University of New England

Saving the World with Organic Agriculture: Environmental Peacebuilding in the nascent democracy of Myanmar

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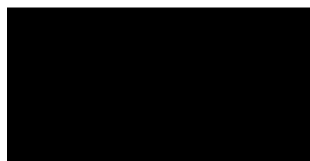
Abstract

In Myanmar, a history of structural and ecological violence has resulted in environmental degradation, loss of livelihoods and food insecurity for agrarian populations. This is resulting in the breakdown of traditional communities. It is anticipated that industrialised, modernisation processes will exacerbate the situation. This thesis is based on a case study into a unique environmental peacebuilding initiative that has been developed by Myanmar nationals, in an effort to address some of these socio-ecological issues. A grassroots, environmental, social movement organisation, the Network for Environment and Economic Development (NEED), has established a school and eco-farm in Myanmar, and has designed an environmental adult education (EAE) program, aimed at agrarian youth. EAE is a transformative education that is a hybrid of environmental education (EE) and adult learning theory. EAE is an effective tool in addressing localised environmental problems. Also, its praxis, when applied widely at the local level, has the potential to influence regional, state and global social and political institutions. NEED is educating young adults from a variety of ethnic groups, in land law, human rights, environmentalism, and the practice of permaculture. NEED has created a learning community; a space for new ecological voices and perspectives. The objective of this research is to see how this particular EAE model is contributing to environmental peace in Myanmar. This is important with regard to environmental and food insecurity issues in this rapidly developing nation. It is also important in light of the global systemic crisis of inequality, environmental injustice and climate change. The thesis discusses attempts to live simply and peacefully in a world that, despite 'sustainability' rhetoric, often forces us to do just the opposite, and is a unique contribution to the research into informal critical adult education for social action, and for environmental peacebuilding. It is also an example of grassroots activism emerging from the global South. The study utilizes Paulo Freire's notion of '*conscientization*' (critical consciousness), critical social theory, as well as the writings of critical theorist Herbert Marcuse, and a Marxist theory of social movements, as lenses through which to analyse the learning that is occurring within this program, as well as the potential it has for broader, transformative social action.

Keywords: Myanmar, environmental peacebuilding, environmental adult education (EAE), grassroots, social movement, food security, youth, permaculture, alternative development.

Certification of Dissertation

I certify that the ideas, analyses and conclusions reported in this dissertation are entirely my own effort, except where otherwise acknowledged. I also certify that the work is original and has not been previously submitted for any other award, except where otherwise acknowledged.



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Garnett, J 2014, ‘Mining for development – destructive and divisive: Eco-villages as an alternative form of development’, Commentary, *International Journal of Rural Law and Policy*, Special edition 1, Mining in a Sustainable World, http://epress.lib.uts.edu.au/journals/index.php/ijrlp/issue/view/303.

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Presentations

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Acronym List

ADB	Asian Development Bank
APT	Accredited Permaculture Training
ASEAN	Association of South-East Asian Nations
BYIWDP	Buddhist Youth Inle Watershed Development Project
BSPP	Burmese Socialist Programme Party
CAC	Campesino-a-Campesino
COM	Community Oriented Myanmar
EAE	Environmental Adult Education
EE	Environmental Education
EIA	Environmental Impact Assessment
EPE	Environmental Popular Education
ESD	Education for Sustainable Development
EfS	Education for Sustainability
FAO	Food and Agriculture Organisation of the United Nations
FDI	Foreign Direct Investment
IDA	International Development Association
IFC	International Finance Corporation
IMF	International Monetary Fund
INGO	International Non-government Organisation
ISEC	International Society for Ecology and Culture
MAN	Myanmar Agriculture Network
MFI	Model Farm Initiative
NEED	Network for Environment and Economic Development
NEM	New Environment Movement
NGO	Non-government Organisation
NLD	National League for Democracy
NSM	New Social Movement
PDC	Permaculture Design Course
PPP	Political Pedagogical Project
SEZ	Special Economic Zone
SIA	Social Impact Assessment
SLORC	State Law and Order Restoration Council
SM	Social Movement
SMO	Social Movement Organisation
SPDC	State Peace and Development Council
TECC	Training, Educating and Consulting Centres
TEK	Traditional Ecological Knowledge
TNC	Trans-national Corporation
TSM	Trans-national Social Movement
UN	United Nations
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
USDP	Union Solidarity Development Party
UNESCO	United Nations Education, Scientific and Cultural Organisation
WBG	The World Bank Group
WEF	World Economic Forum
WSF	World Social Forum
WWF	World Wildlife Fund
WTO	World Trade Organisation

Burmese Terms

Dhamma	The teachings (truth) of Buddha
Hluttaw	Myanmar parliament
Longhyi	Sarong
Sangha	Buddhist monastic community
Sayama	Teacher (female)
Tatmadaw	Myanmar military

Chapter 1. Introduction

This thesis examines how grassroots environmental adult education (EAE) is contributing to environmental peace in the nascent democracy of Myanmar (formerly known as Burma)[1]. Environmental peace is a form of peacebuilding that actively sets out to improve the health of ecosystems, and our relationship with our natural environments and with each other. EAE is a transformative education that is a hybrid of environmental education (EE) and adult learning theory[2]. EAE is a tool for the cultivation of environmental peace. This thesis is a unique contribution to the research into grassroots EAE being utilized for environmental peacebuilding in the global South

The thesis focuses on a grassroots initiative, the Network for Environment and Economic Development (NEED), as an example of grassroots activism emerging from less developed, or developing, nation states. The objective of this research is to see how this particular EAE model is contributing to environmental peacebuilding in this nascent democracy. This is important with regard to environmental and food insecurity issues in this rapidly developing nation. It is also important in light of the global systemic crisis, of inequality, environmental injustice and climate change.

My interest in Myanmar stems from an interest in human rights activism and environmentalism, both of which are major issues in this nation[3]. The core premise of this thesis is that alternative social structures, to the dominant, mainstream institutions, are the key to addressing the world's myriad contemporary environmental and associated social problems, particularly the ecological, structural and cultural violence embedded in the prevailing economic system of globalised free-market capitalism. This

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[1] The country of Burma was given the more formal and indigenous name of Myanmar in 1989 by a newly instated version of the military regime. Although controversial, I have adopted the name Myanmar for this thesis as it has become almost universally adopted internationally. My use of Myanmar instead of Burma has been approved by the participants in this study.

[2] EAE is often referred to as environmental popular education (EPE) in the literature and, for the purposes of this thesis, the two are considered synonomous.

[3] In particular, I was inspired by my eight-year involvement with author and political activist, Alan Clements, who wrote the books *Instinct for Freedom* (2002) and *The Voice of Hope: Conversations with Alan Clements* (2008) about political and spiritual activism influenced by Aung San Suu Kyi, leader of the National League for Democracy (NLD) in Myanmar.

thesis discusses attempts to live simply and peacefully in a world that, despite 'sustainability' rhetoric, directs us to do just the opposite[4].

This study argues after John Dewey 2004 [1944], and in line with critical educator Paulo Freire (1999 [1970]), and the Italian Marxist activist and thinker Antonio Gramsci (1994), that the key to social change is education. This study argues for EAE in particular, as a non-violent, transformational process of change making, and as a process of cultural renewal, from the bottom-up. This study is grounded in the belief that EAE is an integral aspect of the evolutionary transformation required to address contemporary environmental issues. This is because EAE provides critical skills regarding structural, social and cultural constructs and constraints, practical skills for developing peaceful solutions, raises ecological awareness resulting in increased ecological identity and, most importantly, aims at collective action (Clover 2003; Clover 2002a; Hill & Clover 2013).

EAE is an effective tool in addressing localised environmental problems because its praxis[5], when applied at the local level, has the potential to filter up to influence regional, state and global social and political institutions. EAE raises critical and ecological consciousness, a sense of agency, and provides practical skills. This conception is shared by a growing number of Myanmar nationals from agrarian populations who are experiencing a rapid shift in state-society relations (BEWG 2011, p. 30; NEED 2013, online). They are taking advantage of the opportunities created by recent political, economic and social reforms instigated by their government.

This chapter outlines the research problem, objectives and questions. It also provides the background discussion to this thesis together with the conceptual and theoretical framework and expected outcomes. The key working definitions and thesis outline are provided at the end of the chapter.

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[4] I am not enamoured with the term 'sustainability' and particularly not with the term 'sustainable development' which basically means 'maintained growth' and is therefore an oxymoron primarily aimed at mitigation (Rist 2010, p. 487) and supporting business as usual (Goodman & Salleh 2013). *However,* the term sustainability is almost universally used in the environmental literature to indicate 'the endurance of systems and processes' so this thesis utilises this common definition. Notions of sustainable development are critiqued in Chapter Three.

[5] An education based on praxis "is one whereby people act on their material surroundings and reflect on them with a view to transforming them" (Mayo 1999, p. 48). The notion of praxis is central to a Freirian pedagogy.

1.1. Research Problem, Objectives and Questions

Myanmar (shown on the map in Figure 1-1) is one of the largest countries in South-east Asia and shares borders with India, Bangladesh and China to the north, and Laos and Thailand to the east. Due to this geographical location Myanmar has developed close trade relations with China, and Thailand, as well as joint resource development (Fahn 2003, p.185; Thant Myint U 2008, p. 134). Myanmar is home to around 54 million predominately Buddhist (89%) citizens, represented by 135 officially recognised ethnic groups falling under 8 major categories. The majority of citizens are Burman (68%), followed by the Shan (9%), Kayin (7%), Arakan (3.5%) and Mon (2%). Besides Buddhism, the main religions in Myanmar are Christianity (4.9%), Islam (3.8%), Hindu (0.05%) and Animism (1.3%).

Figure 1-1 Myanmar Map
https://en.wikipedia.org/wiki/Outline_of_Myanmar.

Theravada Buddhism permeates the government and the majority of people's lives and values. Seventy per cent of the population is involved in or reliant on agriculture that currently accounts for the largest share of the economy, generating approximately 43% of GDP (UNDP 2014; WBG 2012, p. 6; WWF 2015). Nearly 45% of the population is under 25; only 5% are over 65. The country is therefore home to a relatively young population traditionally based on the land.

Myanmar is a nascent democracy currently governed by the National League for Democracy (NLD), under the leadership of the charismatic political activist Aung San Suu Kyi. The NLD took power in April 2016 following a landslide victory in the national elections in November 2015. Aung San Suu Kyi is prevented from taking the role of President under the 2008 Constitution, so has, therefore, taken on the mantle of State Counsellor, and in this role, is effectively taking her country into the 21st century. Prior to the election, Myanmar had been governed for over fifty years by a military junta (in various guises), following a 1962 coup fuelled by unrest that proceeded from colonial rule and WWII (see Fink 2001, p.4, 31 & 135; Holliday 2011, p.1; Steinberg 2013, p.63; Thant Myint U 2011, p.20).[6]

The British arrived in Myanmar (then Burma) in the early 1800s with the aim of accessing the country's formidable natural resources (Fink 2001, p. 17-19; Gravers 2014b, p. 143; Scott 1977, p. 36). Colonial rule opened up the country to immigration, and a blended and more diverse society, and in the process changed the social organisation and political and economic institutions (Gravers 2014b; Steinberg 2013, pp. 27-40; Fink 2011, pp. 17-22). It also had considerable impact on the peasantry (discussed at length by Scott 1977, pp. 56-76). The social structure remained fundamentally top down and hierarchical, with a centralised government and power (Silverstein 1977, p, 21). The Colonial legacy is manifest in the spread of English speaking among the populace, the presence of Christianity, styles of administration and bureaucracy, an antiquated education system and the buildings that remain in the major cities (Gravers 2014b).

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[6] The military retains a considerable amount of power due to the 2008 Constitution that ensures 25% of parliamentary seats are held for the military who also retains control of the ministries of Defence, Home Affairs and Border Affairs. They also have effective veto over any changes to the Constitution.

Myanmar was once the wealthiest nation in South-East Asia[7] but is now one of the world's least developed countries despite being rich in natural resources, ranked 150th out of 187 countries in the 2014 UN's Human Development Index concerning health, education and income. It also came 156th out of 175 of the most corrupt countries in the world in Transparency International's annual Corruption Perceptions Index (2014), and globally is deemed to be one of the least peaceful countries, ranked 130th out of 162 on the Global Peace Index (IEP 2016, p. 9). Myanmar is ranked 134th out of 170 countries on the Commonwealth Youth Development Index with regards to education, health and wellbeing, employment, and political and civic participation.[8]

Myanmar has been a patrimonial state primarily concerned with the distribution of private benefits amongst the ruling hierarchy (Jones 2014, p. 149; Turnell 2014, p. & 2011, p. 84). Despite an ostensibly free-market system since 1988, the state has been extremely interventionist (Steinberg 2013, p. 20) and the defining feature of the political economy of Myanmar has been the highly instrumental nature of capitalist control of state power by the oligarchs - the military elite and 'crony capitalists' (Jones 2014, p. 148). Political, economic, social and cultural policies and practices enacted by the colonials, and subsequently by a variety of autocratic military leaders, have impacted negatively on the environment, resulting in environmental insecurity and injustice for the majority of the population in Myanmar (BEWG 2011, p. 44; ERI 2013; Petrie & South 2014, p.88; Salween Watch 2013; Simpson 2009; Sovacool 2012, p.225; Steinberg 2013, pp. 11-15; Turnell 2014, p.376; WBG 2012, p.9).

