they acquire in areas of interpersonal communication, crossing cultural boundaries, and coordinating the efforts of diverse groups when providing care to communities (Kneipp *et al.* 2014: 352).

Participants emphasised the importance of teamwork and collaboration between disciplines within the universities. This would include teamwork and collaboration being part of learning, teaching and research, especially when collaborating on a project together. According to Reid (2013: 40) an engaged university has to become embedded, integrated and intentional; not only in research and teaching related to curricula; but must be purposefully organized around clearly articulated commitment to changing communities and societies for the better and must contribute to a safe, healthy and secure future. This requires integration and teamwork within universities as they work with communities in order to understand and address the challenges that endanger the well-being of communities and the real world (Reid 2013: 40).

➤ Bridging the gaps between academics and communities

Participants agreed that community members must be at ease when working on projects with academics. This will contribute to the successful completion of projects. Woolf *et al.* (2016: 591) stated that successful projects require teamwork and ease between all participants which include community members.

➤ Showing respect for all departments within Health Sciences and communities

Participants stated that when teams across different disciplines begin to work together, they tend to get to know each other and not only respect each other but also respect each other's expertise and skill. Participants agreed that this creates mutual respect on a professional level as well as a personal level. This view was reinforced by Woolf *et al.* (2016: 591) who wrote

that authentic engagement is underpinned by respect for each other and this leads to trust, regardless of the training or experience of stakeholders. Furthermore, mutual respect and trust elevates the moral plane of engagement as treating each other as co-equal partners minimizes the risk of mistrust (Woolf *et al.* 2016: 591).

Participants in this study agreed that when there is respect between the disciplines of a university, it will enhance work output. Additionally, when there is professionalism and good interdisciplinary team work, it creates positive interaction and trust (Reid 2013: 40).

#### **4.3.7. Theme 7: Bringing community engagement and eco-justice into the curriculum**

Participants and academics can benefit from projects that they engage in together. The following subthemes explain this further.

##### **Subtheme 7.1: Facilitating community-based research**

A large number of participants were in favour of community-based research. Participants felt that communities had a lot of environmental issues that affect their well-being. Participants agreed that communities have information on issues affecting the environment. This information could be utilized in research to promote eco-justice and community development. Participants said as follows:

*“I’m sure if we go to the community to do research, they will be willing to meet us and understand us and understand where we are coming from and work with us. We all know that there is a lot of damaging things that’s happening in and around our areas”. (A5 interview)*

*“Take it to the community and we need them; as to what we are doing and where we were and where we are going by the injustice to the whole ecosystem model and then how we can rectify that and move forward by doing research”. (A5 interview)*

*“I think any research would fall apart if the community never had a major role. It’s about them at the end of the day. Basically, we have the knowledge and the insight. We may have the*

*exposure to projects in the past and experience but at the end of the day the community needs have to be met". (A4 interview)*

Faith-based leaders agreed that community-based research can benefit community needs. Community-based research is an approach where academics and community members collaborate as equal partners to conduct research that is aimed at improving the well-being and health of the community, through action by both sides (Nicolaidis and Raymaker 2015: 167). They also believed that communities should collaborate with faith-based leaders when doing community-based research. The following responses were noted by participants:

*"I believe universities should collaborate with faith-based organizations and we can work together with communities. First of all, we should do research of a community. What is the problem? Why is this community not working? Then we say okay, it is struggling and then it's weak in these three areas, let's design something collectively, let the people take ownership". (FBL5 interview)*

*"You could do research with the community, just to do your thesis and not go back to the path and deliver those findings to the community". (FBL5 interview)*

*"So, the university should engage with people like us who are on the ground so when they are doing research like what you are doing right now, I think it is a good thing". (FBL5 interview)*

*"I believe universities should also create a space for leaders to come and to have dialogue about some of the challenges facing communities and universities, therefore they should guide the post grad students towards areas that are in need, or challenges on what is really affecting the people on the ground, rather than creating a thesis." (FBL5 interview)*

*"Actually because if we take university as what it is, it's a research supposed to be for the well-being of the human community, because if university doesn't carry out its research out of the academia you just have a tower, but university can take this research, go into the communities and bringing down the understanding of the community. This helps to see the community, the benefits of what they have around them and this could have improvement of their lives". (FBL9 interview)*

### **Subtheme 7.2: Inclusion of community members in research**

Participants agreed that community engaged research should have research committees that include community members. In this way community members will have a better understanding of the project and there is a platform for their input. Participants said as follows:

*“Research will play a very important part and remember again when you actually go out and engage with the community to get there buy in, you actually have to have some sort of knowledge accumulation from previous research that you can actually put out there and that is very important”. (A7 interview)*

*“Then we can also ask community leaders, religious leaders and so on to become part of the data collection process, to facilitate it. So, we can probably give talks and then post research. They can meet in a religious congregation or whatever and give feedback to the community as well. There is a very big role to play there”. (A2 interview)*

### **Subtheme 7.3: Shared decision making between universities and communities**

Participants agreed that shared decision making processes between the community and university, improves the quality of the research. Participants said it allows community members to take ownership and have an interest in completing the project successfully. This was noted in the following responses:

*“So, they feel as if the project is something that belongs to them. It’s not just something that we come and offer, it’s something that belongs to. So, through that you can get more projects going and all sorts of things, so community engagement should be symbiotic.” (A1 interview)*

*“The community and the university are involved and engaged in every aspect of life. Be it the environment or health related issues, all of that. It’s a principle of working and sharing together, mobilising, informing, then developing them. It’s like community development”. (A12 interview)*

#### **Subtheme 7.4: Providing financial and material resources for research**

Participants felt that there should be sufficient financial and material resources to initiate and facilitate community engagement projects. They also stated that universities should provide tangible assistance and education to communities.

*“I think that the universities should ensure that the students have money and transport to go to the community and sometimes they donate money in order to”. (S10 FGD 1)*

*“There should be funding for working with the community”. (S11 FGD 2)*

*“DUT can give funds to promote this eco-justice community engagement projects “. (S20 FGD 2)*

#### **Key points**

##### **➤ Facilitating community-based research**

According to the sample community-based research was important to promoting community development and community empowerment. They felt that since community-based research is about community issues, it was important to include communities in such research initiatives. According to Wynne (2014: 14710) community-based research and education should be done *with* rather than *on* communities. Partnership in research, one of the most important forms of developing community engagement that deals with people's issues, is a way of being and a way of working with others that implies mutual understanding, a common good, reciprocity, collaboration in decision making and transparency regarding outcomes (Wynne 2014: 14710). It lays the foundation for the research and the development of a learning society which can stimulate, direct and mobilise the creative and intellectual energies of all the people towards meeting the challenge of community development (Department of Education, 1997: 03). Faith-based leaders from the study were of the view that they should also be included in community-based research, in order to steer community development.

➤ Inclusion of community members in research

Participants felt that research that is done within academia has little value unless it is taken into communities; to involve, educate and empower the communities. They agreed that community engaged research should have research committees that include community members. They also felt that in this way community members will have a better understanding of the project and there would be a platform for their input. In this vein Allison, Khan, Reese, Dobias and Struna (2015: 05) found that *community-based research which involves the communities provides students with the opportunity to respond directly to community needs. Additionally, students would have the opportunity to practice critical thinking, problem-solving and conflict-resolution skills which will be necessary for their professional life and engaged citizenship* (Allison *et al.* 2015: 05). A Research Community Advisory Boards in Chicago comprised of academic and community representation (Matthew, Newman, Anderson, Castillo, Willis and Choure 2018: 09). This group created a platform for the capacity development of academics and community partners and increased skills, resulting in effective and culturally sensitive communication about increased research opportunities (Matthew *et al.* 2018: 09).

➤ Shared decision making between universities and communities

Participants agreed that collaboration and shared decision making between the communities and universities improves the quality of research. Participants agreed that such research should involve communities in decision making related to any research initiatives. This allows community members to take ownership and to have an interest in completing projects successfully. Research that is based on collaboration and shared planning and implementation with community members has the potential to improve the quality of that project (Jacquez, Ward and Goguen 2016: 82). Additionally, research that involves community members in the research design, development and data collection will most likely have less missing data because community members, have the lived experience and expertise to guide data collection (Jacquez, Ward and Goguen 2016: 82).



➤ Providing financial and material resources for research

Participants also stated that there should be a sufficient budget for community-based research. Adekalu *et al.* (2018: 192) stated that even though some universities provide grants for community-based research, such funds are often inadequate and not accessible. This was supported by De Santis *et al.* (2012: 02) who wrote that most state institutions should provide funding opportunities for community-based research; especially for areas such as community development and health. Participants argued that there must be adequate financial and material resources for initiating and carrying out community engagement projects. This was also noted by Nigerian academics who were interviewed to assess if community engagement projects have adequate funding and resources (Adekalu *et al.* 2018: 192). They expressed that a lack of adequate funding and resources to execute community projects, will result in projects not being successful (Adekalu *et al.* 2018: 192). Furthermore, research projects initiated with the involvement of community members who are involved in all aspects of planning and implementation, which include funding and resource planning, should be encouraged (Udofia, Noble, Poelzer 2015: 100; Adekalu *et al.* 2018: 192).

#### **4.3.8. Theme 8: Developing community engagement projects**

Community engagement projects were found to be an important way to contribute to eco-justice. The following subthemes emerged:

##### **Subtheme 8.1: Building inroads into the community**

Since access and acceptance into communities can be a challenge some participants agreed that there should be assistance with community accessibility and gatekeepers' approval. They said:

*“Well I think what could be done to promote community engagement is that universities should have a good relationship with the councillor so that the community could be informed that the students are coming, there and then the students will be able to find out the needs of the community”. (S9 FGD 1)*

*“I think community engagement means involving committees with community sectors and everything and promoting health”. (S8 FGD 1)*

- **Subtheme 8.2: Initiating community engaged eco-justice projects**

Participants felt that universities should be involved in eco-justice projects as part of community engagement. They said that there are several eco-justice projects that communities can be introduced to when working in collaboration with higher education institutions. This includes the following:

- **Recycling projects**

Several participants agreed that recycling projects can promote eco-justice by reusing plastics and other recyclable material:

*“Yes. Our students they have a justice group among themselves, so they go out to do you know awareness programmes. So, in that sense they are engaging with the community as a university. We have a programme of recycling that we do and collect recyclable materials for our people. And I think we can also take that to the community so in that sense we have the knowledge that by caring for the environment we are protecting, we are promoting eco-justice and share it with the community and the community can learn a little sensitivity and they can take care on the environment”. (A11 interview)*

*“I feel that we should we should work together with the communities and their schools, because their schools do projects, a lot of crafts, they do a lot of arts so maybe they can help. They can help us to recycle things and make crafts out of recycled material”. (A6 interview)*

*“I feel that we need to have more recycling community projects taking place”. (S6 FGD 1)*

- **Water purification projects**

Participants were willing to go out into the community and teach communities on how to purify water from rivers. Participants said:

*“There is a need out there; we forget that people need to know and need information. A mother was getting her water from the river and making her feed and things, so I taught her how to purify the water even little things like jik”. (A12 interview)*

➤ Planting of crops

Community members can also be taught skills on how to plant crops. Planting of crops projects included university students working with communities and schools and teaching them about planting crops and seeds. They said:

*“I worked in a situation with homeless people, we were involved in making sure that are those in the programme, are taught skills and part of the skill was a garden to produce vegetables. We had other students from other universities to come and do community work, to actually work in the garden”. (A11 interview)*

*“I think when the community and the university work together it’s not by only providing health education to the community but also to assist the community and show them how to for example, how to plant. There is a high percentage of poverty in the community”. (A3 interview)*

*“They don’t do anything to the land. So we started developing a food circle security....food farming where these people can grow their own in their backyard and it has been very successful with these people, a lot of the seeds are organic seeds which has gone into the market and they are doing a lot of farming in that part of the world.” (A2 interview)*

Faith-based leaders also felt that they could partner with universities to initiate community projects that would save the earth. They stated that they could help teach community members how to plant crops and how to tend to crops. This was noted in the following extracts:

➤ Community food project

Participants stated that if communities had these planting skills they could share food produced and even formulate a community market centre:

*"I think we should encourage our communities regarding one home one vegetable garden, so we should also encourage and join communities to have projects like one home one garden". (S8 FGD 1)*

➤ Planting of trees

Participants agreed that eco-justice could also be promoted by tree planting initiatives whereby universities could partner with communities to grow trees. One participant said:

*"One thing we can be doing is planting lot of trees to maintain the eco system". (A9 interview)*

➤ Community empowerment projects

Participants agreed that those community members who are taught about caring for the environment, can teach others from their own experience:

*"If the community becomes involved in the study then they will then go and tell others, because it's something else when you tell a person but it's something else when a person is involved. It gives them insight and understanding on certain things that maybe they were not aware of". (A6 interview)*

➤ Social media projects

One participant stated that the use of social media, can promote ways to conserve the environment:

*"Even on radio stations instead of them talking about it, they can go to the study, then they learn and talk about something that they have seen and understand". (A6 interview)*

➤ Cleaning the oceans

One participant expressed as follows:

*“You know in the past few weeks there have been studies of all kinds of sea fish and they're all full of plastic. There's 300 million tons of plastic going into the ocean every. We're hanging on huge volumes of debt to future generations and we are hanging on to huge ecological problems to them and the population is likely to be higher. So, if you're a mathematician you would kind of see a picture of doom unless there are big changes in communities, starting to clean beaches.” (A8 interview)*

### **Key points**

#### ➤ Building inroads into the community

Participants stated that students should utilize the assistance of community leaders who will act as gatekeepers. This was reinforced by McKinsey (2016: 04) who agreed that universities should connect with community leaders who can act as gatekeepers into the community. The use of councillors and faith-based leaders, as inroads into communities was once again reinforced (O' Donnell 2015: 02).

#### ➤ Initiating community engaged eco-justice projects

Participants felt that universities should be involved in eco-justice projects as part of community engagement. Soria and Troisi (2014: 260) wrote that higher education institutions are the ideal agents of social change and should therefore promote community engagement projects.

Participants agreed that this includes teaching in communities (community-based teaching) and also learning from the communities (community-based learning). Such institutions who promote community-based teaching, community-based learning, community-based research and community-based research, can bring change to our society as these universities prioritise connecting students with diverse communities (Soria and Troisi 2014: 260). The participants also stated that community engagement projects were an important aspect of enhancing community engagement. This was validated by Cipolla, de Oliveira, Serpa and Afonso (2017: 112) who stated that without community engagement projects universities can become isolated, detached from critical social problems and therefore not capable of

providing communities and governments with the knowledge, technological innovations and professional skills that sustainable healthy development requires.

According to Clark and Button (2011: 41) university students who work with communities gained a deeper and broader understanding about human-environment relationships and how humans impact natural resources. Additionally students can use such knowledge to teach other community members (Clark and Button 2011: 41). Participants identified recycling projects, water purification projects, planting of trees, community empowerment projects, and social media projects and cleaning the oceans as effective eco-justice projects. Planting of trees and crops as a community engagement initiative was reinforced by Licen, Findeisen, and Bajec (2017: 30) who described a community engaged gardening initiative at a Slovenian University in partnership with community volunteers. He found that this gardening initiative led to the development of productive community gardens, that contributed to community empowerment and socio-economic development (Licen, Findeisen and Bajec 2017: 30). This was validated by Cipolla *et al.* (2017: 112) who stated that without community engagement projects, universities can become detached from critical social problems; thereby not capable of providing communities with the knowledge and professional skills that would promote healthy development.

Faith-based leaders also felt that they could partner with universities in creating projects with communities to promote eco-justice and healthy lifestyles. Faith-based leaders stated that they could help with teaching skills, on how to plant and tend to crops. Tucker and Grim (2015: 43) and Tucker *et al.* (2015: 01) agreed that such initiatives will ultimately contribute to sustaining healthy living and would reduce the rate of morbidity.