For most of the world the tragedy of Myanmar has been political, due to concerns about human rights issues in the country, but for those living within the country the larger tragedy is economic (Rieffel 2010, p. 9). Myanmar is a 'weak' state and has failed to deliver political 'goods' to the people (see Rotberg 2002, p. 87). Natural resources, in particular teak, jade, gas and oil, have been ruthlessly exploited by the ruling military and its cronies, both domestically and in neighbouring countries (Arakan Oil Watch 2012; Tun Myint 2007). Many of the processes surrounding these industries in

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[7] Myanmar was once the dominant global exporter of rice, accounting for nearly three quarters of the world's rice exports – 3.123 million tons of rice was shipped in one year alone.
[8] Youth are a focus of the SDGs (UN 2015) and, in line with this, Myanmar is currently developing a national youth policy with the assistance of a number of INGOs (Youth Policy 2016).

Myanmar have resulted in human rights abuses by the military[9]. The outside world has responded to repeated incidences of brutality emanating from the military, as well as its failure to transfer power following the 1990 elections, by imposing political and economic sanctions, virtually closing the country off (see Steinberg 2013, p. 101).

During and after colonialism the country had a well-functioning school system and a high literacy rate (Fink 2001, p.189) but during their time the regime, under the governments of the State Law and Order Restoration Council (SLORC) and the State Peace and Development Council (SPDC), did incalculable damage to the education system (Anderson 2016, online; Smith 1999, p. 228). The level and quality of public schooling in Myanmar is abysmal with the USDP spending approximately 1.3% (supposedly rising to 5% in 2015) of the annual state budget on education, making its education system the least effective in South-East Asia.[10] Although 85% of children attend primary school, over 40% do not go on to middle school (ages 11-17). On the periphery, ethnic languages are discouraged, ethnic states receive less funding and literacy rates are lower (Walton 2013, p.15).

All forms of education play a social engineering role, but in Myanmar education has particularly been used as a tool for subjugating and controlling the masses (Steinberg 2013, p. 87).[11] The prevailing style of teaching in Myanmar is a traditional teacher-centred rote-learning method. This gives learners little or no opportunity to participate actively in the learning process and develop critical thinking skills (Curriculum Project 2013), and reinforces submission to all authority (Fink 2001, p. 177). The result has been an intellectually impoverished (by Western standards) polity with little knowledge of the ‘outside’ world. Myanmar citizens, however, place a high value on education.

In 2011, political, economic and social reforms aimed at rejuvenating the economy were instigated by the quasi-civilian government held by the Union Solidarity Development Party (USDP) and led by then President Thein Sein. Though primarily

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[9] These have included rape, torture, assassination, bayoneting, land confiscation, burning of villages, displacement of whole villages, use of child soldiers, and arbitrary detention (Fink 2001, p.78 for example).

[10] Education is supposedly free but students have to pay for resources and (bribes) to teachers meaning that many parents in rural areas cannot afford to send their children to school beyond the primary level.

[11] In the period 1962 – 1999 universities were closed and re-opened thirteen times, and distance education campuses were set up in an effort to dilute student activism (Fink 2001, p.182).

well intended, benefits stemming from these reforms have been slow to reach the grassroots (Prasse-Freeman 2016; Turnell 2014, p. 369). For the vast majority of the Myanmar population, those on the land, livelihoods and land tenure are not secure (BEWG 2011, pp. 36-39; NEED 2013). Environmental degradation, lack of public infrastructure, land grabs, food insecurity, a lack of food sovereignty and loss of livelihoods are resulting in the breakdown of traditional, long-established agrarian communities (BEWG 2011; NEED 2013; Turnell 2014, p.380; Woods 2013).

The problem relating to the breakdown of agrarian communities in Myanmar, the key concern of the participants of this study, is threefold:

1) There is top-down, exploitative and inefficient management of natural resources.
2) There is intensive, and insufficiently controlled, use of chemical fertilisers and pesticides by the farmers (NEED 2013).
3) The situation is being exacerbated by new policies and practices as the state enthusiastically embraces large scale, agri-business (BEWG 2011, p.70) and export-oriented industrialisation (Turnell 2014, p. 374).[12]

A range of initiatives has attempted to address environmental problems in Mynamar (Bryant 2007), aimed at the development of a "comprehensive national environmental strategy in keeping with a modern and developed nation" (Tun Myint 2007, p.195). In 2012, for example, the USDP initiated the national Environmental Law. As Simpson notes, however, this has so far had little effect (2015, p. 160).

There has been some notable instances of political resistance within Myanmar, however, any political or social dissent has historically been promptly and violently squashed (Fink 2001, p. 250 & 2011; Holliday 2011, p.59; Simpson 2015, p. 158; Turnell 2011, p. 80). In the 1930s an anti-colonial movement erupted, primarily in response to a severe drop in the price of rice due to the Depression (Scott 1977, pp. 89-90). This short-lived revolt is known as the 'Saya San Rebellion' after its leader, Saya

[12] The country appears intent on following the industrialised development programmes of other nation states in East Asia. In 2012 during a visit to the country, US President Obama spoke to university students and said that the US wanted to support economic reforms in the country because it believes that "Myanmar has the potential to serve as the engine room of growth for the world".

Sana, a former monk and physician, who was executed for his efforts in 1931[13]. In 1988, on the 8th of August, in what was to become a pivotal moment in Myanmar history, students took to the streets in protest at the military's brutal response to previous protests following the cancellation of certain currency denominations in 1987 that wiped out people's savings, as well as General Ne Win's announcement that he was resigning as head of government (Aung San Suu Kyi 1991; Fink 2001, p.50-54; Holliday 2011, p. 56; Lintner 1994, p. 273).[14] Over the next few weeks, pro-democracy marches and rallies spraung up around the country. Up to 3,000 of the protestors (mainly students) were killed, and many were forced to flee the country. In 2007 simmering social unrest again came to a boil when monks took to the streets in what became known as 'The Saffron Revolution' (see Fink 2011). The monks were, at face value, protesting at massive fuel price rises (Steinberg 2013, p. 137-140; Lorch, 2007, p. 151) but, primarily, their action was a commentary on the immorality of the junta's behaviour towards the people (Fink 2011; Gravers, 2014a: Schober, 2011; Steinberg 2013, p. 137). The state responded violently (Fink 2011).

The result of this suppression has been the creation of an activist diaspora, a dynamic transnational community of expatriates who have been engaging in activism around ethnic and human rights, gender issues and the environment in the borderland regions or neighbouring countries (BEWG 2011, p. 26; ERI 2013; Simpson 2013, pp. 187-190). Despite, or perhaps because of this activism, very little has been achieved with regard to the government enabling community participation in policy making (BEWG 2011, p. 17; Simpson 2009). This is slowly changing as the country opens up to INGOs and NGOs and adopts new laws and legislation[15] but, overall, the government in Myanmar is failing to adequately address issues surrounding environmental and food security. As well, foreign investment, domestic and external industrialised development models, particularly the agricultural development project, look like exacerbating many of the problems rather than solving them. This research will endeavour to explore some of these issues in depth.

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[13] Scott's *Moral Economy of the Peasant* (1977) offers an excellent overview of the historical and political context of this rebellion.

[14] These political actors became known as the 8888 Generation.

[15] This is enlarged on in Chapter Five.

The post-authoritarian state in Myanmar is evolving rapidly and civil society actors are beginning to take advantage of the new political spaces (Borg 2013, online; BEWG 2011). The level and diversity of non-state actors involved in peacebuilding, and hence the development of community-led and participatory approaches, are growing (BEWG 2011, p. 17; Holliday 2011, p.169; Petrie & South 2014, p. 91). The environmental grassroots organisation that I have identified and chosen for this study, the Network for Environment and Economic Development (NEED), is one such group, and has mobilised with a particular focus on food security.

The challenge NEED has set itself is to assist small holder farmers and agrarian communities in addressing localised environmental degradation and food security issues. The aim is to enhance traditional, cultural, practical skills and knowledge with new, more environmentally or ecologically sustainable, community-friendly agricultural techniques, practices and processes (NEED 2013, online). NEED's praxis aims to redress the issues noted in 1) and 2) above, and to resist future environmentally degrading and exploitative mainstream development. NEED participants share the concerns of millions of others from agrarian communities round the globe who are in the throes of complex forms of transition to capitalism

NEED is influenced by, and shares the ideology and praxis of, the trans-national grassroots agrarian, eco-culture and food social movements (discussed in section 3.3). Its ideology is also aligned with Buddhist ethics and simple living. NEED has chosen young adults as its target audience, and EAE and permaculture as the tools and means of leverage through which to operationalise, at the local level, its ideology of a simple, ecologically-sustainable, and more peaceful way of living.

The objective of this research is to see how this particular pedagogical program is contributing to environmental peace through the creation of a space for new ecological voices and perspectives, and by developing, and enabling, alternative, localised, community-led development models that focus on food security. This has been achieved by gaining an understanding of the motivations behind the organisation, NEED, and its staff and students (the participants of this study), how NEED has mobilised, what the participants' objectives are and how the participants are attempting to meet their goals.

Against this background the main research question is "**how is environmental adult education (EAE), as practised by NEED, contributing to environmental peacebuilding in the nascent democracy of Myanmar?"** In order to gain an understanding of the organisation, NEED, of the learning occurring within this grassroots initiative, as well as its effectiveness in cultivating environmental peace, further questions are:

- Why and how has NEED mobilised;
  - What motivated the organisation and the students who attend its school, and what are their objectives?
  - Why have they chosen to take this education based route in addressing their environmental, social, economic and political problems and issues (instead of relying on politics or other forms of activism)?
- What learning is occurring, and how does it relate to environmental peacebuilding?
- What is the impact of the program on environmental conservation and regeneration, cultural preservation and livelihoods?

1.2. Background to this Thesis – Our Contemporary Reality

> It is argued that modern 'man' [sic] does not experience himself as part of nature[16], but as an outsider, destined to dominate and conquer it.
>
> (Schumacher 1973, p. 11)

It is not within the scope of this thesis to discuss at length the history of environmental problems facing humanity today – the issues are well documented.[17] Suffice it to say there is no part of the world that has not been profoundly affected (whether it be positively or negatively) by human activity (Smith 1984, p.1; Steffen, Crutzen & McNeill 2007). Western development and modernity has been embedded in a Cartesian worldview that separates object from subject, and culture from nature (Bruun &

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[16] Castree describes three 'typologies' of nature (2001, pp. 1-21). For this thesis, the term 'nature' is synonymous with the term 'the environment' – the rest of nature - unless otherwise stated.

[17] For a comprehensive overview see Diamond 2011; Goudie 1981; McKibben 2006; Meadows 1974.

Kalland 2013, p. 1). This has resulted in a structurally, culturally and ecologically violent civilisation, based on a fusion of science and technology, and enabled and justified by Judaeo-Christian beliefs and attitudes, particularly the notion of 'perpetual progress' (Lyn White Jr. 1967, pp. 1204-1207).

In this relentless quest for so-called 'progress', humans have been and are destroying the complex ecosystems that create and maintain the Earth's atmosphere (Commoner 1992; Ehrlich 2005, p. 48; Foster, Clark & York 2010; Meadows et. al. 1992; Meadows 1974; Merchant 2008; Spretnak 2011). The breadth and depth of human activity on the earth's eco-systems has resulted in the notion that since the 'Enlightenment' (late 18th century), humanity has existed in a new, human-dominated geological epoch, the 'Anthropocene' (Steffen, Crutzen & McNeill 2007).

Humanity today is facing a socio-ecological crisis. Central to our problems is the anthropocentricism embedded in the predominant economic system of globalised free-market capitalism (Foster 2009; Foster, Clark & York 2010; Kovel 2007; Marcuse 1964) and ideology of neo-liberalism – the notion that personal liberty is maximized by limiting government interference in the operation of free markets (see Castree 2008; Harvey 2005, for example).[18] There are, of course, many positive aspects of capitalism but the key problem for the planet, and ultimately humanity, is that the political and economic processes of production and consumption endemic to capitalism are rooted in the objectification of nature (Magdoff & Foster 2010, p.7). Virtually all natural resources are diverted from the ecosystem to support the socio-economic system, resulting in a 'metabolic rift', the alienation of humans from our first nature, the environment (Foster 2009; Salleh 2010). While we must acknowledge the positive effects of some economic growth (Wells & Lynch 2000, p. 60), for the sake of the natural world we need to look at the costs of human behaviour.