According to Licen, Findeisen, and Bajec (2107: 30) innovative community engagement projects must be identified. The use of a community theatre performance and artwork with local community members, as the actors can create awareness of the significance of environmental behaviours viz. promoting domestic seeds and organic farming; hence learning occurs whilst making people laugh (Licen, Findeisen, and Bajec 2107: 30). This was found to be effective by a community Housewives' Association, who developed a drama group in the village of Planina pri Ajdovscini to create awareness of community environmental problems (Licen, Findeisen, and Bajec 2107: 31). Lupinacci and Happel-Parkins (2016: 120) and

Boonzaaier (2015: 01) advocated conservation of wildlife and marine life projects, that help reduce the mass extinctions of animal and marine life species e.g. the rhinos and leatherback turtles. Barrera (2015: 203) stated that as social consciousness is raised internationally it is believed that higher education institutions should address the growing inequalities in our societies, issues of social justice and societal well-being. In this vein community engagement eco-justice projects must be seen as fair, must build trust and must maintain sustained relationships within and outside the communities (Reid 2013: 40).

#### **4.3.9. Theme 9: Developing and nurturing community engagement strategies**

Participants were asked about the strategies that could guide community engagement in creating an eco-justice model for Health Sciences. The following subthemes emerged:

##### **Subtheme 9.1: Community-based education, community-based research and service-learning**

Academics and students stated that community engagement, for eco-justice should include community-based education (teaching and learning), workshops and seminars within communities, related to eco-justice issues. This was noted in the following comments:

*“The main model will be education. There’s various ways to do it, one is a pamphlet, one is a talk, one is a workshop, seminar, and a demonstration, go and visit the people in the homes and go and talk about these things. So, talking educating is a big thing and then doing research in the community. But not just sitting with your thesis or dissertation in your library”.* (A2 interview)

*“Education is important, education only becomes possible through service and once trust is established”.* (A9 interview)

*“The university can promote eco-justice by giving education while working with the community. Make posters that encourage or educate about eco-justice. Have campaigns, days dedicated or days where people will be taught about eco-justice”.* (S20 FGD 2)

*“Educate people on the importance of eco-justice; create boards on how to keep our environment clean and protected at all times”.* (S17 FGD 2)

*“Create posters that promote the conservation of the environment, introduce a community project where members of the community can participate e.g. where they can plant trees”.* (S22 FGD 2)

*“Provide education to every school about the importance of looking after the environment”.* (S21 FGD 2)

*“Give education talks to give awareness about the importance of the environment. Create programmes to teach about eco-justice. Engage communities. Tell them about the importance of engaging as a community”.* (S15 FGD 2)

*“To start campaigns or programmes that promote eco-justice and that will interact with the community and the university”.* (S14 FGD 2)

## **Subtheme 9.2: Promoting volunteerism**

Participants also agreed that volunteerism was an effective community engagement strategy, as students will be able to volunteer their services in their communities.

*“A number of them do a lot of voluntary projects outside of DUT amongst themselves with other students and organisations”.* (A4 interview)

*“Students can create groups volunteers that will go out to the public and teach promoting eco-justice e.g. planting trees, teaching them about recycling waste in exchange for money, that way they also benefit. Set out projects like one of our modules PPDV to go out to the community”.* (S19 FGD 2)



## **Key points**

### ➤ Community-based education

Participants agreed that whilst students are learning from the community and the community setting e.g. during experiential learning, they also get to understand the needs of the community. This enables them to plan for further community-based teaching. At this time participants agreed that students gain practical skills.) Hands-on learning and teaching experience equip students with opportunities to develop practical skills; whilst learning to understand the needs of the community (Allison *et al.* 2015: 09; Ruiz-López, Rodríguez-García, González, García-Mateos, Ruiz-Ruiz and Herrera-Sánchez 2015: 26). This then affords students the opportunity to make a positive contribution to the community (Allison *et al.* 2015: 09). Participants also felt that making posters, giving talks and group discussions could be effective, as a teaching and learning strategy. Allison *et al.* (2015: 09) agreed that community engagement projects support students' acquisition of experience in civic engagement, community awareness, critical thinking and commitment to socio-environmental justice

### ➤ Providing community-based workshops and seminars

Participants also stated that there needed to be more workshops and seminars that encourage community engagement and promote eco-justice. Scholars wrote that for humans to live healthy future lives it is important to seriously rethink creative educational and teaching methodologies that will ensure students are empowered with knowledge that sustains survival on a planet that is undergoing rapid ecological changes (Assadourian 2017: 03; Paige *et al.* 2018: 51). Furthermore, such methodologies need to take teaching and learning into communities, using interactive workshops in places like schools and environmental seminars (Paige *et al.* 2018: 51).

### ➤ Providing work-integrated learning

Some participants stated that work-integrated learning is important for community engagement, as it enhances students' practical skills and communication skills. Additionally, students gain experience in teamwork, public speaking, research, and other skills related to

their academic career and learning needs (Allison *et al.* 2015: 09). As a consequence, students become more caring, empathic and enthusiastic because they are able to see their community work as helping others, gaining a sense of autonomy outside of the classroom and community recognition for performing meaningful work (Allison *et al.* 2015: 09). This is also coupled with the ability to facilitate the integration between prior and new knowledge and assessment of learners' overall understanding (Al-Rawahi and Al-Balushi 2015: 368). Furthermore the student is able to correlate theory from the classroom with practice in the clinical environment Furthermore reflective journal writing shares critical processes such as self-evaluation, monitoring of self-efficacy, self-reflection on classroom activities, and judgments and feelings related to such activities (Al-Rawahi and Al-Balushi 2015: 369).

➤ Promoting community-based research and service-learning

Some participants felt that universities should provide opportunities for their students to participate in community-based research and community service-learning. Beere, Votruba and Wells (2011: 29) advocated which they defined as “course-based, credit bearing educational experience in which students (a) participate in an organized service activity that meets the identified community needs, and (b) reflect on the service activity in such a way as to gain further understanding of course content, a broader appreciation of the discipline, and an enhanced sense of personal values and civic responsibility”.

Participants stated that students would then benefit from more service-learning and community-based research. According to Soria, Mitchell and Noble (2016: 02) there is also a lack of research regarding the extent to which university students are engaging in service-learning and community-based research. Additionally, not much is known about whether these students are receiving adequate opportunity and mentoring to engage in service-learning and community-based research (Soria, Mitchell and Noble 2016: 02). According to Soria, Mitchell and Noble (2016: 02) there is a need to sharpen students' skills in community-based research. This is in keeping with the UNISA Policy Document on Community Engagement (2013: 03), in which community engagement is defined as the scholarly activity of academic research and teaching, that involves external communities and stakeholders input in collaborative activities that address the socio-economic imperatives of South Africa

and the African continent, while also enriching the teaching, learning and research objectives of the university.

➤ Promoting volunteerism

A few participants stated that university students should volunteer their knowledge and skills in communities, especially disadvantaged communities. This they felt would improve their health, lifestyles and their attitude towards the ecosystems. This was also noted in a study by Williamson, Wildbur, Bell, Tanner and Matthews (2018: 383) who explored volunteerism within health settings. In their study, fifty British University students were interviewed resulting in the following themes: getting involved, maintaining commitment and reaping the rewards. The Australian Government (in Scott and van Etten 2013: 245) agreed that volunteerism was an important way for students to develop confidence, skills and self-development, hence treading a clear pathway to social and economic participation in the future. As a result, universities in Australia, have introduced volunteering programmes for students to develop social responsibility, connectedness and leadership, as well as to develop employability skills (Scott and van Etten 2013: 245).

#### **4.3.10. Theme 10: The universities role in promoting community engagement**

Health Science students were asked what they thought the universities' role was, in promoting community engagement. The following subthemes were noted:

##### **Subtheme 10.1: Developing undergraduate capabilities**

Participants stated that universities should help develop the capabilities of students in relation to working with communities. They said:

*"In relation to what you just said I feel that like we as nurses, we don't know anything about gardening but yet that's something that we did do so maybe if the university could get*

*somebody e.g. in agriculture to help us to create those gardens so we need to build that relationship with those people” .(S5 FGD 1)*

*“I think the university if they sending students out they should ensure that the student understand, they should teach them ways on how they should communicate with the community.” (S5 FGD 1)*

### **Subtheme 10.2: Providing opportunities for undergraduate participation in community service-learning and volunteerism.**

Students felt that universities should provide opportunities for their students to participate in community service-learning and should create opportunities for volunteerism. This was identified within the following responses from participants:

*“I think community engagement is when the community is getting involved with recreational groups, like forming the teams to keep health and when students interact with the community by giving out health education and teaching the community to participate on healthy living style”. (S7 FGD 1)*

*“I think community engagement is a strategy whereby the community members work hand in hand with the students, whereby the students give health education to prevent certain diseases from occurring and where the diseases occurred, they prevent from worsening and do help by voluntary community educating and work.” (FGD P4)*

*“I think universities should identify and research the communities that are lacking with education like rural based communities and send out students who are taught to volunteer to give the education”. (S7 FGD 1)*

### **Key points**

- Developing undergraduate capabilities

The sample also stated that universities should help develop the capabilities of students. This was reinforced by Wynne (2014: 1478) who advocated that higher education should

conceptualise its role as more than the implementation of initiatives for disadvantaged students but should look to the role that graduates have as citizens in their communities. In this regard universities should assist with developing the capability of students, so that students would be confident to effectively promote community engagement initiatives. According to Holdsworth and Quinn (2010: 113) and Allison *et al.* (2015: 09) students should be taught basic communication skills and mechanisms that encourage students, to link their community experience to course content. Additionally, students should have mentoring on reflection skills; which would assist them to reflect upon their clinical experience and why the community work is important (Holdsworth and Quinn 2010: 113).

- Providing opportunities for undergraduate participation in community service-learning and volunteerism.

Students felt that universities should encourage student volunteerism and should create opportunities for their students to participate in community service-learning and volunteerism. Scholars agreed that this would contribute to the empowerment of students and create opportunities for students to sharpen their undergraduate capabilities during service-learning and volunteerism (Wynne 2014: 1478; Allison *et al.*; 2015: 09 and Holdsworth and Quinn (2010: 113). In this way students who volunteer could empower their communities, whilst gaining knowledge and experience (Scott and van Etten 2013: 242; Wynne 2014: 1478). Students in this study stated that through service-learning and volunteerism students can provide education to communities on eco-justice and healthy living. In this way student volunteers are given opportunities such as developing a sense of social responsibility, connectedness and leadership; as well as employability skills (Hockenos 2011: 02; Wynne 2014: 1478; Australian Government 2011: 01). As a consequence, students would be able to practise specific skills within the community (e.g. animal handling), and students would be given opportunities to contribute to community development (Scott and van Etten 2013: 242; Wynne 2014: 1478). Additionally, students would be able to identify potential future careers and career pathways (Scott and van Etten 2013: 242).

Furthermore, attracting young students to volunteer is vital for sustaining the volunteering capacity of students well into the future and promotes community–university partnerships

(Australian Government 2011: 01). In this way students are afforded the opportunity to develop confidence and skills, as well as having a clear pathway, to social and economic participation in the future (Australian Government 2011: 01). In Australia, a total of 75.6 % of students who volunteered remained motivated to continue volunteering by giving something back to the community, while 82.5% of 18-24 year olds students were motivated to continue volunteering as a means to having fun (Australian Government: 2011: 01). In essence student volunteerism creates the potential to create a form of moral engagement that recognises the need to take responsibility for others; but not as the 'privileged server' to the 'unprivileged recipient' (Holdsworth and Quinn 2010: 01).

Holdsworth and Quinn (2010: 01) found that the benefits of service-learning and volunteering include an enhancement in self-concept, in knowledge about issues in their community and in willingness to become lifelong volunteers within the community, an opportunity to engage in career exploration, improved interpersonal and human relations skills, the opportunity to make a real contribution to the community, and to see community participation and actions as making a difference to the community.

#### **4.4. DISCUSSION OF THE FINDINGS**

It was important for the researcher to assess whether the study objectives were met. The study had five objectives. Each objective was individually reviewed to identify the level to ascertain if which the objective had been achieved.

**Objective 1:** *To explore how Health Science students and academics conceptualize eco-justice and community engagement.*

Academics and students from Health Sciences conceptualized community engagement as a symbiotic relationship between higher education institutions and communities. Academics and students from Health Sciences believed that community engagement, is a collaboration between universities and community stakeholders. Furthermore, they agreed that academics

can act as facilitators and catalysts for the development of the community and for social and environmental change.

When academics and students from Health Sciences were asked to conceptualize eco-justice, most indicated that this was a new concept to them. Despite this these academics and students attempted to conceptualize eco-justice, by stating that eco-justice was about creating balance; being caring, gentle and fair to the environment as well as preserving the natural environment for future generations.

**Objective 2:** *To inquire about how eco-justice can be promoted through community engagement activities in Health Science Education*

All participants stated that eco-justice can be promoted through community engagement in the following ways: teaching values and principles of community engagement and eco-justice, building community university partnerships, transforming the Health Science curriculum by bringing community engagement and eco-justice into the curriculum, developing community engagement eco-justice strategies, and establishing an environment for transdisciplinary work within Health Sciences.

**Objective 3:** *To explore how faith-based organizations conceptualize eco-justice.*

Faith-based leaders saw eco-justice as being fair and just to the ecosystems. Additionally, faith-based leaders saw eco-justice as a spiritual responsibility. They were of the opinion that all of creation, was a gift from God and hence must be respected and preserved for future generations.

**Objective 4:** *To explore the views of leaders of faith-based organizations with regard to how they may partner with universities to promote eco-justice.*

Most faith-based leaders emphasized that faith-based leaders were the best inroads into communities. For this reason, they believed that the university should collaborate with key religious/spiritual leaders, so that they could gain the support and commitment of

communities. Additionally, faith-based leaders believed that they could assist communities in steering community development projects.

**Objective 5:** *To develop a model to guide eco-justice activities as part of community engagement in Health Sciences.*

This objective formed the core of the study. In order to develop the eco-justice model, a consolidation of the data (themes and subthemes) from the study, with the literature was done. The preceding chapter identified the themes and sub themes that emerged from the study. These themes and sub-themes contributed to the development of the eco-justice model. This was done in conjunction with the literature reviewed. The next step was the appraisal of the model. The model was appraised by a group of experts.

#### **4.5. APPRAISAL OF THE ECO-JUSTICE MODEL BY AN EXPERT SAMPLE (SAMPLE FOUR)**

Once draft eco-justice model was developed it required finalization. In November 2019 a date was set to appraise the newly developed model. The participant comprised of a purposive sample of three academics and two post graduate students from the Faculty of Health Sciences. They made up sample four of the study. These participants had been involved in community engagement projects and had conducted research in community engagement. The above participants were contacted telephonically and were invited to appraise the developed model. They were emailed a copy of the model one week in advance so that they could review the model in preparation for the group discussion. An information letter outlining the study was also given to these participants. Participation was voluntary and they could withdraw their participation at any time.

A 30 minute meeting was conducted in a board room at DUT in December 2019, after informed consent was obtained. The draft eco-justice model was presented using a power point presentation, at the appraisal meeting. The participants were then asked the following



questions: what are the important strengths and weaknesses of the new model developed and what are some of the ways it can be improved? Participants responded as follows:

All participants agreed that the model was innovative, well-structured and met a much needed gap in higher education.

*“It is really good. Innovative and well structured, and can be used in others”. (Expert 2)*

*“I like that it is about our environment and to get the universities to work with communities.*

*I did not see a model like this”. (Expert 4)*

Participants recommended that more content related to the theoretically component would make the model easier for students to understand.

*“Yes. You could maybe add little more content related in the theoretically component”.*

*(Expert 5)*

They felt that guidelines on the utilization of the model should also be considered.

*“I recommend guidelines like you said. It will make it easy to understand”. (Expert 3)*

Additionally, participants recommended the use of examples of eco-justice projects. This they felt would assist students in initiating such projects.

*It is really good. Maybe few examples on projects €like plants vegetables; something like that so students can get started”. (Expert 4)*

Based on the recommendations from the expert group more content was added to the model and guidelines were created. The guidelines included examples of eco-justice projects as suggested by the participants.