Capital is thriving through globalisation, the ever-expanding transnational movement of goods, services and capital that transcends geo-political borders (Guttal 2007, p. 524). It is also thriving through the efforts of the powerful 'social movements from above' -

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[18] It is noted that other ideologies such as socialism and communism have been no less exploitative, corrupt or destructive. However, capitalistic narratives embedded in neo-liberalism, dominate global thinking, imagination and ways of being (Allman 2001, p. 16 & 23; Magdoff & Foster 2010).

the transnational capitalist class (TCC), industrialists, professionals, politicians and government officials, rural elite, prosperous farmers and business players and those who own and/or control the major means of production, distribution and exchange (see Cox & Nilsen 2014, pp. 59-71 & p. 137; Nilsen & Cox 2013; Sklair 1997, p. 520).

Globalisation, as a socio-economic phenomenon, is having the profoundest social, cultural, economic and environmental implications we have seen since the first devastating impacts of industrialisation and colonialism (Bauman 1998; Choudry 2015, p. 21; Escobar 2004; Guttal 2007; Hardt & Negri 2001; Monbiot 2003; Norberg-Hodge 2009). This is resulting in destitution and displacement for many communities (Jenkins 2005, p. 321; Kaplan 1994). Those in the South, in the 'less-developed' nations are increasingly vulnerable (Guttal 2010, p. 528-530; Jenkins 2005; Thomas 2001, p. 160 & 165) and women are much more likely to be affected due to "their subjugated social position, limited education and restricted economic freedom and social capital" (Goldsworthy 2010, p. 215).

Globalisation is aided by the 'development project' (defined and discussed in depth in 3.2) and, increasingly, by the 'green economy' and a contemporary 'green revolution' ((Brand 2012; Goodman & Salleh 2013; UNEP 2014), supported by the non-democratic institutions of the World Bank and its International Development Association (IDA), the International Monetary Fund (IMF), the World Trade Organisation (WTO) and World Economic Forum (WEF) (Chatterjee & Finger 1994; Choudry 2015, p. 21; McMichael 2000, p. 22).

A key concern for this thesis is the globalised commodification and industrialisation of food, despite it being a fundamental human need (see George 1977; McMichael 2000; Patel 2009). More concretely, the processes of free-market capitalism are resulting in a monopoly of food markets by a few trans-national corporations and large businesses (Korten 1995; Mann 2014; McMichael 2000 for example). This involves control over land, agricultural inputs, including seeds, fertilisers and pesticides. All these practices are impacting on the security of small landholders, peasants, subsistence farmers and

indigenous peoples around the globe[19] (BEWG 2011; GRAIN 2016; NEED 2013 & 2015; Woods 2013, for example).

A focus on the economic system of capitalism in modernity as central to socio-ecological problems is often accused of reductionism (Eagleton 2011, p. 108 for example). However, it is becoming increasingly obvious that the exploitation and alienations set within a cosmology of individualism and materialism, together with the denial of other worldviews, is harmful to both humans and the planet. The homogenisation of globalisation has seen the loss of diversity and pluralism which are a vital part of a truly 'good' life, of 'buen vivir' and are integral to achieving environmental peace.

Meanwhile, the hegemonic power of the ideological beliefs of the ruling class justify the social, political, and economic status quo as natural, inevitable, perpetual and beneficial for everyone, rather than as artificial social constructs that ultimately benefit only, or primarily, them (Choudry 2015, p. 21; Gramsci 1994). Capitalism stymies the very possibilities and powers that it has spawned (Eagleton 2011, p. 77) and, increasingly, the masses are under the thrall of a worldview that promises security, individual freedom and material wealth but does not acknowledge the costs.

1.2.1. Resistance, Regeneration and Resilience

The reactions, responses and solutions, over the past fifty years, to the socio-ecological crisis have been as complex and varied as the problems and again, a detailed analysis is beyond the scope of this study.[20] Briefly, environmentalism as collective, social action emerged with the publication of a small book– Rachel Carson's seminal work *Silent Spring* (1962).[21] This book starkly highlighted the consequences of industrialisation and modernisation, and the need to protect and conserve nature, and paved the way for the new environmental movements (NEMs) of the 1970s. An integral aspect of the NEMs was the involvement of women and the emergence of eco-feminism (see Mies

[19] These categories may overlap, in that an indigenous person can be a small landholder, but, together they comprise the 'meta-industrial' class – discussed later in 1.3.3.
[20] Examples of more recent responses are discussed by Amster (2015), Gamble (2011), Hawken (2007), Kahn (2010), Lockyer & Veteto (2013), Norberg-Hodge (2013 & 2009); Shiva (2010 & 2005) and *The Worm is Turning* (2015)
[21] Murray Bookchin raised an alarm earlier with the publication of a small book *The Problems of Chemicals in Food* (1952).

1998; Salleh 1997). Eco-feminists are determined to find ways of meeting human needs that do not further the domination of instrumental rationality (Salleh 1997, p. 53).

Concerns over environmental degradation and pollution, have resulted in mainstream responses, and the adoption of a raft of laws, rules and regulations[22]. Concurrently, parallel institutions, non-formal and informal modes of social action (see Bible 2011 & 2016; Doyle 2005; Hawken 2007; *How to Change the World* 2015), popular and informal adult education (see Clover 2002a; Friere 1999; Hill & Clover 2003; Mayo 1999), green political thought (Dobson 2000; Dryzek 2013; Eckersley 1992), and new disciplines (Amster 2015: Bookchin 2005; Dunlap & Catton 1979; Kahn 2010 for example) have emerged.

Environmentalism is traditionally attributed to behaviours emanating from the global North (see Pepper, Perkins & Young 1984). Primarily, the Romantic-Transcendental environmental ethic of the Romantics in Great Britain (1800-1850), and the conservationists in America: in particular Henry David Thoreau (1817-1862), John Muir (1838-1914), and Aldo Leopold (1887-1948). However, in the global South a number of influential environmental movements have emerged, of which the *Chipko* forest conservation movement in India and Kenya's *Green Belt* movement are examples (Doyle 2005; p. 35; Guha & Martinez-Alier 1997; Shiva 2010, pp. 55-95). Environmental activism, in all its forms, seeks to resist harmful practices, regenerate degraded environments and impacted communities, and provide creative, practical solutions for developing resilience to future impacts.

Despite the myriad far-reaching efforts that have resulted in thousands of positive initiatives, policies, practices and processes, we are failing to arrest global ecological decline and address environmental insecurity and injustice. For many around the globe the situation is critical and, in light of climate change and global warming, the situation is only likely to deteriorate (see Barnett & Adger 2007; Christoff & Eckersley 2013; Homer-Dixon 2006 for example). Mainstream institutionalised responses are failing

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[22] The most notable being: the creation and promotion of mainstream environmental education (EE) at the United Nations Conference on the Human Environment in 1972; the Bruntland Report, Our Common Future (1987) that instigated the notion of sustainable development; the UNCED-hosted Earth Summits (1992 and 2002), the Kyoto Protocol on Climate Change (2005), and, most recently, the United Nations (2015) Sustainable Development Goals (SDGs).

(Kahn 2008, p.4), and the notion of 'sustainable development' together with the co-optation of many 'green' practices (greenwashing) and an evolving 'green consumerism' within a 'green economy' (Goodman & Salleh 2013; Kahn 2009; Rogers 2010) is serving to maintain the status quo.

It obvious we need new approaches in order to address the damaging socio-ecological complexities of our contemporary reality. Any attempt to solve our current environmental crisis is impossible within a bourgeois framework that condones commodification of the environment. We need to find transformative solutions that transcend the constraints of capitalism (Magdoff & Foster 2010). We need a more pluralistic discourse, one other than the mechanistic and reductionist discourse of the core elite global policy makers and power brokers. We need a new meta-narrative - one of interconnectedness and interdependence (as argued for by Kyrou, 2007; Reardon, 1994; Spretnak, 2011). We need to change the core assumptions under which we live (Bowers 2009, p. 10). We also need to shift our understanding of how and where knowledge is generated. As Raewyn Connell (2007) and Ariel Salleh (2015) amongst others, argue, much is to be learnt from the South, from the diverse cultures that make up the majority of the world's population.

1.3. Conceptual Framework

It is obvious from the discussion above in 1.2 that, if we want to survive as a species, we must all bring our activities within the biological limits of the earth. Focusing on individual behavior change alone is not sufficient. This study supports the argument that we need a radical transformation of our political, social and economic structures, institutions, systems, practices and processes (Hawken 2007; McKibben 2007; Mies & Shiva 1993; Shiva 2005). Any approach needs to be pragmatic, rooted in social structures, in the means and modes of production, and in the embodied practices of everyday life. Finally, any approach will only succeed through engagement with diverse, often silenced or invisible epistemologies and ontologies (Connell 2007; Salleh 2015).

1.3.1. Environmental Peace Studies

Peace research concentrates on all forms of violence, societal conflict and notions of peace, and how to attain it (Brunk 2000, p.13; Galtung 1969). This includes the

concepts of peacemaking, peacekeeping and peacebuilding (see Barash 2014). Peacebuilding is a widely used term with a variety of meanings but is basically a means of achieving sustainable and durable peace (Jenkins & Branagan 2014, p. 1). Environmental peacebuilding aims for a ‘positive peace’, defined as “the absence of violence in all forms” (Galtung 1969, p. 168). Peacebuilding is sometimes interchanged with ‘peacemaking’, and can take place before, during, and after a conflict (Amster 2015, p. 7). Peacebuilding recognises that relationships are the basis of both conflict and solutions, and central to peacebuilding is reconciliation; reconciling relationships (Lederach 1997, p. 27). Environmental peacebuilding involves addressing our relationship with the environment (as advanced by Amster 2015; Boulding 1992; Conca 2002; Conca & Dabelko 2005; Kyrou 2007; Reardon 1994 amongst others). The notion of environmental peace, to be achieved through environmental peacebuilding, stems from the 1970s ‘eco-pax’ movements in North America and Europe (see Pakluski p.158-194).

The analysis of this particular example of environmental peacebuilding, through critical environmental education in Myanmar, is multi-faceted and inter-disciplinary, informed by concepts and theories from several sources. The study is linked to three separate but convergent bodies of relevant literature; post-development theory, social movement theory and environmental adult education. Each of these fields seeks to analyse, understand and inform possibilities for improved, ecologically-sound relationships and the creation of environmentally peaceful futures. The next section introduces these fields, and each is explored at length in Chapters Three and Four.

1.3.2. Post-Development Theory

Research into development has centred round power (Chambers 1983) and the need for alternatives (Norberg-Hodge 2009; Piertese 2000), especially in relation to the involvement of women (Mies 1998; Mies & Bennholdt-Thomsen 2000; Salleh 2000 & 1997; Shiva 2010 & 2005). Implied in the term ‘development’ is the notion that more developed is more valuable than less developed (Sachs 1992, p. 2). Post-development literature opposes traditional development discourse that circles around notions of progress and imply a ‘developed’ society is ‘better’, and is to be measured primarily by its material wealth, ignoring traditional cultures and indigenous epistemologies (see Mies & Bennholdt-Thomsen 2000; Norberg-Hodge 2009).

Overall, the 'development project' of the post WW II era has been a dismal failure (see Chambers 1983; Escobar 1998; Piertese 2000; Sachs 1992 for a discussion). As Chambers notes, macroeconomic based policies have the potential to, and do, damage people's lives (1997, p. 52), especially women's (Sen & Grown 2011). Industrialisation has simultaneously transformed agriculture and degraded its natural and cultural base (McMichael 2000, p. 21; Rist 2007, p. 488). It also, of course, affects social relations (Bookchin 2005; Escobar 1995; Marcuse 2008, 1992 & 1964). Post-development advocates, like Mies (1998), Norberg-Hodge (2013 & 2009), Shiva (2010) and Sachs (2010) moot 'localisation', eco-sufficiency and increasing community participation and bottom-up approaches as a way of achieving this.

1.3.3. Social Movement Theory

A social movement is commonly defined as "a distinct social process, through which actors engage in collective action against clearly identified opponents" (Della Porta & Diani 2009, p. 20). This thesis, however, is informed by Nilsen and Cox who, in their explication of a Marxist theory of social movements, go further. They define a social movement as

> a process in which a specific social group develops a collective project of skilled activities, centred on a rationality that tries to change or maintain a dominant structure of entrenched needs and capacities, in part or whole (2013 p. 65).