## **4.6. CONCLUSION**

Chapter four provided a framework that would guide the development of the eco-justice model for Health Sciences. This chapter presented findings and data analysis from interviews and focus group discussions. Arising from the data analysed several themes and subthemes

emerged. These themes and subthemes were presented together with a discussion of each theme and subtheme. A total of ten themes and their subthemes were identified. Each theme and subtheme was explored in depth. All themes and subthemes were substantiated by supporting literature. This was followed by an outline on how the study findings aligned to the objectives of the study. The recommendations from an expert group that appraised the draft model were also presented. This is followed in chapter five, where the finalized eco-justice model for Health Sciences is presented.

## CHAPTER FIVE

### AN ECO-JUSTICE MODEL FOR HEALTH SCIENCE

#### 5.1. INTRODUCTION

##### ***We Kill the World***

*"I see mushrooms, atomic mushrooms  
I see rockets, missiles in the sky  
Poor world! Poor world!*

---

*Concrete's rising up  
Where yesterday was park  
You heard the robin's song  
Heavy tractor runs  
Where air was clean and cool  
Make money burning fuel  
Where will this lead to?  
And what is this good for?  
Poor world! Poor world!*

---

*Fishes doomed to die  
As people live close by  
And oak tree falls with moan  
Parking lots will come  
Where flower fields were bright  
As junkyard covers sight  
Where will this lead to?  
And what is this good for?  
Poor world is hurting bad  
Poor world is doomed to die*

---

*We kill the world, kill the world  
We surely do! In pieces we do!  
We kill the world, kill the world  
Cause we don't know what we're doing*

---

*Promenades must go  
So cars can drive in row  
New factory towers tall  
Farmhouse had to fall  
No flowers in the air*

*Pollution everywhere*

***Don't Kill the World***

*Don't kill the world  
Don't let her down  
Do not destroy basic ground  
Don't kill the world  
Our means of life  
Lend ear to nature's cry  
Don't kill the world  
She's all we have  
And surely is worth to save  
Don't let her die  
Fight for her trees  
Pollution robs air to breathe  
Don't kill the world  
Help her survive  
And she'll reward you with life  
And don't just talk  
Go on and do  
The one who wins is you*

---

*Cherish the world  
A present from God  
On behalf of all creatures  
Made by the Lord  
Care for the earth  
Foundation of life  
Slow progress down  
Help her survive."*

*(Boney, M., 1981)*

The lyrics of the song "We kill the world," by Boney M form a salient context for the introduction of the eco-justice model, that was developed in this study. It serves as a reminder of the injustice that the ecosystems are exposed to, due to the behaviour of human beings. It is linked to the growing awareness of the dangerous reality that all forms of life face (Ghorbanpour 2016: 02). The lyrics of the song draws attention to the importance of the natural world and how it is being destroyed (Ghorbanpour 2016: 03). In the next sub-sections the introduction of the model itself called "an eco-justice model for Health Sciences" will be presented. The eco-justice model was designed so as to transform the Health Science curriculum to advance community engagement. The rationale and objectives for the model is

also presented. The model was created from the themes and subthemes that emerged from interviews with academics from the Faculty of Health Sciences at DUT, focus group discussions with students from the Faculty of Health Sciences at DUT and interviews with and faith-based leaders in Kwa-Zulu Natal. The use of best practice projects drawn from literature on community engagement and eco-justice further served to inform the model. The model was then validated by a group of academics and students from Health Sciences at DUT, who had experience in community engagement projects. The model is presented as a set of guidelines. These guidelines can be used by academics to initiate eco-justice initiatives through community engagement in Health Sciences.

The model comprises of seven units. Each unit is based on the various components of the model. The rationale and objectives for the model is also presented. These guidelines are flexible and allows for innovative teaching and learning strategies, community-based research and community engagement strategies. Examples of such strategies are presented in order to assist in the implementation of the model. The model is envisaged to guide community engagement and contribute to eco-justice, thereby enhancing the health and well-being of society. It aims to create opportunities for students and academics from Health Sciences to collaborate with communities through community engagement. Most importantly the model has relevance for other Faculties, at other universities and can easily be integrated into the curricula of other disciplines.

## **5.2. RATIONALE FOR THE MODEL**

Humanity is facing massive health problems, physical pathologies and ecological damage that cannot be ignored (Washington, Chapron, Kopnina, Curry, Gray and Piccolo 2018: 372). The escalating destruction of all forms of life on earth is a consequence of human action (Washington *et al.* 2018: 372). Such destruction is reinforced by a worldview that denies nonhuman nature any value, respect or justice; and also has serious consequences for human health (Washington *et al.* 2018: 372). In order to reduce or prevent the environmental impact of natural disasters, as well as its effects on human health, community engagement and eco-justice initiatives are necessary (Hill 2016: 10; Vincenti 2016: 10; Costanza 2012: 24; Peeters 2012: 15). It is for this reason that social institutions including universities were

mandated to assist with the critical social, health and environmental challenges faced by society (Richard *et al.* 2016: 60; Reich, 2014: 02; Charles *et al.* 2010: 02).

The South African Department of Education developed the White Paper on the Transformation of Higher Education (Department of Education 1997: 10), which is committed to community engagement, as part of the mandate of universities. Despite such commitment there is no educational model that guides community engagement in general; and community engagement related to eco-justice issues specifically (Luescher-Mamashela, Favish and Ngcelwane 2015: 200). This study focused on developing a model to guide community engagement in Health Sciences through a qualitative approach. The model serves as a guide to enable academics to infuse eco-justice into community engagement activities at universities. Such activities will enhance mutually beneficial relationships between universities and communities and will encourage action regarding eco-justice issues. The model and the guidelines that are aligned to the model will be presented. The objectives of the model are presented below.

### **5.3. OBJECTIVES OF THE MODEL**

1. To create an understanding of the concepts community engagement and eco-justice amongst academics and students in the Faculty of Health Sciences.
2. To enhance knowledge related to the teaching content relevant to eco-justice (values and principles).
3. To enable the building of university–community partnerships between academics and students from Health Sciences and community.
4. To provide direction to academics and students from Health Sciences on how to implement community engagement.
5. To strengthen the understanding of academics and students from Health Sciences on how to implement eco-justice.
6. To create an environment that will strengthen transdisciplinary work amongst academics within the Faculty of Health Sciences, and between the university and communities.

#### 5.4. STRUCTURAL FRAMEWORK OF THE ECO-JUSTICE MODEL

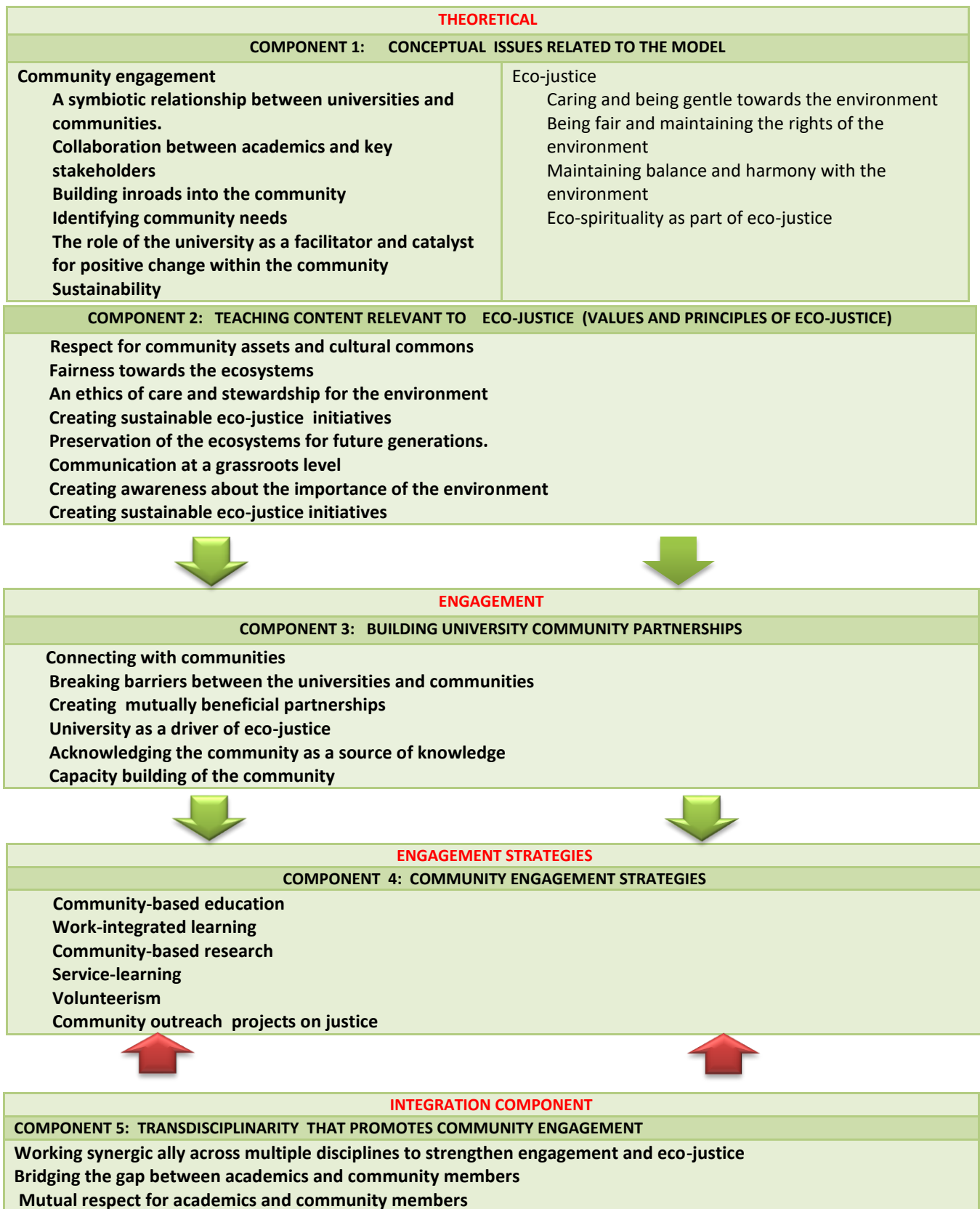


Figure 1: An eco-justice model for Health Sciences

## **THEORETICAL COMPONENT**

### **Component 1: Conceptual issues related to the model**

#### **Community engagement**

- A symbiotic relationship between universities and communities.
- Collaboration between academics and key stakeholders
- Building inroads into the community
- Identifying community needs
- The role of the university as a facilitator and catalyst for positive change within the community
- Sustainability

#### **Eco-justice**

- Caring and being gentle towards the environment
- Being fair and maintaining the rights of the environment
- Maintaining balance and harmony with the environment
- Eco-spirituality as part of eco-justice

### **Component 2: Teaching content relevant to eco-justice**

- Respect for community assets and cultural commons
- Fairness towards the ecosystems
- An ethics of care and stewardship for the environment
- Preservation of the ecosystems for future generations.
- Communication at a grassroots level
- Creating awareness about the importance of the environment
- Creating sustainable eco-justice initiatives



## **ENGAGEMENT COMPONENT**

### **Component 3: Building university–community partnerships**

- Connecting with communities
- Breaking barriers between the universities and communities
- Creating a mutually beneficial partnership
- University as a driver of eco-justice
- Acknowledging the community as a source of knowledge
- Capacity building of the community

## **ENGAGEMENT STRATEGIES COMPONENT**

### **Component 4: Community engagement strategies**

- Community-based education
- Workshops
- Seminars
- Work-integrated learning
- Community-based research
- Service-learning
- Volunteerism
- Community engaged eco-justice projects

## **INTEGRATION COMPONENT**

### **Component 5: Transdisciplinarity that promotes community engagement**

- Working synergically across multiple disciplines to strengthen engagement and
- eco-justice
- Bridging the gap between academics and community members
- Mutual respect for all academics and community members.

**Table 5: The components of the eco-justice model for Health Sciences**

The eco-justice model consists of four components (Figure 1 and Table 5) that should be implemented sequentially. Component one and two make up the theoretical component which comprises of the content that needs to be incorporated into the curriculum.

**In component one**, academics and students from Health Sciences should be introduced to the concepts community engagement and eco-justice. It is important for academics and students to understand the conceptualization issues that underpin the model and then the teaching content that is related to eco-justice.

**In component two**, academics and students are given information on the teaching content that is related to eco-justice. Here academics and students may gain knowledge on the values and principles that underpin eco-justice.

Once a theoretical knowledge base on community engagement and eco-justice has been gained, they would be encouraged to focus on building community–university partnerships. This is referred to as the engagement component where both academics and students would learn how to engage with community members. This makes up the third component of the model.

**Component four** provides an outline of the strategies that can be used to drive the aspects outlined under the theoretical aspects on community engagement eco-justice. Here academics and students learn about various community engagement strategies that would promote eco-justice. Examples of strategies and projects are included to provide guidelines on what exactly can be implemented to steer eco-justice.

**The last component (component 5)** focuses on the integration of Departments within Health Sciences and how they can combine their disciplinary knowledge and skills in promoting community engagement and eco-justice. Academics are urged to establish an environment that is conducive to transdisciplinary work within Health Sciences and to collectively engage

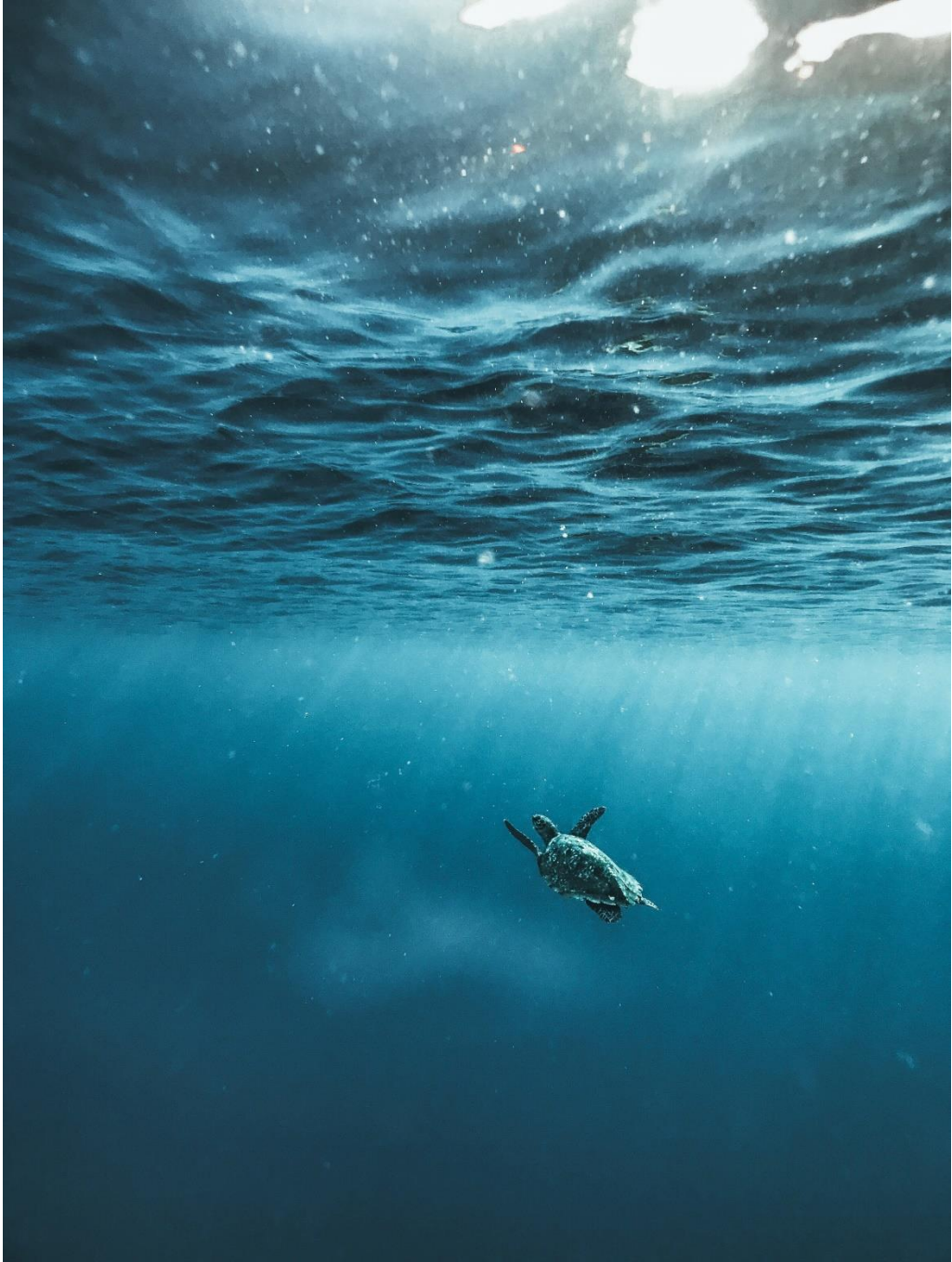
with communities. This is important as it ensures a more holistic approach to community engagement, and ensures a respect for knowledge both with academic departments and the community as well.

## **5.5. CONCLUSION**

Chapter five introduced the eco-justice model that was developed for Health Sciences. The model was created in the form of a flow diagram that comprises of five components. These components are sequential and interdependent. The rationale and objectives of the model was outlined. The next chapter sets out the guidelines for utilizing the model. The guidelines comprise of seven units. Excerpts from the study will be used to support the guidelines. These guidelines are aimed at assisting academics and students from Health Sciences to implement the various aspects of the model.

**CHAPTER SIX**

**GUIDELINES FOR UTILIZING THE ECO-JUSTICE MODEL**



"The greatest threat to our planet is the belief that someone else will save it" Robert Swan

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## UNIT ONE: INTRODUCTION

### Overview of unit one:

- Unit outcomes to the eco-justice model
- Introduction to the eco-justice model.
- The structural framework of the eco-justice model
- Learning and teaching activities to implement the model
- Recommended readings\$

### 1.1. UNIT OUTCOMES

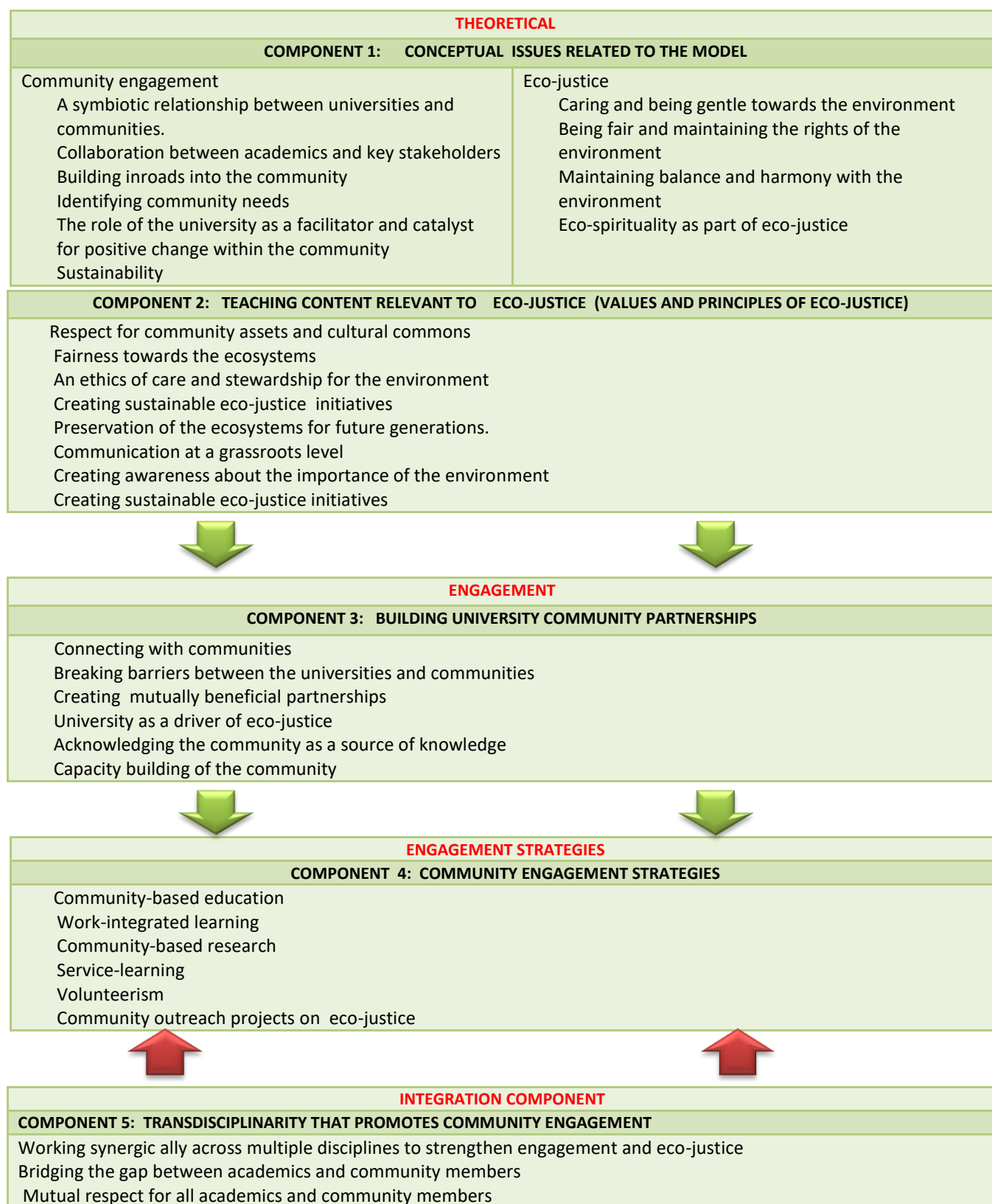
By the end of the unit academics and students will be able to understand the components of the eco-justice model

### 1.2. INTRODUCTION TO THE ECO-JUSTICE MODEL

The eco-justice model is centred on transforming Health Science education. It is envisaged that the model will guide community engagement and strengthen eco-justice, thereby enhancing the health and well-being of society. In order for easy understanding and implementation of the model, a set of guidelines have been created. The model and its guidelines create opportunities for academics and students from Health Sciences to collaborate with communities through community engagement. Furthermore it has relevance for the other Faculties at other universities. These guidelines will assist academics and students in implementing the model. These guidelines will not only steer community engagement in Health Sciences, but promote eco-justice as well. The guidelines are presented as seven units. Each unit is based on the components of the model and has unit outcomes to guide the learning process. Data from literature and excerpts from the present study are also included to validate these guidelines. The guidelines are flexible and include a list of innovative teaching and learning activities for teaching the model. A list of recommended readings also added for a deeper understanding of how the model was developed. There are five components (Figure 1) that make up the model, which has been introduced in chapter six



### 1.3. THE STRUCTURAL FRAMEWORK OF THE ECO-JUSTICE MODEL



**Figure 1: An eco-justice model for Health Sciences**

#### **1.4. LEARNING AND TEACHING ACTIVITIES TO \$IMPLEMENT THE MODEL**

- Workshops
- Group discussions
- Assignments
- Group presentations
- Reflective diaries
- Case studies on community engagement and eco-justice issues
- Role play on community engagement and eco-justice.
- Think-pair-share
- Poster presentations related to community engagement and eco-justice issues
- Story telling related to personal experiences
- Social media e.g. videos related to environmental damage

The above teaching and learning strategies provides academics and students a variety of innovative strategies that can be used when implementing the model. More than one strategy can be used at a time. These teaching and learning strategies can be used as per the guidelines of the model. This will allow for academics and students to become more confident and competent when they are engaging with communities. These teaching and learning activities are aimed at equipping and guiding academics and students with the knowledge and skills to steer community engagement and eco-justice.

#### **1.5. RECOMMENDED READINGS**

Each unit will end with a list of recommended readings from scholarly journal articles and scholarly books. Academics and students can utilize these articles and books to increase their understanding of community engagement and eco-justice, and to gain insight from the literature as to how the model was developed.

## UNIT TWO: CONCEPTUAL ISSUES

### Overview of unit two:

- Unit outcomes
- Introduction
- Conceptualizing community engagement
- Defining eco-justice
- Summary of the unit
- Recommended readings

### 2.1. UNIT OUTCOME:

By the end of the unit academics and students should understand the concepts community engagement and eco-justice.

### 2.2. INTRODUCTION

Unit two comprises of the two concepts, community engagement and eco-justice. Both concepts contribute to the theoretical part of the model. Academics and students require in-depth knowledge and understanding of these two concepts, as both concepts underpin the model holistically. Literature from the study and excerpts from the study are utilized to assist in gaining a better understanding of these concepts.

### 2.3. CONCEPTUALIZING COMMUNITY ENGAGEMENT

Community engagement relates to mutual collaboration between the universities and communities in order to meet a shared goal or common interests (Tindana, de Vries, Campbell, Littler, Seeley, Marshall, Troyer, Ogundipe, Alibu, Yakubu and Parker 2015: 01). Community engagement surfaced because of the White Paper on the Transformation of Higher Education in South Africa (Department of Education 1997: 10). The White Paper on the Transformation of Higher Education engendered a commitment to the common good and

social responsibility of universities which could be implemented by means of common service programmes as part of the universities mandate for its students. Community engagement recognizes the university's active role in supporting a symbiotic relationship with the university and its community partners (Fitzgerald 2012: 101). Community engagement brings together Higher Education institutions and stakeholders (individuals, communities, organizations, and institutions), to create symbiotic relationships; with the goal of improving the collective well-being of academic institutions and communities (Fitzgerald, Burack, Seifer and Votruba 2010: 441; Jacob *et al.* 2015: 02).

Such community engagement encourages students to take the lead in forming meaningful connections between their academic work and real problems within their communities (Fitzgerald 2012: 101). Successful community engagement creates an understanding of community interest, assets and needs (Brunkardt, Percy and Zimpher 2006: 11). In this way community-university consultation and community engagement can make health issues relevant to their communities, thereby reducing the problem of community resistance (Marais 2017: 77; Jacob *et al.* 2015: 05; O'Mara-Eves *et al.* 2013: 01; Parker 2016: 14).

Community engagement begins with building inroads into the community. Universities should connect with community leaders who can act as gatekeepers into the community (McKinsey 2016: 04). Collaborating with key community stakeholders is a process that brings together stakeholders such as religious organizations, businesses, community institutions and councillors who build relationships and work together with the goal of improving community well-being and health (O' Donnell 2015: 02; Groark and McCall 2018: 07; Musesengwa, Chimbari and Mukaratirwa 2017: 08; Scull and Cuthill 2010: 66). Once university-community collaboration is established the needs of that community can be identified. Since each community has its own unique culture, social structure, needs and assets; an assessment of community needs will help the university gain a deeper understanding of the community (Murphy 2013: 01).

Academics and students need to work with communities to identify ways to meet those needs. Such community engagement assists in improving communities by identifying and addressing local ideas, concerns and opportunities (Tindana *et al.* 2007: 1452). This allows the university to become a facilitator for positive change in the community. In this vein there is growing support for academic institutions to move away from academic elitism and intellectual

isolation in favour of education, community engagement and civic responsibility (Adamuti-Trache and Hyle 2015: 74). Engaged universities can engage with their communities, by being responsive to community needs, being willing to increase community accessibility and integrating its service mission with other responsibilities (The Kellogg Commission Report 1999: 05).

Community engagement at higher education institutions can include strategies such as community-based learning; community-based teaching; community-based research; service-learning; outreach programmes; student volunteerism; student leadership development; community engagement projects; service user networks; health-care forums; educational discourses; interactive websites and public consultations (Parker 2016: 14; O'Mara-Eves *et al.* 2013: 01; Luescher-Mamashela, Favish and Ngcelwane 2015: 204). These can be translated into eco-justice projects as will be elucidated later. For higher education institutions to embrace such strategies and initiatives that protect social well-being and the health of future generations, higher educational institutions will require educational frameworks; models and guidelines to guide such strategies and initiatives (Jacob *et al.* 2015: 03).

## **2.4. DEFINING ECO-JUSTICE**

Deep ecology considers the ecosystem as a living whole of which humanity is only one part (O'Donnell 2015: 01). Further an ecosystem is any interacting system of living organisms including their relationships with each other and their surroundings (Zandvliet 2015: 03). Eco-justice refers to a healthy relationship between nature and humans, which offers the foundation for a new kind of ecological justice of inclusion, integrity, equilibrium and sustainability (Vaughan-Lee 2013: 01). This requires maintaining the rights of the environment, and recognizing that the eco-systems have rights that must be respected. In this way there is fairness towards the eco-systems, and the preservation of the natural environment for the future generations (Gray and Coates 2015: 502). This contributes towards eco-justice.

Eco-justice can be defined as the principle of being fair or equitable with regard to ecological sustainability and the protection of the natural environment, as well as social and economic

issues (White 2013: 06) . Eco-justice aims to preserve and enhance ecological well-being and the integrity of the ecological commons which are the properties of the earth that sustain all forms of life, including human life (Murphy 2014: 78; Costanza, 2012: 24). Although the focus on eco-justice is sparse in South Africa, eco-justice is included in the Constitution of the country (Hattingh 2013: 02; Preece 2013: 118). The Constitution has stated that everyone has a right to an environment that is not harmful to his or her health or well-being; an environment protected for the benefit of present and future generations, through reasonable legislative measures that would prevent pollution; ecological degradation and would promote conservation; and secure ecologically sustainable development; and the use of natural resources while promoting justifiable economic and social development (Hattingh 2013: 02; Preece 2013: 118).

Eco-justice is also viewed as a spiritual act as the ecosystems are believed to be created by God (Vaughan-Lee 2016: 02 and Brinks 2014: 01). Spiritual knowledge requires living in harmony with Gods creation. It is in this way the spiritual connection with the environment and all of creation is maintained (Boetto 2017: 54). Eco-spiritual values can be found in all of the world's religious traditions and communities, no matter how they are articulated (Vaughan-Lee 2016: 02). It is these perspectives that recognize the importance and relevance of the immanent Divine, and the power of understanding the human relationship to the planet, and their direct experiences of the natural world (Vaughan-Lee and Hart 2017: 02).

*Box 1: Definitions of community engagement and eco-justice.*

*(Voices of participants)*

*Community engagement*

*“I think in a way it’s like working together for the benefit of the community, and to achieve our goals, because we always have some goal or standard we hope to achieve. So, it’s like a relationship where we engage with them to get something back, and also for their benefit”.*

*“Once needs identified we are better able to understand the needs of the community, the gaps, the deficits and then able to structure health care models that will cover those particular needs”.*

*“Community engagement is a process of sharing a relationship and working together between a university and a particular community, with the aim of helping the community for actualisation of its well-being, and students gaining knowledge”.*

*Eco-justice from the study*

*“I think it’s about being gentle to the environment/nature, and also being considerate so that we can live together without harming each other because we also need these things in terms of our daily lives”.*

*“I think eco-justice encompasses the rights of the environment. Who speaks for the environment and when I say environment I mean nature, the oceans and marine life, birds, animals because we are starting to see that it is us as in humans against the world.”*

*“Caring for the environment is ultimately a spiritual act. We do it because we believe that it enriches us, that it raises our awareness. Its Gods work”.*

*“For me it is about bringing balance to nature, to the ecosystem. Get what you can without*

## 2.5. SUMMARY OF UNIT TWO

Conceptual issues:

Community engagement

- A symbiotic relationship between universities and the communities.