Social movements emerge due to disillusionment with established structures, institutions and policies, and due to the desire to instigate change or address perceived injustices (Della Porta & Diana, p. 21). Social movements emerge from *both* 'above' and 'below' (Nilsen & Cox, 2013, p. 66-79). The social movements at the heart of this study; permaculture, localisation and food sovereignty, are working towards alternatives to mainstream forms of development and stand in opposition to the dominant paradigm of neo-liberalism and the global corporate regime.

1.3.4. Environmental Adult Education (EAE)

EAE is a collective and social action that emerged out of Freirean popular education in 1975 as an aspect of the environmental movement and has developed over the past 40 years, as a response to local, and global, environmental problems (Clover & Hill 2013;

Hill & Clover 2003; Clover 2002b). EAE is differentiated from adult environmental education (AEE) which is defined as an environmental education for adults (rather than the environment). EAE generally occurs in non-formal and informal settings.[23]

EAE is embedded in a commitment to act to protect the environment, and brings an ecological perspective to adult learning, by highlighting the interconnections between people's experiences of ecological violence, as well as the structural and cultural violence (defined in 1.6.2) that is embedded in the global economy (Clover & Hill 2013). EAE is founded on two fundamental beliefs: the value of people and their diverse epistemologies, and that adult education should provide opportunities for the critical analysis of the complex political forces underlying environmental issues (Clover 2002a, p.3).

EAE is also based on the understanding that what is required is for adults to transition from environmental awareness and knowledge, to action and stewardship – praxis. EAE is, therefore, a tool in which to build *collective* action, not simply individual behaviour change (Clover 2002a, p.5). The research suggests that EAE is effective because it is localized, aligned to lived experience, and it results in action (Clover 2002b, p. 318; St. Clair 2003, p.74).

1.4. Theoretical Framework of Thesis

Contemporary environmental issues are firmly embedded in the complexity of modern day social, political and economic structures. In order to address environmental and associated social problems, we need to challenge the structures and processes that are the root causes of these problems. Any process that seeks to understand environmental problems must include a critical analysis of these institutionalised systems, so a critical social research methodology needs to be applied. This research is, therefore, grounded in critical social theory (CST) (see Calhoun 1995; Willis 2007, pp. 44-48), grounded in the philosophies of Karl Marx (1976 [1867]) and the Frankfurt School, but primarily the radical social theorist and critic Herbert Marcuse (1989-1979). The Frankfurt School theorists applied a multi-disciplinary approach (Calhoun 1995, p.14), in an

[23] Forms of EAE are also attempted within tertiary institutions. For example, Peace Studies at UNE has developed a number of units to discuss environmental conflicts and created an interdisciplinary Masters of Environmental Advocacy (MEA) in 2010.

attempt to develop a theory of modernity in "a dialectic of domination and emancipation" (Kellner, Lewis & Pierce 2008, p.4). Marcuse's social critique influenced the counterculture movements of the 1960s, in the US in particular, primarily with publication of his book, *One Dimensional Man* (1964)[24].

Marcuse is now being embraced by critical educators and environmentalists who see the revolutionary potential in his critical thinking, as well as his philosophy of education (Brincat & Gerber 2015; Kahn 2008, p. 5; Kellner 1992; Kellner, Lewis & Pierce 2008; Light 1998 for example). Marcuse was concerned at the institutionalised destructiveness of both structurally violent foreign and domestic affairs embedded in modernity, and identified the ecocide being perpetrated in developing, industrialising nation states post WW II (Kahn 2008, p. 5; Marcuse 1992, p. 30). His notions of the need for revolutionary change, and the opportunities that moments of crisis provide for social change, are equally valid today (Marcuse 1992, p.36 & 2008 for example). More importantly, his understandings about power, domination, repression and alienation, go a long way in explaining; a) why we haven't had the revolution many of us so long for, and b) where the revolution might eventually come from (Marcuse 1964, p. 19, 24 & 58 & 1992, p. 32 for example).

It is argued that any discussion surrounding 'the environment' must include an understanding and discussion about theories and notions of power. There are many different types of power and as a concept it is complex and multifaceted (Burrowes 1996, p. 84). A traditional notion of power is "the ability of one actor in a social relationship to carry out their will despite resistance" (Weber 1968, pp. 1-53 cited in Burrowes 1996, p. 83). The powerful in any society are the ones that not only hold the material wealth, but are the ones that argue that they have ownership of 'truth', or of the true way of being (Freire 1985, p.193). The ones in society who contest this power tend to deny that there is any one truth, and try to seek out possibilities instead. They refuse to give their consent to be ruled over (Burrowes 1996, p. 96), questioning the structural violence inherent in economic and political systems that seek to dominate people and the environment, and maintain the status quo (Branagan 2013, p. 55). The

[24] He also influenced the anarchist and environmentalist, Murray Bookchin and his 'social ecology theory', now a multi-disciplinary approach aimed at transformative learning.

term ‘structural violence’ refers to physical and/or psychological harm that results from exploitive and unjust social, political and economic systems and the unequal distribution of power (Galtung 1969, p. 175). It is discussed further in 1.6.2.

As Patton observes, what makes critical research ‘critical’ is that it seeks not just to study and understand society but rather to critique and change it (2002, p. 131). Willis quite rightly points out, however, that a vast percentage of the research in the critical tradition merely results in a cogent critique of the current state of affairs (2007, p. 85). What is lacking are examples of successful efforts to bring about change. Critical social theory is used in this study, therefore, in two ways. First, as an over-arching frame within which to consider and understand the context within which this study is embedded – the political ecology of Myanmar, and the intersected role of power, politics and poverty in relation to environmental degradation. Second, as a lens to analyse the potential embedded in this EAE program for broader collective social action and change in Myanmar.

Finally, central to this thesis is the understanding of pro-environmental behavior, and how this can be facilitated. Paulo Freire’s critical pedagogy is, therefore, utilized as a lens for describing, and theorizing, the learning occurring through this EAE program in Myanmar. Primarily, that is the personal transformation occurring for the young adults undertaking the program, as they construct new meanings, identities and realities.

1.4.1. Paulo Freire’s ‘conscientization’

The critical pedagogy of Paulo Freire is concerned about social transformation through critical reflection, problem posing and dialogue (Freire 1996, p. 33). It was developed ‘for’ the ‘people’, initially and primarily for those oppressed by colonialism. His popular education stands in opposition to what he called “the banking method” of mainstream education whereby “students are the depositories and the teacher deposits knowledge” (1996, p. 53; Mayo 1999, p. 26 & 59). Freire noted the structural violence inherent in the system, stating that “it interferes with an individual’s ontological and historical vocation to be fully human” (1996, p. 37). His concern was both emancipatory personal transformation and social transformation (Mayo 1999, p. 60). Freire wanted people to understand the realities of their oppression and develop an

understanding of themselves as subjects with agency and the power to transform these realities (Freire 1996, p. 49).

Freirian pedagogy focuses on awakening "critical consciousness", and encourages praxis (Freire 1996, p. 35). Praxis is a reflexive process of action and reflection (Mayo 1999, p.63). This 'conscientization', whereby people become aware of the socio-political and economic circumstances underlying their oppression, is the consequence of his educational process (Mayo 1999, p. 64). Truly transformational learning has occurred when an individual realises how social structures and institutions shape their personal reality, and that they have the power for change. Emancipatory learning is central to the EAE program being offered by NEED in Myanmar.

1.5. Expected Outcomes

In light of our contemporary socio-ecological crisis, there is a call for more research into effective environmental peacebuilding. This local initiative in Myanmar is an example of attempts at socio-ecological transformation occurring at the grassroots level around the world. It is also a site for the development of peaceful and practical solutions that could be utilised by this nation that is emerging from several decades of internal conflict. As such, it is important to observe, analyse and gain an understanding about this emerging, domestic social movement within Myanmar, one that is focusing on food security and the regeneration of traditional communities.

It is expected that this research will support this study's hypothesis that the grassroots initiative at the centre of this thesis, NEED in Myanmar, is contributing to environmental peace in a positive and empowering way. This is because the learning occurring at NEED raises ecological consciousness and instils a sense of agency in the participants, in that they have the power to shape their realities in some way. NEED also provides space and opportunities for practical application of this learning. It is also expected that these findings will support the hypothesis that EAE is an effective tool for collective social action and for cultivating environmental peace. Further, it will demonstrate that NEED is an example of an emergent domestic social movement in Myanmar.

1.6. Working Definitions

1.6.1. Community

This thesis takes from Hillery in defining ‘a community’ as “a group of people with diverse characteristics who are linked by social and/or kingship ties, share common perspectives, and engage in joint action in geographical locations or settings” (1955, p. 118). As Watts and Peet point out, however, a definition of community must also acknowledge the social complexity within communities and the fact that not everyone participates or benefits equally in the construction and/or reproduction of community (2004, p. 18 & 24). A sense of community “is a feeling that members have of belonging, a feeling that members matter to one another and to the group, and a shared faith that members’ needs will be met through their commitment to be together” (McMillan & Chavis 1986, p. 9).

1.6.2. Ecological, Structural and Cultural Violence

Ecological violence, or ‘ecocide’, describes the destruction and degradation of natural environments. That is, direct violence perpetrated on flora, fauna and non-sentient entities as a result of human activity (Galtung 1990, p. 294). Ecocide is the negative and violent outcome of the structural and cultural violence embedded in globalised free-market capitalism. Structural violence exists in the social, political and economic structures and institutions that prevent access to basic needs and opportunities for certain groups, whilst privileging others (Galtung 1969, p. 170-171).

Cultural violence refers to aspects of a culture, such as language, science, art or religion, which can be used to justify, legitimize or encourage direct or structural violence (Galtung 1990, p. 291). Violent, repressive values, attitudes and beliefs are internalized and, thereby, become normalized, resulting in a culture of violence as opposed to a culture of peace. Galtung created the violence triangle shown in Figure 1.1. When the triangle is stood on its 'direct' and 'structural violence' feet, the image invoked is cultural violence as the legitimiser of both. Standing the triangle on its 'direct violence' head yields the image of structural and cultural sources of direct violence (Galtung 1990, p. 294).

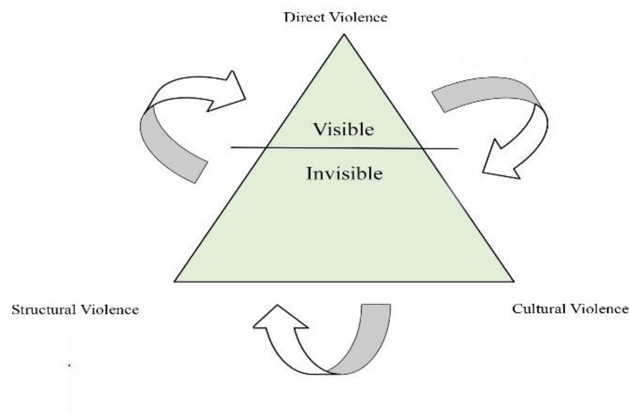

Figure 1-2 Galtung's Triangle

1.6.3. Environmental Security

Environmental security is related to human security – "the ability of humans to meet their basic needs of access to food and uncontaminated water, shelter, livelihoods, adequate health services, community, and political freedom" (Jenkins 2005, p. 321). Human security is about freedom from harm, fear and violence, and relies on healthy and safe environments (Dalby 2009, p. 107). Changes in the natural environment can, therefore, impact on people's ability to flourish and/or survive (Dalby 2009, p. 3). This can result in environmental *in*security, defined by Dalby as "the impact on an individual, community or nation's livelihood or lifestyle by environmental issues such as conflict over resources, natural disasters, pollution or environmental degradation" (2009, p. 12).[25]

1.6.4. Food Security

The term 'food security' was formally defined at the World Food Conference, 1974. To be 'food secure' means that "there is food available for us when required, whether at the household, local, national or global level" (FAO 2006, p. 1). Food security only truly exists, however, "when all people at all times have physical and economic access to sufficient safe and nutritious food to meet their dietary needs and food preferences" (FAO 2006, p. 1; Pinstrup-Andersen 2009, 5).

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[25] See Homer-Dixon (1991).

1.6.5. Food Sovereignty

Food sovereignty is defined as "the right of peoples to healthy and culturally appropriate food, produced through ecologically sound and sustainable methods" (Via Campesina 2007). An important aspect of food sovereignty is peoples' rights to shape and craft food policy (Patel 2009, p. 633).

1.6.6. Localisation

Localisation is defined by eco-feminist Vandana Shiva as "the elevating of local concerns and regulation" (2005, p. 640). Whereas the processes of globalisation "undercut traditional economies and challenge the sustainability of agricultural and survival practices" (Dalby 2009, p. 45), the praxis of localisation aims to empower individuals and communities, protect and regenerate local environments, and create sustainable and resilient local economies (Shiva 2005, p. 64).