- Collaboration between academics and key stakeholders

- Building inroads into the community

- Identifying community needs

- The role of the university as a facilitator and catalyst for positive change within the community

- Sustainability

Eco-justice

- Caring and being gentle towards the environment

- Being fair and maintaining the rights of the environment

- Maintaining balance and harmony with the environment

- Eco-spirituality as part of eco-justice

## 2.6. RECOMMENDED READINGS

Adamuti-Trache, M. and Hyle, A. E. 2015. Building university-community partnerships. In: Jacob, W. J. Sutin, S. E., Weidman, J. C. and Yeager, J. L. ed. *Community engagement in Higher Education: Policy reforms and practices* (online). Boston: Sense Publishers, 73-88. Available: [https://doi.org/10.007/978963000079\\_006](https://doi.org/10.007/978963000079_006) (Accessed 21 August 2018).

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## UNIT THREE: TEACHING CONTENT RELEVANT TO ECO-JUSTICE

### OVERVIEW OF UNIT THREE:

- Unit outcomes
- Introduction
- Values and principles that underpin eco-justice
- Summary of unit
- Recommended readings

### 3.1. UNIT OUTCOME

By the end of the unit academics and students should be able to understand the theoretical aspects, and the values and principles that underpin eco-justice.

### 3.2. INTRODUCTION

When teaching eco-justice, it is important that academics, students and community members understand the values and principles related to eco-justice. These values and principles can be included as part of students' course work across a variety of different modules. Academics and students can then use such knowledge to educate communities, and to steer community engaged projects on eco-justice issues.

### 3.3. THE VALUES AND PRINCIPLES THAT UNDERPIN ECO-JUSTICE

The values and principles that underpin eco-justice are as follows:

➤ ***Guideline 1: Humans must show respect for community assets and cultural commons.***

Cultural commons refer to water, soil, air, plant life, and other living creatures found in natural systems (White 2013: 06). Human beings must be grateful to the cultural commons for sustaining life and they must show respect by not destroying these cultural commons. Currently food supply is becoming scarce; water is a limited resource and the quality of air we breathe is contaminated with toxins (Vincenti 2016: 104; Hill 2016: 10). Human beings need to respect these resources; to prevent health problems that result from a lack of these cultural commons (Hill 2016: 10).

➤ ***Guideline 2: Humans must maintain fairness towards the ecosystems.***

Eco-justice is the principle of being fair or equitability with regard to ecological sustainability and the protection of the natural environment, as well as social and economic issues (White 2013: 06). This means that human beings must realize that the eco-systems are living organisms and deserves to continue thriving without being destroyed (Washington *et al.* 2018: 372). Human beings must also be aware that eco-justice requires the establishment of protected areas that are sustainable for nature, communities and the economy (Saxe 2013: 30).

➤ ***Guideline 3: There must be an ethics of care and stewardship for the environment.***

Human beings need to develop a new set of values that will guide their actions and serve as stewards of care so that the environment is not destroyed (Paige *et al.* 2018: 50). The values of this model can be adopted.

➤ ***Guideline 4: There needs to be preservation of the ecosystems for future generations.***

The failure to preserve the ecosystems for future generations will contribute to the future generation being deprived of cultural commons that support life (Washington *et al.* 2018: 372; Kulnieks, Longboat and Young 2013: 121). Human beings must think about the needs of the future generations and use our natural resources sparingly e.g. use water sparing as water has become a scarce resource (Vincenti 2016: 104).

➤ ***Guideline 5: Communication must be established at grassroots level with communities.***

Universities must talk with community members to understand the issues that they face e.g. lack of water (Marais *et al.* 2016: 445). Communication is often the most valuable method of information sharing during community engagement, and good communication is invaluable to safe health and environmental justice (Marais, Minkler, Gibson, Mwau and Corburn 2016: 445). Communication with community members will create opportunities to discuss issues of eco-justice, and would create opportunities for community engaged projects (Marais *et al.* 2016: 445).

➤ ***Guideline 6: Practicing eco-spirituality as a way to maintain eco-justice.***

Eco-spirituality is a fundamental belief in the sacredness of nature, earth and the universe (Rabasso and Rabasso 2014: 68). The vision and values of eco-justice ethics express a spiritually grounded moral posture of respect and fairness toward all creation, both human and nonhuman (Brown 2017: 01; Hessel 2007: 04). According to eco-spirituality and religious teachings, God created all of creation and therefore human beings are obligated to care and protect Gods creation, as this is service to God (Hessel 2007: 04).

*Box 2: The following values and principles of eco-justice.*

*(Voices of participants)*

*“We must show respect. This involves respecting the natural environment; plants, water, In the long run we might need the same plant and the same environment only to find out it is no longer there”.*

*“It is concerned with the fair treatment or relationship of the environment for future generations. Eco-justice means keeping the environment safe and clean for future generations”.*

*“So, for me as part of a symbiotic relationship means you need to communicate with the community on grass roots level, so you need to work with them on a daily basis”.*

### **3.4. SUMMARY OF THE VALUES AND PRINCIPLES THAT UNDERPIN ECO-JUSTICE**

Teaching content relevant to eco-justice (values and principles)

Respect for community assets and cultural commons

Fairness towards the ecosystems

An ethics of care and stewardship for the environment

Preservation of the ecosystems for future generations.

Communication at a grassroots level

Eco-spirituality as a way to maintain eco-justice

### 3.5. RECOMMENDED READINGS

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## **UNIT FOUR: UNIVERSITY-COMMUNITY PARTNERSHIPS**

### **OVERVIEW OF UNIT FOUR**

- Unit outcomes
- Introduction
- University-community partnerships
- Summary of the unit
- Recommended readings

### **4.1. UNIT OUTCOMES**

By the end of the unit academics and students should be able to understand how to develop university-community partnerships.

### **4.2. INTRODUCTION**

Unit four contains the social engagement aspects of the model. It enables academics and students to understand how to be able to initiate university-community partnerships. Academics and students would have an understanding of community engagement and eco-justice from the previous three units.

#### 4.3. HOW TO CREATE UNIVERSITY-COMMUNITY PARTNERSHIPS.

➤ **Guideline 1: *Universities must first make a connection with their communities.***

Students are connected to the world of work and the community; through a partnership between academic institutions and workplaces (Sachs and Clark 2017: 85). In order to connect and communicate with communities, academics and students must be a regular presence in the communities (Sachs and Clark 2017: 85).

➤ **Guideline 2: *Universities must identify community needs with the help of stakeholders.***

Universities should work with stakeholders from neighbourhoods, organizations, businesses and institutions in order to identify the needs of the identified community collectively (Groark and McCall 2018: 07; Maurrasse 2010: 223). Faith-based leaders can make the best stakeholders (Boetto 2017: 54).

➤ **Guideline 3: *Universities must work towards breaking the barriers between universities and communities.***

This requires academics and students to work with the community and not instructing the community on what to do (Lowenstein, Martusewicz, and Voelker 2010: 102). The community should be empowered to find solutions to problems they are experiencing (Lowenstein, Martusewicz, and Voelker 2010: 102). In this way communities can become partners in research projects as opposed to just participants (Lowenstein, Martusewicz, and Voelker 2010: 102). This process breaks down barriers that keep students disengaged from the health of their communities and allows for the creation of a partnership (Lowenstein, Martusewicz, and Voelker 2010: 102).

- ***Guideline 4: There must be the creation of a mutually beneficial partnership that will benefit the university and benefit the community.***

Learning should expand education beyond the classroom and should bring invaluable knowledge gained from communities back into the academic milieu; thereby deepening the teaching and learning experience (Lee *et al.* 2018: 31). The university that engages in any community project must also ensure that the community also benefits from any project e.g. fishing projects that create employment for local communities (Lee, Tippet, Townend, Clements, Boersma and Hicks 2018: 33).

- ***Guideline 5: The universities must become involved in creating awareness about the importance of the environment.***

One of the critical features of the 21<sup>st</sup> century is the failure of scientific studies to create doubt in the minds of society about the unending supply of material items and to bring about an awareness of the declining ecosystems (Bowers 2006: 01). This must change so that the importance of the environment is known by all (Bowers 2006: 01). For this reason the university must initiate community engaged projects that will create an awareness of environmental damage (Lowenstein, Martusewicz, and Voelker 2010: 102). Additionally communities must be educated on environmental issues and how to promote eco-justice e.g. by workshops and community-based projects (Lowenstein, Martusewicz, and Voelker 2010: 102).

- ***Guideline 6: Universities must acknowledge the community as a source of knowledge, since communities have vast indigenous knowledge.***

Traditional indigenous cultures have a rich knowledge of the land and they use many environmentally sustainable practices that have been lost through modern and western invasions (Boetto 2017: 54). Universities must respect and utilize the input and experience from communities in issues related sustaining the environment (Rutherford-Nielsen 2014: 31). When there are such socio-cultural collateral learning, values of respect, reciprocity, tradition and humility can be integrated and shared (Rutherford-Nielsen 2014: 31).

➤ ***Guideline 7: University-community partnership must assist in the development of the community.***

Universities must acknowledge the input of communities towards developing the community and health promotion. When community-engaged eco-justice projects are in place the health and wellbeing of the community can improve e.g. the reduction of air pollution projects can reduce respiratory diseases (Vincenti 2016: 104). One of the goals of higher education that is promulgated in the White Paper on the Transformation of Higher Education is capacity development of the community and community development (Department of Education 1997: 10). This can be possible through university-community partnerships.

➤ ***Guideline 8: In this way the university must become a driver of community engagement.***

This requires universities to actively initiate and steer community projects. Historically health professionals and academics in South Africa have developed strategies to promote and improve health with minimal or no input from communities (O'Donnell 2015: 01; MacQueen *et al.* 2015: 03; O'Mara-Eves *et al.* 2013: 01). However, in recent time university-community partnerships has emerged as a driver of community engagement and health promotion (MacQueen *et al.* 2015: 03; O'Mara-Eves *et al.* 2013: 01). It is therefore important that the university must take the lead in beginning and steering community engagement projects (MacQueen *et al.* 2015: 03; O'Mara-Eves *et al.* 2013: 01).

*Box 3: The following statements from participants reflect university-community partnerships*

*“Yes, community connection is a major major thread. It’s by engaging with the community and the world. Engagement means really really going out there and not just talking but really engaging with them and understanding what their problem is, their needs and strengths”.*

*“The more the university engages with the communities we can have a reciprocal system, where we give to the community and the community gives back to us in terms of teaching, learning, research and experience, as well plus we have a purpose in that we serve the community in an attempt to transform our society.”*

*“Community people don’t even have knowledge of the importance of preserving the environment, but we will also be held accountable for the earth because it is a perishable resource. If it is not replenished through simple things that manage the environment better; recycling or basic commodities of not littering or understanding if you do plant, what kind of crops to plant, management of animals, like how you can drive animals away without necessarily killing them.”*

*“It is both sides. In a sense that we both have separate knowledge of what is going on; okay they say you bring some of the theoretical knowledge we can take to the community, to try to explain something and then community has practical knowledge, they bring something to the table and so when we engage we work together and therefore we are in a partnership and one group benefitting the other “.*

*“I mean they know so much more about vegetation planting and things like that, trees and plants, they have the knowledge. We are not in that environment and if we go to them, we can learn from each other”,*

#### 4.4. SUMMARY OF BUILDING UNIVERSITY-COMMUNITY PARTNERSHIPS

Connecting with communities

Identifying the needs of the community

Breaking barriers between the universities and communities

Creating a mutually beneficial partnership

Creating awareness about the importance of the environment

Acknowledging the community as a source of knowledge

University-community partnership must assist in the development of the community.

University as a driver of community engagement

#### 4.5. RECOMMENDED READINGS

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## UNIT FIVE: COMMUNITY ENGAGEMENT STRATEGIES

### OVERVIEW OF UNIT FIVE

- Unit outcomes
- Introduction
- Community engagement strategies
- Summary of unit
- Recommended readings

### 5.1. UNIT OUTCOMES

By the end of the unit academics and students should be empowered to initiate community engagement strategies.

### 5.2. INTRODUCTION

This unit depicts the various community engagement strategies that can be initiated once university-community partnerships are created. It allows for the translation of theory into practice. A university is a vital resource for the community it serves and by the same token, the community too offers invaluable opportunities for student engagement and learning (Lee, Tippet, Townend, Clements, Boersma and Hicks 2018: 33). Such learning expands education beyond the classroom as it brings invaluable knowledge gained from communities back into the academic milieu, thereby deepening the teaching and learning experience (Lee *et al.* 2018: 31).

### 5.3. UTILIZING COMMUNITY ENGAGEMENT STRATEGIES

There are various community engagement strategies that can be utilized by academics and students

- ***Strategy 1: Community-based teaching and community-based learning***

Community-based teaching and community-based learning opportunities should be identified (Lowenstein, Martusewicz, and Voelker 2010: 103). Such initiatives engage students, in identifying serious problems within their communities, assist with analysing the roots of those problems in larger socio-economic and cultural systems and creates localized, healthy relationships with each other in the context of our immediate ecosystems (Lowenstein, Martusewicz and Voelker 2010: 103). Such teaching and learning opportunities can enhance students' self-concept and knowledge about issues in their community (Holdsworth and Quinn 2010: 01).

Community-based workshops and seminars can also be utilized for teaching and learning. Community-based workshops and seminars can focus on community development and shared decision between the university and the community. Scholars wrote that for humans to live healthy future lives it is important to seriously rethink creative educational and teaching methodologies that will ensure students are empowered with knowledge that sustains survival of a planet that is undergoing rapid ecological changes (Assadourian 2017: 03; Paige *et al.* 2018: 51). Universities can use community-based workshop and seminars to teach students and community members about ways to maintain eco-justice (Paige *et al.* 2018: 51).

- ***Strategy 2: Work-integrated learning***

Through work-integrated learning students are afforded the opportunity to apply theoretical and practical knowledge to practice, whereby what they learn, on campus is applied to the work environment (Lazarus, Oloroso and Howison 2011: 337; Scott and Etten 2013: 244). Conversely students are then able to apply knowledge and skills from the work environment to university learning (Scott and Etten 2013: 244).

- **Strategy 3: Community-based research**

There should also be facilitation of community-based research. Such research must include community participation. Community-based learning and community-based research on eco-justice, offers a framework for students to perform a deep socio-cultural analysis of the root issues that removed people from their immediate communities in the first place (Lowenstein, Martusewicz and Voelker 2010: 103). Community-based research must include community-based projects. Such projects should empower and develop communities, which must allow the projects to continue even when the university leaves (Lowenstein, Martusewicz and Voelker 2010: 103).

- **Strategy 4: Community engaged eco-justice projects**

Community engaged eco-justice projects are valuable as they have tremendous potential for communities and for students to learn more about eco-justice principles, and become better empowered to take on eco-justice issues (Boonzaaier 2015: 01; Jowi 2012: 49). Such eco-justice projects can include recycling projects; water purification projects; planting of crops projects; community food projects; planting of trees projects; community empowerment projects; social media projects and cleaning the ocean projects. These eco-justice projects have the potential to place ecological success as a priority, which can have positive social impacts for communities (Barnard 2012: 14).

- **Strategy 5: Research committees**

Community-based research should be accompanied by the creation of research committees which include community members (Kelly, Wang, Lucas, Fraenkel and Gross 2017: 251). Meaningful collaboration between universities and communities could be difficult; therefore it would be helpful to involve communities in advisory committees and participatory research, in order to achieve genuine and meaningful engagement through good facilitation and communication skills (Kelly *et al.* 2017: 251).

- **Strategy 6: Sufficient material and financial resources for community- based research.**

It is important that there is sufficient material and financial resources for community- based research (Adekalu *et al.* 2018: 192). Even though some universities provide grants for community-based research, such funds are often inadequate and not accessible (Adekalu *et al.* 2018: 192; De Santis *et al.* 2012: 02). Most state institutions should provide funding opportunities for community-based research; especially for areas such as community development and health (De Santis *et al.* 2012: 02).

- **Strategy 7: Student volunteerism**

Academics should create opportunities for volunteerism by students. Volunteerism must focus on student learning and the development of citizenship attitudes and behaviours that would reduce community problems (Johnston, Acker and McQuarrine 2018: 02). Universities must support volunteerism as a means of creating student's civic responsibility, developing students' life skills and enhancing educational achievements (Johnston, Acker and McQuarrine 2018: 02).