1.6.7. Permaculture

Permaculture is a "consciously designed low-energy, high-yielding organic agriculture system that aims at intensive, subsistence farming on small scale holdings to enable sustainable food production and lifestyle" (Mollison and Holmgren 1978, p.6; also see Mollison 1988; Holmgren 2002). Organic agriculture is defined by the international umbrella organization of the organic world, IFOAM (2015), as "a production system that relies on ecological processes, biodiversity and cycles adapted to local conditions, rather than the use of inputs [chemical fertilisers for example] with adverse effects".

The practices and process of permaculture are "grounded in a fundamental recognition that economic viability and social justice are interrelated with functioning ecological systems" (Lockyer & Veteto 2013, p.11). The ideology and praxis of permaculture is being utilised round the globe in myriad ways in a growing number of countries for addressing food security, for community development and peacebuilding (see Birnbaum & Fox, 2014; Gamble 2011, p. 313; PFP 2016, online, for example).[26]

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[26] Permaculture is discussed in depth in Chapter Three.

1.7. Outline of the Thesis

The next chapter outlines the research design of the study, together with the organisation of the thesis. Chapters Three and Four are the literature reviews into Post-Development Theory, Social Movements, EAE and Learning in Social Movements. Chapter Five discusses the context for this thesis: Myanmar culture and political ecology. Chapters Six, Seven and Eight present the findings from this research. Chapter Six presents the case study of NEED - its motivation, mobilisation and operationalisation. Chapter Seven describes the motivation and objectives of the key participants of this study, the initial cohort of 25 NEED students. Chapter Eight discusses the outcomes of the initial ten month program offered by NEED, with a focus on the students. Chapter Nine is an analysis of the research findings and discusses broader implications for this collective social action. Chapter Ten concludes the thesis and proposes further areas of research.

Note: All photographs in this thesis are by the author unless otherwise attributed.

Also, many of the participants' stories in this thesis are cited 'verbatim'. This has been done in order to retain the authenticity of their voices.

Chapter 2. Research Design

This chapter describes the research process that was developed and utilised in this study. The contextual and theoretical frameworks for this study were discussed in Chapter One. This chapter begins with a discussion on the ontology and epistemology that informs this research. Following this, methodologies adopted for this study are described and discussed. These include the fieldwork site and participants, data collection tools, data analysis, and ethical considerations. This case study is multi-faceted and has been conducted under the rubric of activist scholarship, so this is also discussed as are the limitations of the study - in particular, issues faced when conducting cross-cultural research.

2.1. Qualitative Research – search for understanding

This study into environmental adult education (EAE) within a grassroots environment social movement in Myanmar is descriptive, subjective and interpretive and is, therefore, grounded in qualitative research and a soft, social constructivism paradigm. The overall purpose of qualitative research is to understand how people make sense of their lives and their experiences (Merriam 2009, p. 23). Yin outlines 5 key aspects of qualitative research:

- studying the meaning of people's lives under real world conditions
- representing the views and perspectives of the participants in the study
- covering the contextual conditions within which people live
- contributing insights into existing or emerging concepts that may help to explain human social behaviour, and
- striving to use multiple sources of evidence rather than relying on a single source alone (2012, p. 8).

Social constructivism is characterized by the belief that individuals construct their own reality in their interaction with their social worlds; this is a reality that is influenced by culture, history and external materiality (Coole & Frost 2010; Habermas 1979; Merriam 2009, p. 22; Salleh 2000). Human agents are reflective. "They contemplate, anticipate and work, to change their social and material environments" (George &

Bennett 2004, p.129). The ontology of social constructivism argues that life is mutable and diverse not static – "men (sic) together produce a human environment, with the totality of its socio-cultural and psychological formations" (Berger & Luckmann 1966, p.51). There are, therefore, multiple realities and multiple ways of knowing. There are also opportunities for social change.

2.1.1. Ontology and Epistemology - Multiple Ways of Knowing

Ontology is a domain of enquiry into the nature of existence – "what does it mean to exist, to 'be' something" (Jacquette 2002, p.6). Ontology is also concerned with categories of entities and relationships within and between categories. Ontology, as a basis for understanding, informs methodologies for enquiry (Jacquette 2002, p.1). Epistemology is concerned with ways of knowing and learning about the world, and "focuses on issues such as how we can learn about reality, and what forms the basis of our knowledge" (Sarantakos 2005, p.30). Several key issues have dominated key epistemological debates in social research over how knowledge is acquired (Willis 2007, p. 32). In particular the 'deductive' methodologies of empiricism and positivism which are concerned with testing or confirming hypotheses by working from the general to the more specific (see Willis 2007, p. 32) and the 'inductive' methodology of post-positivist and critical perspectives that tend to be more open-ended and exploratory (Willis 2007, p. 74). The traditional schools of empiricism and positivism, grounded in deductive research, are restrictive in enabling 'true' understanding – they only support 'small t' truth claims.

Critical theory research highlights the negative aspects of power relationships, and often involves helping those without power to acquire it (Willis 2007, p. 82 & 85). The ontological stance taken in this research, into the social reality of a grassroots environmental organisation in Myanmar, is that through their social interactions, with the staff, foreign teachers and visitors they encounter whilst at the NEED farm and through their engagement with the critical education program, the participants in this study are creating their own reality within a rapidly evolving and modernising society.

The ontological stance of this thesis is that our experience of the world is socially mediated (Marcuse 1964, p. 19-22), but our everyday realities are also constrained by

human, nonhuman, technological and natural agents that, together, construct the parameters of our common world (Alaimo & Hekman 2008, p. 5). To ignore the fact that these entities exist, and persist, outside the realms of discourse, language and culture, denies the existence of material reality, and the 'embodied materialism' of everyday reality (see Salleh 2000). This thesis takes, therefore, a soft constructivist approach and argues that there is not one singular, verifiable reality and truth but multiple, socially constructed realities (see Berger & Luckmann 1966; Patton 2002, p.134).

Modernity has been characterized by technological rationality, cultural homogenisation and monism. A result has been an assault on narrative knowledge whereby 'traditional' communities are dismissed as ignorant and superstitious – signs of inferior civilization (Connell 2007, p.7; Seidman 1998, p.226). As Willis (2007, p. 90) tells us, many social scientists, environmental humanitarians and critical educators are agitating for an autonomous social science tradition (Connell 2007; Kahn 2010; Salleh 2015 for example). That is, one that is original and non-imitative (of Northern epistemologies) and that links research thinking to specifically regional problems in order to gain a better, truer understanding of indigenous and traditional issues (Alatas 2006; Connell 2007; Salleh 2015). This requires us to enter into a joint process of enquiry with our participants, and move beyond discursive construction, to take an ontological perspective that privileges the material (as discussed by Coole & Frost 2010; Salleh 2015). It is vital that we take a more pluralist stance if we are to address the serious socio-ecological problems facing humanity today. The methodology used in this qualitative research is outlined below.

2.2. Methodology

This thesis focuses on a single case study of a particular aspect of Myanmar culture. Due to concerns about the relationships of the study group to the oppressive domestic structure as well as their place within the global sphere this research is informed by critical social theory. This was discussed in Chapter One in the Theoretical Framework. Critical social theory seeks to expose hidden dimensions, factors and agendas, and aims to empower subjects by giving more authority to their voice. A theory that does not consider the processes and practices of capitalism cannot contribute to practical aspects of emancipation.

This study involved extended periods of observation by the author, occupying a participant-observer role and, in this respect, the study falls into the overarching category of ethnographic research. Ethnography is “an umbrella term for fieldwork, interviewing, and other means of gathering data in everyday, real-world, environments” (Willis 2007, p. 237).

2.2.1. Case Study

The case study as an empirical methodology was chosen for this research project as it allows for a holistic understanding of the complexity of the phenomenon under investigation (Yin 2012, p.5). A ‘case’ is defined as “an instance of a ‘class of events’ - defined as a phenomenon of scientific interest that the investigator chooses to study with the aim of developing theory” (George & Bennett 2004, p.18). Case studies are about real people and real situations. They “commonly rely on inductive reasoning”, and “illuminate the reader’s understanding of the phenomenon under study” (Willis 2007, p. 239).

A holistic, single-case, in-depth case study (Jorgensen 1989, p.18; Yin 2012, p.7) was chosen because the case studied is an example of the phenomenon being researched. That is, it is an example of contemporary EAE that the literature (see Allman 2010; Bowers 2009; Clover 2002a; Clover & Hill 2013; Hill & Clover 2003; Orr 1992; St Clair 2003) tells us is effective in addressing specific, local or one-off environmental problems and results in positive socio-environmental behaviour and social change. As such, we assume that the practice and praxis of EAE contributes to the development of sustainable and resilient communities (Greenberg 2010; Lockyer & Veteto 2013 for example).

This case study is descriptive as well as analytical (Yin 2012, p.49) in that it aims at revealing rich insights into this unique initiative, and example of critical education and collective social action. Field research and participant observation were chosen in order to reach an understanding of the participants, their activities and relationships (Neuman 2006, p. 379). Jorgensen (1989, p.12) explains that “the methodology of participant observation is exceptional for studying sociocultural contexts in which the processes, relationships, organisation and patterns of human existence unfold”. In this respect,

participant observation is especially appropriate for scholarly research when little is already known about the phenomenon (Jorgensen 1989, p.12).

The method of participant observation requires that the researcher become directly involved as a participant in people's daily lives (Jorgensen 1989, p.18). (Of course, the researcher will become more cognisant of the culture being observed the longer they spend in the field. Immersing oneself in the culture allows the researcher to collect data in a relatively unstructured manner in naturalistic settings whilst observing and/or taking part in the common and uncommon activities of the people being studied (Dewalt & Dewalt 2010, p.260). This saturation in the local environment, culture and language, and extensive and deep interaction with local actors, allows for relationships to form and in situ interviews and conversations to take place (Neuman 2006, p.383). It enables a deeper understanding of the participants' points of view and behaviours (Dewalt & Dewalt 2010, p.261).

2.2.2. Activist Research

One of the criticisms of qualitative research is its subjectivity. In this study, I entered the field stating a bias as an environmentalist and activist. In many instances I share the participants' points of view. I entered, therefore, into a shared project with the participants in order to understand how we, together, can instigate the social changes identified as vital by the participants. This critical research therefore also falls into the paradigm of 'activist research' (Hale 2001, p. 13). Activist research seeks to not only contribute to understanding, but to contribute to practical solutions and strategies that can be utilised by the participants involved in the study (Hale 2001, p. 14).

This thesis supports the argument that elite knowledge should serve genuinely progressive social needs (Apple, Au & Gandin 2009, p. 4). This aligns with Gramsci's notion of 'organic intellectualism' whereby scholars facilitate counter-hegemonic education (1994). Through my activist scholarship, I am assisting those in challenging existing relations of unequal power, and following in the path of radical educators and critical theorists (discussed by Apple, Au & Gandin, 2009, p.4) who have gone before me. As an activist scholar I have engaged in a reflexive, critical pedagogic dialogue with the participants of this study. Carrying out research along with the participants allowed me to gain an understanding of their practices, processes and culture, whilst

interactions between us enabled mutual understanding and respect to develop. It is, therefore, a reflexive, dichotomous learning process, and the research is the richer for it.

Activist research is vital in light of the contemporary global socio-ecological crisis. Critical educators must act in concert with the progressive social movements with which we engage; to contribute to their struggles and to learn from them (Apple, Au & Gandin 2009, p. 5). Analysing and understanding successful struggles, documenting them and actively supporting them is key to facilitating transformative social change (Apple, Au & Gandin 2009, p. 13).

2.3. Entering the Field

The organisation chosen for my case study was identified through preliminary research into 'eco-villages' – "intentional human communities that are developed to be socially, economically and ecologically sustainable" (Assadourian 2008). Eco-villages are pioneering the development of lifestyles, technologies and social arrangements that might enable humans to live in just and sustainable ways. I was interested in the potential of eco-villages; a) as sites for informal, critical EAE and potential for social change (Greenberg 2010) and b) as part of the eco-culture social movements (discussed by Bohm, Bharucha & Pretty 2015; Lockyer & Veteto 2013; Norberg-Hodge 2013; North 2012). I conducted an internet search for eco-villages in South-East Asia and then in Myanmar and found the website of the focus of this research - The Network for Environment and Economic Development (NEED).

As noted in Chapter One, NEED had established a school and farm in Chiang Mai, Thailand in 2006 and it was still operational but NEED was in the process of transitioning into Myanmar from Thailand. At the time, the NEED eco-farm and residential school in Myanmar was the only one of its type established in the country. I subsequently discovered that the NEED eco-farm is not an eco-village per se but it met the criteria as a site for EAE and an example of a grassroots social movement organisation.

Neuman says that "gaining access to a field site depends on common sense judgement, social skills and negotiation" (2006, p.368). I contacted the director of NEED, Khaing

Dhu Wan, on 05 July 2013, via email through their website, www.need-burma.org. I introduced myself and asked if it would be possible to visit to conduct research into the organisation and its operations. I identified myself as a researcher and environmentalist interested in alternative community development models and EAE. Below is a copy of my email.