- **Strategy 8: Service-learning**

University students can benefit from service-learning by understanding the complexity of what they are studying and not just acquiring facts about a subject (Beere, Votruba and Wells 2011: 28). Furthermore students can develop important skills, through community-based learning and service-learning as follows: development of leadership skills; racial understanding; critical thinking; greater ability to apply course concepts to new situations; civic responsibility; appreciation of ethical issues; increased self-confidence; a better sense of self and a clear understanding of how to make a difference in one's community; improved career readiness; a better understanding of what those in the work place do; a stronger resume with good networking connections, and a better understanding of communities and the problems the communities face (Beere, Votruba and Wells 2011: 28).

- ***Strategy 9: Self-reflective journals/diaries.***

Students must be encouraged to make use of self-reflective journals/diaries. Self-description and self-reflection encourages qualitative researchers to make use of reflective journals and to keep detailed field notes that can be reviewed to recognize any personal biases (Hadi and Closs 2016: 64; Long and Johnson 2000: 30). This allows for reduction of researcher bias by enabling qualitative researchers to discuss the ways in which their personal beliefs and/or previous training may influence the research findings (Long and Johnson 2000: 30).

Such community engagement strategies will contribute towards developing undergraduate capabilities and community empowerment. This allows students' the opportunity to engage in career exploration; improved interpersonal and human relations skills; the opportunity to make a real contribution to the community, and to see community participation and actions as making a difference to the community (Holdsworth and Quinn 2010: 01).

*Box 4: The following community engagement strategies are derived from the participants.*

*“The main model will be education. There’s various ways to do it, one is a pamphlet, one is a talk, one is a workshop, seminar, and a demonstration, go and visit the people in the homes and go and talk about these things. So, talking educating is a big thing and then doing research in the community”.*

*“The university can promote eco-justice by giving education while working with the community. Make posters that encourage or educate about eco-justice. Have campaigns, days dedicated or days where people will be taught about eco-justice”.*

*“Students can create groups volunteers that will go out to the public and teach promoting eco-justice e.g. planting trees, teaching them about recycling waste in exchange for money, that way they also benefit. Set out projects like one of our modules PPDV to go out to the community”.*

*“I’m sure if we go to the community to do research, they will be willing to meet us and understand us and understand where we are coming from and work with us. We all know that there is a lot of damaging things that’s happening in and around our areas”.*

*“I think any research would fall apart if the community never had a major role. It’s about them at the end of the day. Basically, we have the knowledge and the insight. We may have the exposure to projects in the past and experience but at the end of the day the community needs have to be met”.*

*“There should be funding for working with I feel that we need to have more recycling community projects taking place in the community”.*

*“I think when the community and the university work together it’s not by only providing health education to the community but also to assist the community and show them how to for example, how to plant. There is a high percentage of poverty in the community”.*

## 5.4. SUMMARY OF COMMUNITY ENGAGEMENT PROJECTS

Community engagement strategies

Workshops and seminars

Community-based teaching and learning

Work-integrated learning

Community-based research

community engaged eco-justice projects

Research committees

Resources for community-based research

Volunteerism

Service-learning

Reflective journals/diaries

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Paige, K., Lloyd, D., Caldwell, D., Comber, B., O'Keeffe, L., Osborne, S. and Roetman, P. 2018. Futures in primary science education – connecting students to place and eco-justice.

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## **UNIT SIX: TRANSDISCIPLINARITY THAT PROMOTES ECO-JUSTICE**

### **OVERVIEW OF THE UNIT**

- Unit outcomes
- Introduction
- Transdisciplinary work within Health Sciences and beyond into communities
- Summary of unit
- Recommended readings

### **6.1. UNIT OUTCOMES**

By the end of the unit academics across all disciplines within Health Sciences must be able to work synergically with communities to strengthen community engagement and eco-justice.

### **6.2. INTRODUCTION**

Transdisciplinary integration in Health Sciences involves the transcending of disciplinary boundaries by sharing of knowledge, skills and decision-making (Van Bower 2017: 339). This involves a focus on real world problems faced by communities and the inclusion of relevant community stakeholders; whereby universities work holistically by including communities as partners to deal with community issues (Van Bower 2017: 339). It is important that all departments within Health Sciences work together synergistically in the university and with communities to promote community engagement and eco-justice. In this way the skills, knowledge and experience of each department together with the skills, knowledge and experience of communities can be used to develop eco-justice projects.

### 6.3. HOW TO PROMOTE TRANSDISCIPLINARY WORK THAT PROMOTES COMMUNITY ENGAGEMENT

➤ ***Guideline 1: Working synergically across multiple disciplines to strengthen engagement and eco-justice***

This encourages departments within Health Sciences to work synergically towards steering community engagement and eco-justice. Such departments must adopt a holistic approach towards working with communities as they share their knowledge and skills collectively. Numerous scholars have acknowledged the contributions that academics such as nurses, social workers and environmental health specialists are able to make as members of interdisciplinary teams, because of the skills they acquire in areas of interpersonal communication, crossing cultural boundaries, and coordinating the efforts of diverse groups when providing care to communities (Kneipp *et al.* 2014: 352). The skills and knowledge that community members have in relation to eco-justice must merge with that from academics and students to promote and steer holistic eco-justice projects (Van Bower 2017: 339).

➤ ***Guideline 2: Bridging the gap between academics and communities***

The gap between academics and communities must be bridged. This can be achieved by building of rapport and engagement between academics and community members (Van Bower 2017: 339). This promotes good interpersonal relationships and collaboration (Van Bower 2017: 339). In this way community members can feel that they are partners with equal importance in eco-justice projects (Van Bower 2017: 339).

➤ ***Guideline 3: Mutual respect for all academics and community members***

There must be mutual respect for all academics and all community members. This occurs when academics acknowledge the contribution that community members can make when they are involved in development of projects and decision making (Van Bower 2017: 339). This creates an environment for harmonious transdisciplinary team work and community engagement (Woolf *et al.* 2016: 591). When there is mutual respect and trust it elevates the

moral plane of engagement, as treating each other (university and community members) as co-equal partners minimizes the risk of mistrust (Woolf *et al.* 2016: 591).

The guidelines for the model that are depicted above are interrelated and interdependent. If successfully implemented this has the potential to contribute towards transforming the Health Science curriculum by promoting community engagement and eco-justice. The model comprises of a theoretical, engagement, engagement strategies and integration aspect, making the model comprehensive and more integrated.

*Box 5: Participants' views from the study that support transdisciplinary work*

*"We need to have an integrated Health Sciences, in other words a little bit of the Nursing a little bit of the Homeopathy, a little bit of the Enviro all these departments need to come together".*

*"So, if there is this interaction this cooperation between the different departments within the faculty of Health Sciences then because each department or profession has its own merits and limitations. So, this can bridge the gap".*

*"I think any project would fall apart if the community never had a major role. For this the community must feel comfortable as they work".*

#### **6.4. SUMMARY OF UNIT**

Working synergically across multiple disciplines to strengthen engagement and eco-justice

Bridging the gap between academics and communities.

Mutual respect for all academics and community members.

## 6.5. RECOMMENDED READINGS

Kneipp, S. M., Gilleskie, D., Sheely, A., Schwartz, T., Gilmore, R. M. and Atkinson, D. J. 2014. Nurse scientists overcoming challenges to lead transdisciplinary research teams. *Nursing Outlook* (online), 62(5): 352–361. Available: <http://doi:10.1016/j.outlook.2014.05.002>. (Accessed 13 April 2019).

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## **UNIT SEVEN: TRANSFORMATION OF THE HEALTH SCIENCE CURRICULUM THROUGH THE OPERATIONALIZATION OF THE ECO-JUSTICE MODEL**

### **OVERVIEW OF THE UNIT**

- Unit outcomes
- Introduction
- Transformation of the Health Science curriculum by utilizing the eco-justice model to guide community engagement
- Creating eco-justice projects through community engagement
- Examples of eco-justice projects
- Recommended readings

### **7.1. UNIT OUTCOMES**

By the end of the unit academics and students should be able to transform Health Science education by deliberately using community engagement in implementation eco-justice projects.

### **7.2. INTRODUCTION**

An interdisciplinary environmental educational theoretical framework or model within public education systems should inspire academics and students to develop an ethic of care and stewardship for their local environment (Kulnieks, Longboat and Young 2013: 121). In this way academics will be able to encourage learners to think about themselves as being part of the environment in which they live (Kulnieks, Longboat and Young 2013: 121).

### **7.3. TRANSFORMING THE HEALTH SCIENCE CURRICULUM BY UTILIZING THE ECO-JUSTICE MODEL TO GUIDE COMMUNITY ENGAGEMENT**

The eco-justice model works towards transforming the Health Science curriculum. Each of these components feeds into how eco-justice can be promoted through community engagement. The guidelines presented are aimed to assist academics and students in understanding the model. The concepts community engagement and eco-justice are clearly conceptualized in the model and should form a starting point for eco-justice activities. The values and principles that underpin both these concepts also serve as a moral compass for this model. In order for the model to be effective, all departments within Health Sciences need to work synergically with communities. The building blocks for university-community partnership presented within. The model also provides examples of eco-justice projects that can be initiated.

### **7.4. CREATING ECO-JUSTICE PROJECTS THROUGH COMMUNITY ENGAGEMENT**

Higher education institutions can be encouraged to work in collaboration with communities to promote eco-justice. Without community engagement projects universities can become isolated, detached from critical social problems and therefore not capable of providing communities and governments with the knowledge, technological innovations and professional skills that sustainable healthy development require (Cipolla, de Oliveira, Serpa and Afonso 2017: 112)

University academics and students who work with communities gain a deeper and broader understanding about human-environment relationships and how humans impact natural resources (Clark and Button 2011: 41). Additionally they can use such knowledge to teach community members while gaining knowledge from the communities (Clark and Button 2011: 41).

## 7.5. EXAMPLES OF ECO-JUSTICE PROJECTS THAT CAN BE INITIATED THROUGH COMMUNITY ENGAGEMENT.

The following table outlines examples of eco-justice projects that can be initiated through community engagement. The views of participants on possible eco-justice projects are also included in Table 6 that follows.

COMMUNITY ENGAGEMENT STRATEGIES	ECO-JUSTICE PROJECTS
Student volunteerism	<p><i>Cleaning the ocean projects</i></p> <p>Universities and communities could initiate projects, related to cleaning the ocean as part of student volunteerism. Students can work with communities to identify beaches that need cleaning. Through student volunteerism students and community members can conduct projects where they can clean a section of the ocean. Students can volunteer to be part of such projects. .</p> <p><i>Excerpts from participants</i></p> <p><i>“You know in the past few weeks there have been studies of all kinds of sea fish and they're all full of plastic. There's 300 million tons of plastic going into the ocean every. We're hanging on huge volumes of debt to future generations and we are hanging on to huge ecological problems to them and the population is likely to be higher. So, if you're a mathematician you would kind of see a picture of doom unless there are big changes in communities, starting to clean beaches.”</i></p>
Student volunteerism	<p><i>Recycling projects</i></p> <p>These relate to the reuse of plastics and other recyclable material.</p>



	<p>University students can then initiate a recycling project in their community through volunteerism.</p> <p><i>Excerpts from participants</i></p> <p><i>“Our students they have a justice group among themselves, so they go out to do you know awareness programmes. So, in that sense they are engaging with the community as a university. We have a programme of recycling that we do and collect recyclable materials for our people. And I think we can also take that to the community so in that sense we have the knowledge that by caring for the environment we are protecting, we are promoting eco-justice and share it with the community and the community can learn a little sensitivity and they can take care on the environment”.</i></p>
Work-integrated learning	<p><i>Water purification projects</i></p> <p>Preparatory workshops that focus on purifying water can be given to students as part of their course work. Students can then be required to conduct educational talks with a small group of community members. There can be sessions on purification methods at local community centres that are conducted by students. Community members can then initiate these projects with other community members with the assistance of students. Such water conservation projects can be initiated as part of work-integrated learning.</p> <p><i>Excerpts from participants</i></p> <p><i>“There is a need out there; we forget that people need to know and need information. A mother was getting her water from the river and making her feed and things, so I taught her how to purify the water even little things like jik”.</i></p>
Student volunteerism	<p><i>Planting of crops projects</i></p> <p>Community members can also be taught skills on how to plant crops. These projects can include university students working with communities and schools and teaching them about planting crops and</p>

	<p>seeds. A vegetable garden project can be initiated. Student volunteers can work with community members to develop successful vegetable garden projects.</p> <p>Vegetable gardens will provide a cheap food supply and can provide a solution to food insecurity. Further, a community garden project offers a way of providing traditional attachment to the soil and the environment</p> <p><i>Excerpts from participants</i></p> <p><i>"I think when the community and the university work together it's not by only providing health education to the community but also to assist the community and show them how to for example, how to plant".</i></p> <p><i>"They don't do anything to the land. So we started developing a food circle security, food farming where these people can grow their own in their backyard and it has been very successful with these people, a lot of the seeds are organic seeds which has gone into the market and they are doing a lot of farming in that part of the world."</i></p> <p><i>"I think we should encourage our communities regarding one home one vegetable garden, so we should also encourage and join communities to have projects like one home one garden".</i></p>
<p>Participatory action research</p> <p>Workshops or</p>	<p><i>Planting of trees projects</i></p> <p>Eco-justice can also be promoted through tree planting initiatives, where universities can partner with communities to research the growing of trees. Participatory action research with community members could be used to identify types of trees that can be planted as well as areas that are suitable for tree planting. This can serve as fertile projects for nurturing research on a range of biodiversity issues.</p> <p>This can also lead to educational workshops for communities, on how</p>

seminars and student volunteerism	<p>to plant seeds and maintain the growth of trees.</p> <p>Students who have knowledge on planting and maintaining trees e.g. agricultural students can also volunteer to initiate such projects.</p> <p><i>Excerpts from participants</i></p> <p><i>“One thing we can be doing is planting lot of trees to maintain the ecosystem”.</i></p>
Workshops and seminars	<p><i>Community empowerment projects</i></p> <p>Community talks and community education projects can also be initiated as workshops and seminars at community halls. Community members, who are taught about caring for the environment e.g. purification of water, can share their own experiences at these forums.</p>
Community-based research	<p>This can also lead to community-based research projects, where students can work with community members by conducting research on ways to care for their own communities. An example can be a water saving project where research can help find ways to save water.</p> <p><i>Excerpts from participants</i></p> <p><i>“If the community becomes involved in the study then they will then go and tell others, because it’s something else when you tell a person but it’s something else when a person is involved. It gives them insight and understanding on certain things that maybe they were not aware of”.</i></p>
Service-learning	<p><i>Water saving projects</i></p> <p>Students learn from their clinical experience. This is part of students’ service-learning. As part of community engagement and eco-justice students can conduct workshops where they share what they have</p>

	<p>learned from working in the community; bearing in mind that communities have valuable indigenous knowledge. Community members can also share conservation methods based on what they have learnt through experience eg. saving water by digging boreholes. Community members can then use social media to share these conservation methods e.g. ways to save water and plants crops. This can be discussed on radio talk show, whatsapp groups, facebook etc. They can also roleplay saving water, make posters, create art work and write poetry, which they can and share on social media</p> <p><i>Excerpts from participants</i></p> <p><i>“Even on radio stations instead of them talking about it, they can go to the study, then they learn and talk about something that they have seen and understand”.</i></p>
Community-based research	<p>As part of teaching and learning students can conduct research in communities along the ocean. Research can be conducted on community members’ understanding of pollution of the ocean and prevention methods. e.g. not dumping waste into the ocean. There are a multitude of other research projects that can be initiated related to the environment.</p>

**Table 6: Community engagement strategies and eco-justice projects**

## **7.6. BENEFITS OF ECO-JUSTICE PROJECTS**

When universities connect with the community, there is development of community awareness, whereby the academic fraternity becomes aware of community needs. This can be made possible through eco-just projects. This becomes possible if universities invest time in the communities (Jacquez, Ward and Goguen 2016: 78). Community relationships, takes place when time is invested in communities and when community members take part in research and community projects (Jacquez, Ward and Goguen 2016: 78). Furthermore, results from research projects can easily be disseminated to key stakeholders within

communities, who can use results to develop interventions and inform policies (Jacquez, Ward and Goguen 2016: 78). Hence eco-justice projects will not just be published in academic journals but will become a part of community life that becomes part of the culture of communities (Jacquez, Ward and Goguen 2016: 78).