> Date: 5 July 2013
>
> I would like to introduce myself - I am a PhD student at the University of New England in Australia. I am an environmentalist interested in alternative models of community development and environmental education. I have an undergraduate degree in Sociology and Philosophy and a Masters in Environmental Advocacy. For my dissertation I am focusing on eco-villages as important sites for education for community empowerment. I am focusing my research on South-East Asia because of the changing political and economic situation as well as concern about my country's development and investment policies towards the region.
>
> I feel your work is very exciting and am extremely interested in the programmes NEED is offering both at your model farm in Thailand and eco-village in Burma. I am particularly interested in the 'sustainable agriculture' course you are running at the eco-village. I would very much like to discuss with you the possibility of either interning with you or visiting you for a length of time later this year with a view to conducting research. The desired outcome of my research is to identify effective educational and community development models, programmes that result in significant social change and positive environmental and human security outcomes.
>
> Regards
>
> Johanna Garnett, BSocS, MEA
> PhD Candidate, Peace Studies

Khaing Dhu Wan responded immediately and said that I would be very welcome. He asked that I become involved with the organisation as a teacher and adviser. I gained written and informal consent for my research work whilst in the field. Below is a copy of Khaing Dhu Wan's email to me on 05 July 2013.

> Date: 05 July 2013
>
> We warmly welcome for your connecting to us. Your skills are very precious for our issues that community development and environmental education.
>
> That's why we would like to say that we accept you visiting to us. Especially we like you to come to our Eco Village in Burma and work together with us.
>
> Regards
> Khaing Dhu Wan

It was arranged that I come to Myanmar on 21 October 2013 to live with, and work for, NEED for 16 weeks. Khaing Dhu Wan formulated a letter of invitation for me to enable me to acquire a business visa for 10 weeks. This visa covers volunteers. It was stated that I would be visiting as a researcher in environmental science and sustainable development and I would be visiting in order to assist in educating their students on sustainable agriculture and organic farming. In my visa application I also stated that I would be assisting them in English and, whilst visiting, would be learning about their culture.

As NEED, at the time, was not a registered organisation, Khaing Dhu Wan contacted an associate; a locally based, educational organisation called 'Piti Smile'. They supported my application with another written invitation, and I was subsequently awarded a ten week business visa. I never met anyone from Piti Smile or had any contact/business with them. I was able to get two subsequent visitor visas by travelling to Thailand, and ended up teaching and researching on the farm for a total of 14 weeks. The rest of the time was spent at the NEED school, and eco-farm in Chiang Mai.

2.4. Four rounds of fieldwork

2.4.1. Initial Field Trip; Myanmar -21 October 2013 to 28 March 2014

The first 4 weeks in Myanmar were spent living and working with staff and students in their boarding house/school in Hmawbi Township, Yangon District – a fairly large town located on a major road, approximately 50km North-west of the major city of Yangon. We all moved permanently to the eco-farm on 6 December 2013. The farm is situated on five acres a few kilometres north of Hmawbi Township, in the Nyaung Bin Thar Yar village. I suspended my candidature for 6 weeks during this time whilst I taught English and Environmental Politics, conducted observational research and began developing a rapport with the participants (Neuman 2006, p. 389). The remaining time was spent teaching, conducting interviews, and continuing with observational research, collecting and analysing data.

2.4.2. Subsequent Field Trips

June 2014 – NEED School, Chiang Mai, northern Thailand

I flew to Chiang Mai for one week 22-30 June 2014 to visit five of the students from the eco-farm in Hmawbi who had undertaken the program in Myanmar and were attending further training at the school in Chiang Mai. The purpose of this trip was to observe the teaching program in Chiang Mai and to engage with the students and Chiang Mai staff in order to assess their activities and see how these five students were faring. During this time I gathered secondary data, and conducted observational research and informal interviews with staff and students.

November 2014 – NEED, Eco-farm, Nyaung Bin Thar Yar village, Hmawbi Township

I flew to Yangon on 8 November for 10 days. During this time I stayed on the farm and conducted structured interviews with the second cohort of students as well as follow up interviews with staff. I taught and liaised with a visiting teacher as well as donors, villagers and supporters of the organisation. I officiated at the Annual Rice Harvest festival – a celebration of the first organic rice harvest in Southern Myanmar.

March 2015 – NEED Eco-Farm, Nyaung Bin Thar Yar village, Hmawbi Township

In order to assess the efficacy of the program that has been developed by NEED I wanted to follow up on the initial cohort of 25 students, so, after an invitation from NEED to attend and officiate at the Graduation Ceremony on 15 March I flew to Yangon again and stayed for 3 weeks. During this time I travelled round southern Myanmar and was able to meet up with 21 of the initial cohort of students. This fieldwork was intended to enable me to observe for myself where and how they were living and working and to conduct structured interviews with them to ask them five follow up questions which were designed to assess what they were doing now and how they were feeling, how they would assess the effectiveness of the NEED program and what problems they were facing.

2.5. Participants

Participants were recruited from within NEED, the staff and students at the eco-farm in Hmawbi, Myanmar and at the school in Chiang Mai, Thailand as well as the primary donor and supporter, Child's Dream. External agents that had an interest or involvement in NEED were approached in an informal way and data gathered either through observation or informal interviews. These external agents included potential

funding agents and supporters, visitors from other (domestic) organisations, international visitors and teachers/volunteers, friends and family of the participants, and visiting domestic teachers. External agents provided background material and/or corroborative data. This assisted a triangulation methodology to ensure reliability of the data (see Yin 2012, p. 104).

At the holistic level of this single case study (see Yin 2012, pp. 7-9), I concentrate on the NEED organisation; its motivation, objectives and operationalisation. The focus at this level is on the staff at NEED. The staff members were all Burmese nationals, varying in age and qualifications and experience. There was the Director, Head Training Officer, Program Manager, Bookkeeper, Office Worker, Head of the Farm Workers and an assortment of farm workers. There was only two female staff: the office worker and bookkeeper.

The heart of my research, however, is an understanding of the motivation, objectives and experiences of the initial cohort of 25 students. This single case study, into the students, is embedded within the over-arching holistic, case study (see Yin 2012, p.8). My intention was to follow this cohort through their training period, and follow their movements thereafter, in order to see how they were applying their education. There were 25 students in the first cohort, 15 females and 10 males. Their ages ranged from 17 to 24, with an average age of 19 and they were from a variety of ethnic groups: Arakan, Karen, Shan, Chin and Intha (from Inle Lake). The majority were Arakan, from Rakhine State. The majority were Buddhist, but five identified as Christian. [27]

There were 30 students in the second cohort. Their ages ranged from 17 to 26 with a slightly higher average age of 20 and predominately more males (22). Again they were from a variety of ethnic groups and religions. 26 of these students were given a structured questionnaire to complete in writing – there was not time for interviews. This questionnaire was in the same format as the structured interview sheet used for the original cohort of students and was aimed at collecting demographic as well as qualitative data.

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[27] See Chapter Seven for more detailed demographic information about the students.

2.6. Collecting Data

A major strength of case study data collection is the opportunity to use many different sources of evidence which not only allows the investigator to address a broader range of historical, attitudinal and behavioural issues but also contributes to more convincing and accurate findings (Yin 2012). There are three kinds of qualitative data: observations; interviews (and conversations) and documents (Patton 2002, p.4). The collection of qualitative data for this study into EAE in Myanmar is discussed below.

Data was collected via participant observation (Dewalt & Dewalt 2010; Neuman 2006, p.378), structured, formal and informal unstructured interviews (Yin 2012, p. 12), group discussions and workshops, informal conversations and personal communication and collating secondary data such as class notes and resources; records, reports and documents pertaining to the program. I was given access to, and provided with copies of, the budget and financial figures/accounts, the organisation's funding documentation and forward planning documentation. One of the requirements of the curriculum was the development of student proposals for projects they were developing after graduation. I assisted in the development (writing and editing) of these proposals and was given copies of all of them. I was also given some copies of cartoons, drawings and songs written by the students. As Merriam notes "mixed techniques for collecting data is usual in qualitative case studies" (1998, p. 134).

External data was gathered in which to set the context of the study in Myanmar – from local English newspapers and magazines, government department websites, conversations with locals. I took numerous photographs of participants, infrastructure and landscapes. I also recorded a number of videos of activities on the farm. These included building and agricultural activities, workshops and student performances – dancing and singing.

2.6.1. Interviews

Yin notes that "interviews are subject to the common problems of bias, poor recall and poor or inaccurate articulation" (2012, p. 12). Due to language barriers an interpreter was used in the majority of student interviews/questionnaires. A student (Min Thu Ra Zaw, aged 19) was utilised in the first field trip and in the final fieldtrip a NEED staff member, La Min, translated. All other interviews were conducted in English.

Conducting the interviews in a second language was problematic. To counter-act this all the structured student interviews and a number of staff interviews were recorded and notes taken at the time of interviewing. Also, in order to corroborate, and expand on the information they were giving me, I got the students and some of the staff to write down their 'stories' and/or provide me with copies of their CVs. These were all written in English. The students' 'village' stories were written as part of an English writing exercise and I assisted them in the editing process.

Special consideration was given to the questions to be asked during the final fieldtrip with the aim of evaluating the potential long-term impacts of the NEED program. As Jeannie Lum asked when facing the same conundrum, "what qualifies as an adequate measure or data on post-graduation outcomes?" (2014, p. 153). We both settled on 'narrative accounts'. Narratives "provide a 'human landscape of consciousness' within which individuals think, feel and come to know" (Bruner, 1985 cited in Lum 2014, p. 153).

Individuals make their own meanings about their experiences through their stories "by reflecting on the past, and carrying these memories over into their immediate circumstances and visions of the future" (Boulding 1988). As Lum found, the challenge is illiciting adequate narrative responses from which the researcher can identify transformation in student consciousness (2014, p. 154). Taking from Lum, the five questions asked of the student were simplified, due to the need to consider language barriers and cultural differences (2014, p. 154).

2.6.2. Field Notes

Field notes are the primary method of capturing data from the iterative process of participant observation and integral to achieving an understanding of the meanings, events and contexts of what is being observed – they are both data and analysis (Dewalt & Dewalt 2010, p. 270; Neuman 2006, p. 400). As field notes are chronologically orientated – they build up a story. Whilst in the field, notes were updated daily and as I analysed the data and considered my findings, I was able to reflexively plan the next stages of inquiry. Below is an example of a field note.

8 November 2014 - Eco-Farm, Hmawbi

It is 7.30pm and the generator has been going for an hour now and will continue until 10.30. (This is despite agreement that it would only run for 3 hours a night and would be turned off around 9pm). The farm now has a fence on 3 sides – down to the creek – we are a compound. The fence posts are made of concrete around bamboo – KDW said that they made them here on the farm – they are spaced 1.2 m apart and holding up dog wire panels. There is a big gap for the gate which is yet to be made. There are plinths for lights. There is a new house built across the road – quite large with a verandah and tin roof – 3 young children and extended family. KDW has run a wire across the road to them. They are playing music (CDs) and have 2 bright lights on. In the boys dormitory in the schoolroom 10 of the students are watching a Chinese movie on Sky TV. Yes, we have television! The windows are all open. It is a hot, still night and the bugs are active under the lights. We ate with them in our food, inside our clothes, in our hair. The moon has risen large and orange through the thick, green trees. It no longer rises over a misty plain – it rises behind a house and through the trees that have grown so quickly since I was last here. The moon is beautiful and Bobby (visiting English teacher and curriculum adviser and student from UQ, Brisbane) and KDW and I look at it for a while. She takes some photos. I bump into a NEED student who is gazing at something above the roof and I ask him what. He says 'clouds' and I ask if he has seen the moon. We look at it – it is full and there are clouds around it – beautiful – 'very natural' he says. I look through the window of the school room at the blank faces of the students transfixed on the television. This time last year they would have been singing and dancing, joking, making up games, watching the moon. This one student is a lone voice, he looks lonely. What a stunning difference electricity has made!

Figure 2-1 Example of field note

Field notes were taken by hand, in the form of notes/diary and written up later on the computer. During the first field trip I was not able to write up notes on a daily basis directly onto the computer due to lack of electricity and inability to charge my computer. Whilst not in the field (subsequent) qualitative data/information was gathered via email and interaction/messaging on the social media website Facebook. Facebook was a great way to keep in touch with the students and this communication continued for the duration of this study.

2.7. Data Analysis

There is a variety of approaches to analysing the data collected from case study research (Merriam 1998, p. 178; Yin 2012, p. 15). This study, into an EAE program developed by a grassroots organisation in Myanmar, seeks to provide the following:

- an understanding of the underlying motivating factors behind the participants' mobilisation
- an understanding of their objectives and how these are being operationalised
- an insight into the EAE being provided

- an interpretation of the learning that is occurring
- an awareness of how this program is contributing to environmental peace in Myanmar, and
- a conception of the potential of this particular operation for broader collective social action.