## **7.7. RECOMMENDED READINGS**

Cipolla, C., de Oliveira Serpa, B. and Afonso, R. 2017. Design for social innovation between university and the broader society: A mutual learning process. *Mix Sustentável | Florianópolis* (online), 3(4): 109-118. Available: <http://doi.10.29183/2447-3073MIX2017.v3n4.109-118>. (Available 3 November 2018).

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Kulnieks, A. Longboat, D. R. and Young, K. 2013. Engaging literacies through ecological minded curriculum: Educating teachers about indigenous knowledges through an eco-justice leadership approach. *Journal of Environmental Education* (online), 19(2): 138- 153. Available: <https://ineducation.ca> (Accessed 2 August 2018).

## **7.8. CONCLUSION**

A comprehensive search of literature and data from academic and students from Health Science, and faith-based leaders within KwaZulu-Natal provided rich information that contributed to developing the model. All components of the model focus on adding rich information on how the model can steer eco-justice through community engagement strategies. Once completed, the newly developed model was reviewed by an appraisal group who assisted in finalizing the model. Guidelines on how to use the model was also developed so that the model could be easily implemented. This model guides academics and student within Health Sciences to engage with communities, and to promote eco-justice. Most importantly the model also addresses an urgent need, whereby community engagement projects and community engagement strategies can be initiated at universities within South Africa, Africa and internationally.

## CHAPTER SEVEN

### CONCLUSION AND RECOMMENDATIONS

#### 7.1. INTRODUCTION

*“The world is not a problem to be solved; it is a living being to which we belong.*

*The world is part of our own self and we are a part of its suffering wholeness.*

*Until we go to the root of our image of separateness, there can be no healing.*

*And the deepest part of our separateness from creation lies in our forgetfulness of its sacred nature, which is also our own sacred nature.”*

*(Thích Nhất Hạnh In Vaugh-Lee 2016: 01)*

The main purpose of the study was to develop an Eco-Justice Model to guide community engagement in Health Sciences. In the preceding chapters, the processes that led to the development of this model were made explicit. As part of working towards designing and finalizing the eco-justice model a few limitations were experienced by the researcher. In this concluding chapter these limitations are briefly outlined. This is followed by the main conclusions that arose from the study. Finally, all the recommendations that emerged from the study are discussed. It is envisaged that these recommendations will add to the body of scientific knowledge and will lead to the promotion of the eco-justice model. Furthermore, such recommendations have the potential to improve the quality of Higher Education, enhance the relationship between the universities and communities, empower and education communities with regard to eco-justice, improve the health of communities, and preserve and protect the ecosystems, not only for the present generation but also for future generations.

## **7.2. LIMITATIONS OF THE STUDY**

A limitation is any constraint or constraints that are not within the researcher or participants' scope of control (Enslin 2014: 274). The researcher experienced a few limitations during the data collection process. This however did not have major effects on the outcome of the study. During the data collection process, the researcher had to schedule interviews around the availability of the participants. Interviews with academics were conducted between October 2018 and February 2019 and it was during this period that academics from Health Sciences were busy with lectures and examinations. As the number of participants in this study was below sixty, the findings were limited to these samples. This made the generalization of findings difficult. Furthermore, only interviews and focus group discussions were used to collect data. Another limitation of the study was that most academics and students did not have knowledge of eco-justice. This contrasted with faith-based leaders who were teaching caring for the earth and its inhabitants, as part of their religious teaching, but did not recognize this as being part of eco-justice.

## **7.3. CONCLUSION**

Several studies documented that community engagement in higher education is sparse despite the White Paper on transformation in higher education (Department of Education 1997: 10). This was reinforced by academics and students from Health Sciences from this study, who found that there are currently minimal community engagement initiatives in Health Sciences. Furthermore, there is also a dearth of adequate attention to eco-justice by South African universities (Hill 2016: 13; Jacob *et al.* 2015: 13 and Paige *et al.* 2018: 51). Academics and students who participated in this study stated that there is a limited understanding of eco-justice and its relevance to communities and health. Hence if community engagement is vitalized, it would be an ideal vehicle to steer eco-justice. This highlighted the timeous nature of this study and the importance of an eco-justice model for health Sciences. More importantly this study contributes to development of the first Eco-justice Model for Health Sciences in South Africa, as no such model to guide Health Sciences is currently available.



The study also promotes community engagement as a teaching, learning and research approach within higher education institutions. The proposed model also serves to promote eco-justice at higher education institutions and within communities, which is vital to sustaining the health and well-being of our society. Universities too, stand to benefit as their role in society will be expanded to include an interest in social and environmental well-being and not just distant academic institutions that impart formal knowledge. The model encourages shared partnerships between higher education and communities, thus breaking the barriers between both these organizations. Additionally, the model would prepare students both theoretically and practically, by including teaching content relevant to eco-justice. The various community engagement strategies are also part of the model i.e. community-based education, workshops, seminars, work-integrated learning, community-based research, service-learning and volunteerism. This would serve to prepare academics students to work within communities and initiate community engaged teaching, community-based research and projects as scholars. The operationalization of this model has the potential to contribute to the promotion of environmentally safe social behaviour which in turn will assist with the prevention of health problems at local, regional and national levels.

The above health problems threaten the mortality of the present and future generations if not controlled and minimized. As the evidence of the damage to the ecosystems continues to accumulate it is timeous that higher education institutions contribute towards eco-justice. This can be done through the above mentioned partnerships with communities. In this way community-based teaching, community-based learning, community-based research projects and other such collaborations can be initiated.

The various community engagement strategies and community engagement eco-justice projects that can be utilized to promote eco-justice, as discovered through the study is supported by several scholars (Msweli and Wushhe 2014: 44; Tindana *et al.* 2015: 01; Lozano *et. al.* 2017:07; Williams, Soria and Erickson 2016: 87 and Fitzgerald 2012: 101). Such strategies and projects have the potential to strengthen partnerships between academic and communities. The role of community stakeholders, especially faith-based leaders was also identified as being important to gaining inroads into the community and the valuable

contribution of faith-based leaders and their institutions to championing community well-being and environmental well-being was recognized.

This study also highlighted the important role faith-based leaders and faith-based institutions have in contributing to community engagement, eco-justice and community development. Historically and according to religious teachings faith-based leaders, are seen to be advocates of justice for God's creation (Rocha 2012: 02; O'Donnell 2015: 01). Rocha (2012: 02) and Kureethadam (2014: 12) stated that faith-based leaders may not have formalized this justice as eco-justice however practices that promote protecting and conserving the ecosystems are the foundation for eco-justice. Furthermore, the study found that due to the spiritual nature of caring for the ecosystems, faith-based leaders are prepared to partner with academics and communities.

Faith-based leaders in this study displayed enthusiasm with regard to the promotion of eco-justice. Furthermore, faith-based leaders in this study were found to have an understanding of the link between healthy ecosystems and healthy communities. Faith-based leaders from this study stated that religious institutions respect and see the need to save the ecosystems. Faith-based leaders regarded the ecosystems as a gift by God to all his children. This indicates the relevance and importance of faith-based organizations as inroads into communities and as stewards of eco-justice, and consequently health promotion.

The eco-justice model introduced in this study can serve as a tool to drive such initiatives. Should the model be introduced into the Health Science curriculum, students from Health Sciences can be empowered to enter into communities and work with communities with regard to eco-justice issues. As a consequence, this will have an impact on disease prevention and health promotion. Furthermore, community members will be better informed and skilled to initiate and sustain their own eco-justice projects long after the university has left.

## 7.4. RECOMMENDATIONS FROM THE STUDY

The current study has profound implications for Health Sciences, as it recognizes the ongoing damage to the ecosystems and how environmental damage affects health adversely. These findings confirm the need for more community awareness and community participation. It is recommended that higher education embraces community engagement as a tool to create community awareness on eco-justice issues. For this to be successful it is recommended that community engagement be incorporated into Health Science modules in order to transform the Health Science curriculum. The eco-justice model that was developed for Health Sciences can be a guide for community engagement. The model makes provision for an understanding of the concepts of community engagement and eco-justice; and the values and principles that underpin community engagement and eco-justice. Academics and students can utilize the components of the model as part of their module outcomes. These components can serve as a guide for academics and students as they work in collaboration with their communities on eco-justice issues to reduce the resultant negative impact on health. Universities have a role in developing undergraduate capabilities and should provide opportunities for undergraduate participation in community service-learning and volunteerism. In this way universities will be contributing to community empowerment and be socially relevant as required by the White Paper on Transformation (Department of Education 1997: 10).

The study recommended bringing community engagement and eco-justice more strongly into the curriculum. This would allow for the facilitation of community-based research, the inclusion of community members in research, shared decision making between universities and communities and the provision of financial and material resources for projects. The newly developed model also recommends innovative community engagement strategies such as community-based teaching and learning, service-learning, volunteerism, community-based research, community engagement workshops/seminars, reflective journaling and community engaged eco-justice projects. Such initiatives would allow students to work within communities as part of service-learning, volunteerism, internship, community-based teaching and community research. This form of community university partnership will assist in

promoting community engagement and eco-justice. In this way communities can take control of their environment and can adopt health lifestyle and behaviours that will reduce issues of pollution, global warming, over consumption of livestock which in turn will reduce the overuse of cultural commons. It is also recommended that there is transdisciplinary work between departments within Health Sciences. This would initiate positive teamwork and respect for each other. Hence departments can work collectively with communities and can provide their knowledge, skills and expertise.

It is also recommended that adequate funding for community engagement and community engagements projects be provided. This should be allocated in the universities budget so that academics can plan for engagements and projects with adequate finances for the needed resources. Furthermore, it is vital that the role of faith-based leaders and their organizations be recognized as they are respected within communities and can provide inroads into communities. Also, faith based leaders have a deep concern and respect for the ecosystems. In this way they can contribute towards conserving the environment and all its life forms. This also benefits human health as resources such as water, food, quality of air and weather patterns can be protected for the future generations.

As ecosystems continue to suffer, students and communities within South Africa and around the world, on the 20<sup>th</sup> September 2019, gathered to protest against environment damage and demanded that governments create a safe pathway to reduce environmental damage (Taylor, Watts, and Bartlett 2019: 01) According to Taylor, Watts, and Bartlett (2019: 01) these students and communities, including faith-based institutions pleaded with world leaders to take issues of the dying ecosystems seriously. Hence there is an emerging awareness, especially by university students, of the escalating danger to ecosystems and the consequential danger to human health and existence. In solidarity, millions of students and communities, including those from South Africa now understand the need to save the planet for future generations. This attests to the desire of students to promote eco-justice. In this vein the eco-justice model for Health Sciences becomes timeous.

The new eco-justice Model will have relevance for multiple disciplines within Health Sciences. Since Health Science modules have clinical components attached to courses/curricula outcomes, this module become salient. It is for this reason that the model can be introduced

into the curriculum. The content of the model has the potential to sensitize students and communities on environmental and health problems that face our generation and the future generation. If implemented the model has the potential to halt the damage to the ecosystems and can hence sustain health as a consequence. According to all participants, university students should act as eco-warriors to steer eco-justice.

Furthermore, the implementation of the eco-justice model will guide academics and students on how to engage with communities. Through such an engagement model, students will receive transformative experiences through the application of discipline-specific knowledge, skills and community collaboration. Additionally, academics can gain enriched teaching and scholarship opportunities. Also, communities gain through participatory processes resulting in design and planning projects that support sustainable community well-being and development; and preserve ecosystems so that the next generation will be able to thrive (Laninga, Austin, McClure 2011: 12).

The newly developed eco-justice model is a unique and innovative tool that will promote community engagement, while advocating for the protection of the environment. The model is a response to the devastating spate of destruction to the ecosystems. It is thus both urgent and essential that both community engagement and eco-justice are given the attention it deserves in higher education.

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## **Research schedule for interviews with academics from Health Sciences**

**Title of the Research Study:** The development of an eco-justice model to guide community engagement in Health Sciences

**Principal Investigator/s/researcher:** Sandhya Chandramohan (M Tech: Nursing)

**Co-Investigator/s/supervisor:** Prof Raisuyah Bhagwan (PhD)

**Co-Investigator/s/Co supervisor:** Prof Nokuthula Sibiya (DTech: Nursing)

**Participants:** Academics from Health Sciences (Nursing, Environmental Health and Homeopathy).

**Venue:** Office of the participant or a lecture room at DUT

**Duration of interview:** 45 minutes to 90 minutes

## **INTERVIEW QUESTIONS FOR HEALTH SCIENCE ACADEMICS**

1. How do you conceptualize community engagement?
2. What is the role of the university in promoting community engagement?
3. What do you understand about the term eco-justice?
4. What can be done to create community awareness on eco-justice?
5. What should be the major components of an Eco-justice Model for Health Sciences?

Complaints can be reported to the Director: Research and Postgraduate Support, Prof S Moyo on 031 373 2577 or [moyos@dut.ac.za](mailto:moyos@dut.ac.za)

## **Research schedule for interviews with faith-based leaders**

**Title of the Research Study:** The development of an eco-justice model to guide community engagement in Health Sciences

**Principal Investigator/s/researcher:** Sandhya Chandramohan (M Tech: Nursing)

**Co-Investigator/s/supervisor:** Prof Raisuyah Bhagwan (PhD)

**Co-Investigator/s/Co supervisor:** Prof Nokuthula Sibiya (DTech: Nursing)

**Participants:** Faith-based leaders

**Venue:** Faith-based institutions

**Duration of focus group:** 45 minutes to 90 minutes

## **INTERVIEWS QUESTIONS FOR FAITH BASED LEADERS**

1. Can you tell me more about your institution?
2. What do you understand by the term community engagement?
3. How do you see Health Sciences (universities) engaging with the community?
4. Can you tell me more about your community's relationship with the environment?
5. What do you understand most about the term eco-justice, or justice related to the environment?
6. How can community members and universities across KZN work collaboratively to promote the awareness of eco-justice?

Complaints can be reported to the Director: Research and Postgraduate Support, Prof S. Moyo on 031 373 2577 or [moyos@dut.ac.za](mailto:moyos@dut.ac.za)

### **Research schedule for Focus group with Health Science students**

**Title of the Research Study:** The development of an eco-justice model to guide community engagement in Health Sciences

**Principal Investigator/s/researcher:** Sandhya Chandramohan (M Tech: Nursing)

**Co-Investigator/s/supervisor:** Prof Raisuyah Bhagwan (PhD)

**Co-Investigator/s/Co supervisor:** Prof Nokuthula Sibiya (DTech: Nursing)

**Participants:** Final year undergraduate Health Science students (Nursing, Environmental Health and Homeopathy).

**Venue:** Lecture room at DUT

**Duration of focus group:** 45 minutes to 90 minutes

### **FOCUS GROUPS QUESTIONS FOR HEALTH SCIENCE STUDENTS**

1. What is your understanding of community engagement? /How do you conceptualize community engagement?
2. What do you think the university's role is in promoting community engagement?
3. Can you share what you understand by the term eco-justice?
4. What can students do to promote eco-justice?

Complaints can be reported to the Director: Research and Postgraduate Support, Prof S. Moyo on 031 373 2577 or [moyos@dut.ac.za](mailto:moyos@dut.ac.za)



### **Research schedule for the expert group**

**Title of the Research Study:** The development of an eco-justice model to guide community engagement in Health Sciences

**Principal Investigator/s/researcher:** Sandhya Chandramohan (M Tech: Nursing)

**Co-Investigator/s/supervisor:** Prof Dr Raisuyah Bhagwan (PhD)

**Co-Investigator/s/Co supervisor:** Prof Nokuthula Sibiya (DTech: Nursing)

**Participants:** A sample of Health Sciences academics and students who were not part of the main study.

**Venue:** Lecture room at DUT

**Duration:** 30 minutes to 45 minutes

### **QUESTIONS FOR THE EXPERT GROUP**

1. What are the important strengths and weaknesses of the new model developed?
2. What are some of the ways it can be improved?