This study centres on the open-ended research question, "how is environmental adult education (EAE) contributing to environmental peace in the nascent democracy of Myanmar?" An 'explanation-building' technique (Yin 2012, p. 16) was therefore chosen for data analysis. Case study analysis tends to include a significant proportion of description, in order to convey a holistic understanding (Merriam 1998, p. 194). Field notes, structured interviews, informal interview notes and the participants' written stories were coded for broad themes, largely based around the particular questions asked.

Below is an example of coding of informal interviews.

Date: Thursday 24 October 2013 **Situation: NEED Schoolhouse, Hmawbi Township**	
Myurt Tun (student, male, 17) was telling me that the problem in his village is that they have cleared all the mangrove to dry out the timber and use it in their fires. When he is finished here he wants to go home and replant the mangrove – apparently he will not buy the plants as they grow in the streams so he can pick the shoots and replant them. His father is the head of the village and is the director, Khaing Dhu Wan's (KDW) brother. Myurt Tun's older brother is a doctor – he has just finished 5 years at medical school and has to do 2 years as an intern – he is working in Sittwee. His older sister is waiting to go to university.	Student - motivation – environmental degradation/mangrove loss Student - objective – address local environment issue How - replant mangrove Student – personal situation – relationship to KDW Family
KDW says gender issue is mainly that women can't get access to education as they have so many home duties and are expected to look after the children.	Gender issue – women lacking access to education/social expectations

Date: Day 30 January 2014 **Situation: NEED Eco-Farm, Hmawbi Township**	
KDW said that the staff are agitating for more money but he can't pay the staff more if they do not get qualified (has this been set down by CD?). He said that the staff need to do some short training courses. KDW said that NEED will have a Project Management meeting in April – all staff and inviting Chiang Mai staff. He stressed that Burma NEED stands alone now (previously project management came from Chiang Mai farm). They need to set up a curriculum.	Organisational issues – wages Organisational issues - training Organisational issues - future Organisation - Objectives - curriculum
Joseph (student, male, 24) - talking about refugees (migration) – from Chin State – population now only 450,000 – 9 townships – about 40,000 in a township – now refugees in other countries. His sister and husband went to Sweden 5 years ago – family now sad/separated.	Social issues/motivation - migration
He doesn't want to leave his parents – he needs to take care of them. Four siblings are foreign – 1 sister in the US, one in Thailand and one in Malaysia.	Student – personal situation Student – barriers – family migration

Figure 2-2 Example of informal interviews

Due, in part, to language barriers, but also as a writing exercise, students were asked to write their 'stories', about their situation and motivations and objectives. This was done in English, with assistance. Below is an example:

Date: November, 2013 **Student: S16, female, Mon State**	
Most of the people are making their livelihood from agriculture by seasonal crops. Some people cut the trees and usually they sell to the market and vegetables. They were working hillside for their livelihood. Now, other garden land work is their livelihood. Some people make their livelihood from growing vegetables plants. They also make their livelihood for their family by selling vegetables. My villagers are very poor but happy. Most of the people aren't working their agriculture. So, they are very minus for business. They work other places. Some of the people are growing the paddy and vegetables on their land. They make their income by collection and selling vegetables and fruits for their family. Their children aren't learning education because they are very poor. They also have	Livelihoods – seasonal crops Comment on villagers – very poor but happy Land Social – too poor for education

income but some people are depended on the forest for their livelihood.	Dependency – environment/forest
I would like to talk about our environment in my area. Our environment of natural forest was very beautiful. The indigenous people have logged the trees and bamboos for their livelihood. That is why the forests are getting small and of the indigenous people less and less income the more we lose forests the more climate change is happening. The people can't go to their work their crops are destroyed by water.	Livelihoods – indigenous practices Environment - Deforestation Livelihoods – loss of Environment - Climate Change
I'll share my knowledge in my community. I think that I would help them by this way. I would like to see my village green and beautiful. So, I will maintain our environment.	Objective – share knowledge in community - to improve environment

Figure 2-3 Example of written 'village story'

As Merriam explains categories are abstractions derived from the data (1998, p. 181). It is necessary to look at what is *implied* in the responses. Categories should also reflect the purpose of the research (Merriam 1998, p. 183). For example, when analysing the data for motivating factors the statement "my village *was* beautiful" is categorised in 'motivating factors' - 'environmental degradation', *solastalgia*. Repeated themes appearing in the study participants' interview responses were selected, and through repeated reading and analysis of the transcripts these were labelled and identified as central themes.

2.8. Ethics

Ethics approval for this study was applied for to the Human Research Ethics Committee at the University of New England and initial approval No. HE13-217 was granted on 13 October 2013 for 12 months from 08 October 2013 to 08 October 2014. The 'Information Sheet for Participants' and 'Consent Form' were submitted with the Ethics application and, once approved, were sent to be translated into Burmese. Translator, Ms Myint, Khin Myo, was obtained via email through The National Accreditation Authority for Translators and Interpreters Ltd. (NAATI), https://www.naati.com.au. Authorised, translated copies of these documents were then submitted to the Ethics committee and approved.

A Progress Report and Variation Form requesting an extension of time were submitted on 22 October 2014 and a 12 month extension for time, until 08 October 2015, was granted on 03 November 2014. A further Progress Report and Variation Form

requesting an extension of time were submitted on 03 November 2015 and a 12 month extension for time, until 08 October 2016, was granted on 11 November 2015.

All participants were either given an Information Sheet in Burmese or English or had the study explained to them and were asked to complete and sign a Consent Form, again in Burmese or English. I had understood that all the students were 18 but, when interviewing, I found out that two of them were 17. The Director of the organisation, Khaing Dhu Wan, signed for these 17 year old students in the first cohort, stating that he had the authority as guardian and approved them being included in the data.

Note: The political situation is changing rapidly in Myanmar and the state is more relaxed with regard to citizen activism and engagement. Participants in this research have been at risk of political censorship in the past and at the time of my fieldwork some were still operating under ground. For safety reasons some information cannot be, and is not, referenced.

2.9. Limitations of the Research

This case study into informal EAE within, and emanating from, an environmental, grassroots organisation in Myanmar explores just one example of the myriad community-led environmental projects that are emerging from this nascent democracy. As such, the participant demographic is limited and it could be argued that this study's findings cannot, therefore, be generalised to the broader population. With regard to methodology, there were cultural and language issues. Whilst all the Burmese staff could speak English to varying degrees and the majority of the students had some English – in fact some were quite articulate – the need for constant reiteration and interpretation might have limited a full understanding of a particular aspect of the culture of the organisation.

This research is descriptive and exploratory in nature and as such is the beginning of a discussion which opens up many areas for future research in a field where there is a dearth of research. One limitation was the lack of literature directly relating to this subject. One field of research that should be of immediate concern is the psychological impact of this pedagogical program on the students and how the students taking their education and ideas back to their villages is impacting on younger generations at home.

These aspects were not within the scope of this study. Grounded in critical social theory (CST) and activist research, it is possible that this research is tainted by bias, predispositions, and hang-ups (Dewalt & Dewalt 2010, p.288). However, all attempts have been taken to ensure validity and reliability.

2.10. Stranger in a Strange Land – Personal Reflections

Myanmar, or 'Burma – The Golden Land', has a romantic lure. This is possibly because it has been closed to the majority of the world for over fifty years, but more, because it is geographically exotic and diverse, with a rich cultural history. The people of Myanmar are renowned for their friendliness and generosity, this is in spite of their poverty and deprivations, and I certainly found this to be true. I did suffer extreme culture shock in the first few weeks of my fieldwork. I found the crowds, heat and dirt confronting and exhausting. Of course, fieldwork can be extremely stressful (Neuman 2006, p.393) and, as Liamputtong tells us, culture shock is the most negative experience for fieldworkers conducting cross-cultural research - closely followed by health and safety issues (2010, p.52). I was often unwell due to the quality of water, communal living and poor infrastructure and gradually worn down due to lack of sleep.

I was, however, treated with utmost respect as a '*sayama*' (teacher) and developed a working rapport with other staff and students. This allowed for collaboration and the development of relationships with key stakeholders, and I gradually developed greater cultural sensitivity, which is positive (Liamputtong 2010, p. 61 & 86). I was quite quickly absorbed into the organisation and given insights that other outsiders were not privy to. I was, however, a "vulnerable participant" (Dewalt & Dewalt, 2010, p. 263) in that I became so enmeshed in the organisation and formed close relationships, especially with the students. This, at times, created a tension between staying objective and trying to assist in facilitating the changes they were asking for and the changes I instigated as part of a) improving their situation and b) improving mine! Also, I knew at all times that I could leave and I feel that this affected our relationship. As one of the female students in Chiang Mai said to me, "the difference between us, teacher, is that you can come and visit me but I can't come and visit you" (2014 pers. comm., 28 June).

It was important for my research to build a rapport, mutual trust and respect (Dewalt & Dewalt 2010, p. 268). The first few months were spent focusing on teaching whilst assisting staff with curricula and infrastructure. At the same time I was able to continue with observational research, and carried out open-ended interviews and discussions with the staff. I lived with the students in the girls' dormitory and was *never* alone.

I particularly enjoyed the teaching aspect of my fieldwork. Students in Myanmar are used to rote learning and it was fantastic to see the young adults at the school open up as we developed a more dialogic pedagogy. They were extremely motivated and hard working. I would often have to ask the girls at night, to put their books away, and blow the candles out, so we could get some sleep. I was the second foreign teacher the organisation had had and the students had very little English and we had *very* few resources when I first arrived. Learning was reflexive and organic – we learnt together and it was satisfying to see how much we achieved in a short time, in trying circumstances.

Finally, I have long felt an affinity for the simpler way of living in Myanmar and I share deep concerns for the participants' wellbeing. We are sharing this one space – planet Earth. This is our 'commons' which we have enclosed and are increasingly enclosing, separating and creating spaces of separation. I was well aware of the political, social and environmental situation in Myanmar, due to my involvement in human rights issues for 10 years and I sought out like-minded people with whom to conduct activist research. Together we have been able to take advantage of the space opened up by the political reforms in Myanmar, and collaborate on an environmental peace project.

Sometimes, late at night, lying on my rush mat under the mosquito net, listening to the rats running above my head, unable to sleep in the stifling heat, and wishing I hadn't eaten the catfish for dinner I would seriously question what on earth I was doing there. But, I now realise what an incredible opportunity this has been and I hope I do the participants of this study justice.

The following two chapters discuss the literature on which this study is based. Environmental peace, post-development and social movements are discussed in Chapter Three. EAE and learning in social movements is discussed in Chapter Four.

Chapter 3. Defending Place, Remaking Space; Social Movements and Possibilities for Environmental Peace

> The monocultures of mind and agriculture promoted by capital and reductionist science, and the consumption habits of the North fostered by economistic, materialistic models are resulting in an ecological and cultural crisis.
>
> (Escobar 1998, p.59)

This chapter discusses environmental peacebuilding, post-development and social movements. Social movements can be a powerful force for social change and many are working within a post-development or alternative development paradigm[28]. The chapter concludes with a discussion of the three social movements that inform the practice of the social movement organisation at the centre of this study, the Network for Environment and Economic Development, NEED – Myanmar. These are: the eco-topian social movement of permaculture, the localisation movement, and the food sovereignty movement, La Via Campesina (The Farmers' Way).

Each of these social movements addresses structural and ecological violence, and environmental and food security and justice issues, through alternative community development. Each offers resistance to the processes associated with capitalist development, and the activities of the 'social movements from above' (see Nilsen & Cox 2013 & 2014; Sklair 1997), whilst mooting practices for renewal aimed at developing resilience[29]. These social movements are founded in an 'ontology of connectedness' (Rose 2015, p. 16), and share common ground in their communitarian values, economies of community rather than economies of scale, holistic approach, respect for a diversity of epistemologies and traditional ecological knowledge (TEK), and in food.

These 'forces from below' are rooted in people's desire to preserve the connections to family, community and nature, that make life meaningful for many (Norberg-Hodge

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[28] These are discussed below in 3.2.

[29] Resilience in this study is defined as the capacity of an individual, entity or system to absorb shocks and still maintain function (Folke 2006).

2009, p. 193). In the global South this collective social action is emanating from the 'meta-industrial class' (see Guha & Martinez-Alier 1997; Salleh 2010 & 2004) and trans-national agrarian movements (TAMs) (Borras Jr, Edelman & Kay 2008), with a key focus on protecting, and restoring threatened cultures, livelihoods and eco-systems. They are working towards environmental peace.