Complaints can be reported to the Director: Research and Postgraduate Support, Prof S. Moyo on 031 373 2577 or [moyos@dut.ac.za](mailto:moyos@dut.ac.za)

35 Vedic Crescent  
Darjeeling heights  
Pietermaritzburg  
3201

The Director of Research and Post Graduate studies/Gatekeepers  
Durban University of Technology

Re: Request to conduct interviews with Health Science academics and focus group discussions with Health Science students (Nursing, Homeopathy and Environmental Health) at DUT.

Dear Sir/Madam

I am a lecturer in Nursing Education at Grey's Campus, Pietermaritzburg, pursuing the following degree: PhD: Health Sciences. The purpose of the project will be to develop an eco-justice model that will guide community engagement in Health Science, by engaging with academics, final year undergraduate Health Science students and faith-based leaders synergistically towards developing an eco-justice model. The model will recognize the dignity and health of all human beings, while preserving the socio- ecological environment that sustains all life.

During phase one in-depth interviews of 45 to 90-minute duration with DUT Health Science academics will be conducted. A structured interview schedule (Appendix 1) will be utilized for this purpose. This will be followed by phase two in which a purposive selection of faith-based leaders within the community of KwaZulu-Natal will be identified. Data will be collected by conducting scheduled structured interviews of 45 to 90-minute duration using a planned interview schedule (Appendix 2). This will be followed by phase three. Through purposive sampling Health Science students (Nursing, Homeopathy and Environmental Health) will be selected to participate in two focus group discussions. A draft eco-justice model will be developed thereafter. This will be followed by phase four in which a validation sample of Health science academics and post graduate students, who are not part of the main study, will finalize the model (Appendix 4).

Thank you for your consideration. I look forward to hearing from you at your earliest convenience.

Yours sincerely

Sandhya Chandramohan.

(Student No.21240208)

Contact details: 033 8973523 or [sandhya.chandramohan@kznhealth.gov.za](mailto:sandhya.chandramohan@kznhealth.gov.za) (email).

Supervisor: Prof. Raisuyah Bhagwan

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Co- Supervisor: Prof Nokuthula.Sibiya

Contact details: 031 373 2606 or [nokuthulas@dut.ac.za](mailto:nokuthulas@dut.ac.za) (email).



### LETTER OF INFORMATION

**Title of the Research Study:** The development of an eco-justice model to guide community engagement in Health Sciences

**Principal Investigator/s/researcher:** Sandhya Chandramohan (M Tech: Nursing)

**Co-Investigator/s/supervisor:** Prof Dr Raisuyah Bhagwan (PhD)

**Co-Investigator/s/Co supervisor:** Prof Nokuthula Sibiyi (DTech: Nursing)

**Brief Introduction and Purpose of the Study:**

Eco-justice is a form of fairness and justice that respects the right of all living organisms in the natural environment, in addition to those of human beings (Vaughan-Lee 2013: 01). It considers a responsibility to conserve resources, protect biodiversity, and respect all beings, both human and nonhuman (Vaughan-Lee 2013: 01). Eco-justice promotes a healthy relationship between nature and humans, and offers us the foundation for a new kind of ecological justice of inclusion, integrity, equilibrium and sustainability (Vaughan-Lee 2013: 01). Since no one part can be considered as separate from the whole, the idea that the environment is just here to support us and our prosperity is a travesty of real environmental consciousness (O'Donnell 2015: 01). This calls for new educational models which support the ecosystem of which we are a part (O'Donnell 2015: 01; Thornton and Scheer 2012: 07).

Globally more educational institutions, faith based communities and private institutions are becoming active in socio- environmental movements, by educating communities about their spiritual duties to protect our natural systems that sustain our health (O'Donnell 2015: 01; MacQueen, Bhan, Frohlich, Holzer and Sugarman 2015: 03). The purpose of taking eco-justice to universities and faith based communities is to increase knowledge and awareness about earth's environment and its potential scarcity (De Leon and Ross 2010: 29). Additionally, universities can assist in teaching skills that will lead to actions that will ensure its protection (De Leon and Ross 2010: 29). Furthermore faith-based communities can provide a powerful influence on the worldview, values, attitudes, decisions, and behaviour of people and societies at large, both positively and negatively (Sponsel 2007: 02). Through this lens what a person regards as sacred or spiritual is more likely to be valued and protected (Sponsel 2007: 02). Tanner (2013: 09) concluded that contemporary eco-justice initiatives have gain momentum internationally with many developed countries having dedicated long-term community engaged eco-justice projects that support health. In contrast eco-justice initiatives related to health have been sparse in South Africa, making this the first South African doctoral study on this topic.

**Outline of the Procedures:** Stage one: In stage one in-depth interviews of 45 to 90 minute duration with a purposive sample of DUT Health Science academics will be conducted. Academics from the department of Nursing, Environmental Health and Homeopathy will be interviewed in their office at a time suitable to the participant. Should no venue be available the researcher in consultation with her supervisor will arrange a venue at DUT. These interviews are projected to be conducted within the months of July 2018 to August 2018 depending on the availability of participants.

In stage two interviews of 45 to 90 minute duration will be conducted with faith based institutional leaders. The researcher will travel to the faith based institution to conduct the interviews. These interviews are projected to be conducted within the months of August 2018 and September 2018 depending on the availability of participants. In stage three, two focus group discussions using a semi - structured focus group schedule of 45 to 90 minute duration will be conducted at a lecture room in DUT. These focus group discussions are projected to be conducted within the month of October 2018, depending on the availability of participants. Once stages one to three are completed a rough scientific based eco-justice framework will then be developed based on findings from the data collected and literature review. These are projected to be completed within the month of October 2018.

Stage four: During this last stage a focus group of Health Science academics and post graduate students who had experience in community engagement projects , will finalize the model. This focus group discussion is projected to be conducted within the months of October 2018 – November 2018, depending on the availability of participants.

**NB. Timelines are tentative and will be adjusted according to your availability.**

**Risks or Discomforts to the Participant:** There are no foreseen risks or discomfort to you.

**Benefits:** This project has tremendous potential for you to learn more about eco-justice and towards becoming better empowered to take on eco-justice issues. Data through the developmental effort of this project will contribute significantly towards creating an eco-justice model that can be incorporated into the Health Sciences curriculum nationally. This will not only strengthen their educational preparedness but strengthen their ability to become engaged with issues of national and international significance. Eco-justice projects in partnership with local communities contribute to promoting health.

**Reason/s why the Participant May Be Withdrawn from the Study:** Your participation is voluntary and you may withdraw at any stage with no penalty.

**Remuneration:** You will not receive any remuneration.

**Costs of the Study:** You will not be expected to cover any costs.

**Confidentiality:** Your confidentiality will be assured. You will not be required to write your name or personal details. There will be a consent form that will be locked in a steel locker and will ultimately be shredded after 5 years thus maintaining total confidentiality. All recordings and written transcripts will be also locked in a steel locker and will ultimately be destroyed after 5 years

**Research-related Injury:** The study is non-evasive hence there should be no research related injury.

**Persons to Contact in the Event of Any Problems or Queries:**

Researcher: Sandhya Chandramohan (telephone) 0338973523 or (email)

[sandhyachandramohan@yahoo.com](mailto:sandhyachandramohan@yahoo.com)

Supervisor: Professor Raisyuh Bhagwan (telephone) 0313732197 or (email) [bhagwanr@dut.ac.za](mailto:bhagwanr@dut.ac.za)

Co- Supervisor: Prof Nokuthula Sibiyi (telephone) 031 3732606 or (email) [nokuthulas@dut.ac.za](mailto:nokuthulas@dut.ac.za)

Institutional Research and Innovation Committee (IREC) Administrator: Ms Lavisha Deonarian (telephone) 031 3732375 or (email) [lavishad@dut.ac.za](mailto:lavishad@dut.ac.za)

Complaints can be reported to the Director: Research and Postgraduate Support, Prof S Moyo on 031 373 2577 or [moyos@dut.ac.za](mailto:moyos@dut.ac.za)



## CONSENT

### Statement of Agreement to Participate in the Research Study:

- ☐ I hereby confirm that I have been informed by the researcher, Sandhya Chandramohan about the nature, conduct, benefits and risks of this study - Research Ethics Clearance Number: 117/17)
- ☐ I have also received, read and understood the above written information (Participant Letter of Information) regarding the study.
- ☐ I am aware that the results of the study, including personal details regarding my sex, age, date of birth, initials and diagnosis will be anonymously processed into a study report.
- ☐ In view of the requirements of research, I agree that the data collected during this study can be processed in a computerised system by the researcher.
- ☐ I may, at any stage, without prejudice, withdraw my consent and participation in the study.
- ☐ I have had sufficient opportunity to ask questions and (of my own free will) declare myself prepared to participate in the study.
- ☐ I understand that significant new findings developed during the course of this research which may relate to my participation will be made available to me.

<b>Full Name of Participant</b>	<b>Date</b>	<b>Time</b>	<b>Signature</b>
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I, Sandhya Chandramohan herewith confirm that the above participant has been fully informed about the nature, conduct and risks of the above study.

<u>Sandhya Chandramohan</u>			
<b>Full Name of Researcher</b>	<b>Date</b>	<b>Time</b>	<b>Signature</b>

<b>Full Name of Witness (If applicable)</b>	<b>Date</b>	<b>Time</b>	<b>Signature</b>

***Please note the following:***

If anyone makes a mistake completing this document e.g. wrong date or spelling mistake a new document has to be completed



35 Vedic Crescent  
Darjeeling heights  
Pietermaritzburg, 3201

(The Faith-based leader's name)  
(Name of institution)

Re: Request to conduct interviews with faith-based leaders in KwaZulu-Natal.  
Dear Sir/Madam

I am a lecturer in Nursing Education at Greys Campus, Pietermaritzburg, pursuing the following degree: PhD: Health Sciences. I would like permission to interview (name of faith-based member) from your institution. This is part of data collection for my research study.

The purpose of my study is to develop an Eco-justice Model that will guide community engagement in the Faculty of Health Sciences, by engaging with academics and undergraduate students from the Faculty of Health Science, and faith-based leaders synergistically towards developing an Eco-justice Model. This model will recognize the dignity, and health of all human beings while preserving the socio- ecological environment that sustain all life. The study will have four phases

During phase one in-depth interviews of 45 to 90 minute duration with DUT Faculty of Health academics will be conducted. This will be followed by phase two in which a purposive sampling faith-based leaders within the community of KwaZulu-Natal will be identified through the KwaZulu-Natal Interfaith Religious Council. Data will be collected by conducting scheduled structured interviews of 45 to 90 minute duration, using a planned interview schedule (see Appendix 2). In phase three a purposive selection of Health Science students (Nursing, Homeopathy and Environmental Health) will be sort. A total of two focus group discussion (Appendix 3) of 45 to 90 minute duration will be conducted at DUT.

This will be followed by phase four in which a focus group discussion (Appendix 4) in which input from experts academics and post graduate students in community engagement will be conducted to finalize the model.

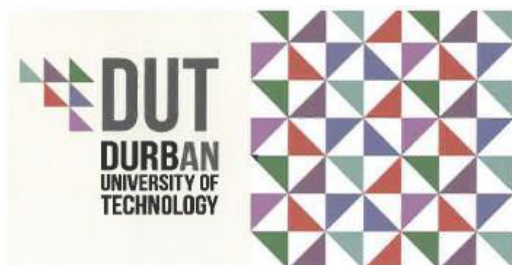
Thank you for your consideration. I look forward to hearing from you at your earliest convenience.

Yours sincerely  
Sandhya Chandramohan  
Student No.21240208  
Contact details: 033 8973523 or [Sandhya.chandramohan@kznhealth.gov.za](mailto:Sandhya.chandramohan@kznhealth.gov.za) (email).

Supervisor: Prof. Raisuyah Bhagwan  
Contact details: 031 3732197 or [bhagwanr@dut.ac.za](mailto:bhagwanr@dut.ac.za) (email).  
Co- Supervisor: Prof Nokuthula Sibiya  
Contact details: 031 373 2606 or [nokuthulas@dut.ac.za](mailto:nokuthulas@dut.ac.za) (email).

Institutional Research and Ethics Committee (IREC) Administrator: Ms Lavisha Deonarian (telephone) 031 3732375 or (email) [lavishad@dut.ac.za](mailto:lavishad@dut.ac.za)  
Complaints can be reported to the Director: Research and Postgraduate Support, Prof S Moyo on 031 373 2577 or [moyos@dut.ac.za](mailto:moyos@dut.ac.za)





**Institutional Research Ethics Committee**  
Research and Postgraduate Support Directorate  
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Gate 1, Steve Biko Campus  
Durban University of Technology

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[http://www.dut.ac.za/research/institutional\\_research\\_ethics](http://www.dut.ac.za/research/institutional_research_ethics)

[www.dut.ac.za](http://www.dut.ac.za)

7 March 2018

IREC Reference Number: **REC 117/17**

Ms S Chandramohan  
35 Vedic Crescent  
Darjeeling Heights  
Pietermaritzburg  
3201

Dear Ms Chandramohan

**The development of an Eco-justice Model to guide community engagement in Health Sciences**

I am pleased to inform you that **PROVISIONAL APPROVAL** has been granted to your proposal REC 117/17 subject to:

- Obtaining and submitting the necessary gatekeeper permission/s to Institutional Research Ethics Committee (IREC).

PLEASE NOTE THAT THIS IS NOT A FINAL APPROVAL LETTER. KINDLY SUBMIT THE ABOVE MENTIONED DOCUMENTS WITHIN THREE MONTHS TO THE IREC OFFICE. DATA COLLECTION CAN ONLY COMMENCE WHEN IREC ISSUES FULL APPROVAL

The Proposal has been allocated the following Ethical Clearance number **IREC 013/18**. Please use this number in all communication with this office.

Approval has been granted for a period of two years, before the expiry of which you are required to apply for safety monitoring and annual recertification. Please use the Safety Monitoring and Annual Recertification Report form which can be found in the Standard Operating Procedures [SOP's] of the IREC. This form must be submitted to the IREC at least 3 months before the ethics approval for the study expires.

Yours Sincerely

Professor J K Adam  
Chairperson: IREC





*Directorate for Research and Postgraduate Support  
Durban University of Technology  
Tromso Annex, Steve Biko Campus  
P.O. Box 1334, Durban 4000  
Tel.: 031-37325767  
Fax: 031-3732946*

25<sup>th</sup> April 2018

Ms Sandhya Chandramohan  
c/o Department of Nursing  
Faculty of Health Sciences  
Durban University of Technology

Dear Ms Chandramohan

**PERMISSION TO CONDUCT RESEARCH AT THE DUT**

Your email correspondence in respect of the above refers. I am pleased to inform you that the Institutional Research and Innovation Committee (IRIC) has granted full permission for you to conduct your research "The development of an Eco-justice Model to guide community engagement in Health Sciences." at the Durban University of Technology.

We would be grateful if a summary of your key research findings can be submitted to the IRIC on completion of your studies.

Kindest regards.  
Yours sincerely

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PROF CARIN NAPIER  
DIRECTOR (ACTING): RESEARCH AND POSTGRADUATE SUPPORT DIRECTORATE



***i thank You God for most this amazing***

*i thank You God for most this amazing  
day:for the leaping greenly spirits of trees  
and a blue true dream of sky;and for everything  
which is natural which is infinite which is yes*

*(i who have died am alive again today,  
and this is the sun's birthday;this is the birth  
day of life and of love and wings:and of the gay  
great happening illimitably earth)*

*how should tasting touching hearing seeing  
breathing any—lifted from the no  
of all nothing—human merely being  
doubt unimaginable You?*

*(now the ears of my ears awake and  
now the eyes of my eyes are opened) (Cummings 1950)*