3.1. Environmental Peacebuilding

Environmental peace studies as a discipline is informed by environmental sociology, political ecology, deep ecology, social ecology and eco-feminism, as well as the emerging fields of peace ecology and the environmental humanities. The strength of environmental peacebuilding, or peacemaking, is in its holistic approach and focus on creativity, solidarity, participation and commitment to a culture of peace, achieved through a transformation of human/nature and human/human relationships (as discussed by Amster 2015; Kyrou 2007; Spretnak, 2011). Environmental peacemaking in the 21st century needs to be a collective, multi-disciplinary project.

Cultivating, and keeping, environmental peace requires transforming individual principles, values, beliefs and attitudes but, more importantly, societal norms (Callenbach 2005; p. 1; Earth Charter 2012; Holmgren 2002 for example). Environmental positive peace is only going to be achieved, however, when the far-reaching and negative implications of the political, economic and social structures that define and mediate our everyday experiences are made visible and transformed (as argued by Foster 2009).

Environmental peacebuilding has two key aspects:

- that environmental issues can be a catalyst for reconciling conflicts, and
- that humans are in conflict with the environment and this conflict can be reconciled through a changed relationship.

The first aspect is presented in Conca and Dabelko's *Environmental Peacemaking* in which Conca argues that there is a strong theoretical basis that environmental co-operation can have positive spin-offs for peace (2002, p. 5-9). As noted in section 1.2.1 and 1.6.2, increasingly, around the globe conflict over diminishing natural resources is

resulting in environmental insecurity. Kaplan argued, over two decades ago, that "the environment is the national security issue of the 21st century" (1994, p. 55).

Environmental insecurity is multidimensional and circular in that environmental issues often result in conflict and conflict results in environmental degradation (Barnett & Adger 2007, p. 646; Dalby 2009). Environmental issues may be particular to one area but environmental security issues transcend national boundaries (Ekins 1992, p. 20). We share oceans, rivers, watersheds, air and climatic patterns, and, of course, there is one major systemic risk that is common to communities all over the world: global warming and climate change (Barnet & Adger 2007; Christoff & Eckersley 2013). In this case the environment can be used for peacebuilding.

This notion is being taken up by *Environmental Peacebuilding*, a global community of researchers, practitioners, and decision makers sharing experiences and lessons from managing natural resources in conflict-affected settings. They are mobilising in the belief that incorporating natural resource management into peacebuilding activities and strategies can support security, humanitarian, and development objectives. They have published a number of books focusing on case studies of applications of environmental peace, covering issues such as water, land and high-value natural resources as contexts for peacebuilding (http://environmentalpeacebuilding.org/). Amster also contemplates the ways in which the same environmental processes that drive conflict can also become profound opportunities for peaceful engagement (2015, p. 8).

The second aspect of environmental peace is the notion that, through our means and modes of production and consumption, we are, in fact, waging a war on the earth (Amster 2015; Shiva 2013). This thesis is grounded in this notion, and is primarily informed by Amster (2015) and Kyrou's (2007) peace ecology, and the argument that environmental peace requires deep-seated structural changes in our relationship with the environment. In this respect environmental peacebuilding focuses on addressing the relationship between humans and the environment and how to change behaviours.

Environmental peace encompasses notions of ecological wisdom, social justice, participatory democracy, nonviolence, sustainability and respect for diversity (Reardon 1994). This stands, in most instances, in stark opposition to the ruling paradigm. What

is required for true environmental peace is a paradigm shift, from the mechanistic, reductionist science of the Enlightenment, towards a relational worldview and a new, multi-disciplinary discourse, one of interconnectedness and interdependence (see Spretnak 2011; Kyrou 2007; Reardon 1994, p. 21). As peace educator Betty Reardon says, for there to be truly positive global peace, "problems of economic deprivation and development, environment and resources, universal human rights and social justice issues, all need to be addressed" (1988, p. 26). We need to be the change that we want to see (Gandhi), but we need critical mass and policy change for planetary peace.

Post-development theory, which overlaps with the alternative development discourse (see Pieterse 2002), is posited as an alternative paradigm for achieving environmental peace. This is now discussed.

3.2. Post-Development Theory

> If we want to thrive, we need to move from a growth imperative,
> to a resilience imperative.
> (Homer-Dixon 2007, p. 308).

As expounded in section 1.2, the underlying root cause of our socio-ecological crisis is the dominant paradigm of neo-liberalism and globalised free-market capitalism. The *sine qua non* to the spread of capitalism has been the 'development project', an imperialist enterprise rooted in the notion that economic prosperity and material wealth are the keystones of a quality, modern day existence (see McMichael 2009; Peet & Hartwick 2015). The development project centres around a number of conceptions: that 'development' is linear, and therefore can be predicted and managed (Pieterse 2013, p. 3); that developed is better than less or 'underdeveloped' (Escobar 1998 & 1995), and that this is a situation that can be fixed through the transfer of technology, knowledge, resources and organisational forms from the more 'developed world to the less developed - from the metropole to the periphery (Connell 2007).

A response to the 'crisis of development' and the global corporate regime has been post-development theories, and the need for counter-development work (Doyle 2005, p. 164; Gamble 2011). As Pieterse notes:

> The classic aim of development, modernization, is no longer as attractive in view of ecological problems, and Westernization is not as compelling, in light of the re-evaluation of local cultures and cultural diversity (2013, p. 1).

Post-development theory historically encompasses a total rejection of development and shares affinities with Western critiques of modernity, the Enlightenment project and the reliance on scientific-techno fixes (Payne & Phillips 2010, pp. 137-144; Pieterse 1998, p. 361). Post-development theorists include Escobar (1998 & 1995), Mies (1998), Norberg-Hodge (2013 & 2009), Rist (2007), Sachs (2010 & 1999) and Shiva (2010 & 2005). Their views are encapsulated in Rahnema and Bawtree's, *The Post-Development Reader* (1998). These theorists view development as an inherently unequal process involving the continued exploitation of 'peripheral' societies and 'marginalised' populations (see Escobar 1995).

Post-development theory goes against the concept of 'catch-up development', and 'catch-up consumerism' and the notion that those in the global South should emulate the culture of the North, and aspire to the material wealth of the minority world (those in the global North) (Mies & Bennholdt-Thomson 2000, p. 13). Post-development theory understands that society is not static, but is mutable and *can* be changed. Neo-liberalism, therefore, is not an eternal reality. It is a socially constructed project that is vulnerable to resistance (Nilson & Cox 2013, p. 73).

Many post-development advocates believe they already possess the means for a 'good life' and seek to retain the lifestyles they currently have (Mies & Bennholdt-Thomsen 2000, p. 15). These groups, primarily from the global South, but also from communities in the North (see Bible 2016), are defending and seeking to regenerate place. Others, like the counter-cultures and eco-cultures of the North and South, are seeking to make new spaces. As Levitas notes, "healing often lies in the transcendence of existing conditions through the construction of alternatives" (1990, p. 132).

Post-development theories overlap with alternative development theories (see Payne & Phillips 2010, pp. 118-144). Whereas post- development theorists argue that communities do not need to 'develop', alternative development theorists acknowledge that some form of development is inevitable and argue that there is a need for grassroots community development and for consideration of, and involvement with,

traditional and indigenous knowledge and skills, especially relating to local and regional environments (Bennett 2012; Sachs 2010; Sen 1999). This stems from the notion that grassroots programs instigated and maintained by nationals, who eschew top-down prescriptive models of development, generally enable better outcomes for communities and individuals (see Bennett 2012). This thesis is grounded in the belief that the development project is going to continue, just in a different guise and that, because development in some form is inevitable, particularly in Myanmar, the focus needs to be on what form this development takes.

The need for continued understanding about the development project is that many of the alternative theories, developed throughout the late 20th century, have been co-opted by or integrated into the mainstream (see Pieterse 1998, p. 349). The mainstream paradigm now comes under the rhetoric and practice of people centred, 'sustainable development', famously defined in *Our Common Future: Report of the World Commission on Environment and Development* as:

> Development that meets the needs of the present, without compromising the ability of future generations to meet their own needs, and at the same time, takes into account the needs of the poor in the developing world (Brundtland Commission 1987).

Sustainable development is being operationalised through participatory models, community driven development (CDD) (Assadourian 2008, p. 160) and community supported development (see Ware 2011). However, with its triple bottom line of the 'planet, people and profit', sustainable development is not about giving priority to the people, nor is it about giving priority to the environment, but it is very much about ensuring the sustainability of the economic system. With its notions of sustained growth, the term 'sustainable development' is, in fact, an oxymoron (Rist 2007, 487; Sachs 1999, xii). Sustainable development allows the desired economic growth and mitigates any guilt with regards to the environment. It allows us to have our cake and eat it too.

It is argued that the main problem with sustainability is that as 'a regulative ideal' (Stables 2013) it is aimed at mitigation (Foster 2012) and supporting business as usual (Goodman & Salleh 2013). Sustainable development is embedded in a "technocratic

viewpoint that serves to establish legitimacy for a system of production whilst ensuring wider, non-technocratic solutions are off-limits" (Foster 2009, p. 16). Despite all the rhetoric, thirty years of 'sustainable development' has failed to address environmental security, justice and equity issues and the 'brown economy' has remained dominant (Brand 2010, p. 28).

Despite this the United Nations (UN) has presented the world with the 2016 *Sustainable Development Goals* (shown below in Figure 3-1).

Figure 3-1 The seventeen Sustainable Development Goals 2015-2030 (source: https://www.flickr.com/photos/anakbrunei/21507274839).

The SDGs will be upheld by a new development paradigm; the 'green economy'. The UN Environment Programme (UNEP) defines a 'green economy' as one that results in improved human well-being and social equity while significantly reducing environmental risks and ecological scarcities (UNEP 2014, p. 4). The green economy seeks to address all aspects of sustainable development and is rapidly becoming "a new political discourse" (Brand 2012, p. 28; Goodman & Salleh 2013, p. 411-412). It is rooted in the notion of 'prosperity for all' (WBG 2014b; WWF 2015).

The development project is supported by transnational bodies such as the International Monetary Fund (IMF), the World Bank Group, the World Trade Organisation (WTO), the World Economic Forum (WEF) and a group of trans-national corporations (TNCs) which have both links and rivalries. These TNCs are the world's biggest economic

institutions, and are predominately based in Western Europe, North America and Japan. These economic institutions have long invested in agriculture, soil and infrastructure, and are now turning to environmental protection as a new field of investment (Brand 2012, p. 28), although much of this can be regarded as 'greenwashing (Pearce 2012). In response to concerns regarding the centralisation of economic power, there is a growing analysis of political economy from academics from both the global North and South, and sociologies are emerging from the periphery (Shiva 2010 & 2005; Connell 2007; Mies 1993 for example) based on the argument for true autonomy for land-based communities and urban poor, and alternatives to development.

Post-development literature is informed by the past hegemonic, and disastrous, agricultural project – the 'Green Revolution' (see Shiva 2013, p. 132 & 1991). The 'Green Revolution' refers to initiatives implemented between the 1930s and late 1960s that increased agricultural production worldwide, particularly in the (then called) 'developing' world. Advocates of the Green Revolution argue that it was successful because it supposedly enhanced yields, improved resistance of crops to diseases, expanded the export of cash crops and created massive job opportunities within the industrial and agricultural sectors. However, critics argue that mechanisation, the introduction of hybridized seeds and cash crops, and the high use of pesticides led to increased soil degradation, water and air pollution, farmer debt and reliance on TNCs and fossil fuels. Similarly, the move from food crops for domestic consumption to luxury cash crops for export had severe economic and food security impacts; overall, the social and cultural impacts far outweighed the positives (see Shiva 1991; The Worm is Turning 2015).

Sustainable development was grounded in the notion that there was sufficient food to feed the planet; distribution was the problem (Chatterjee & Finger 1994, p. 17). The argument now is that, due to rapid population increases, and an expected global population of 9 billion by 2050, developing countries will need to increase food production by nearly 80% in the next 3 decades (FAO). This includes the BRICS countries Brazil, Russia, India, China, South Africa and South-East Asia. But, as Shiva tells us (and George noted forty years ago (1977), 80 per cent of the world's hungry are food producers such as rural landless, farm labourers and small-holding farmers, who

are clearly not eating enough of what they produce (2012, p. 136-137). They are producing for the market, in indebted bonded labour.

The food and hunger crisis, therefore, is rooted in who owns natural capital – land, seeds and biodiversity, and water, and how food is produced and distributed (George 1977; Shiva 2012, p. 137). Susan George, in her in-depth assessment of the real reasons for world hunger, argued forty years ago that increased production is not the answer (1977, p. 14). Although there are immediate and short-term benefits for many farmers, those who stand to truly benefit from increased food production, and short-sighted economic policies rooted in realist and utilitarian ideologies, are the global TNCs and agro-chemical companies. This is because mechanised, concentrated agri-business results in large profits for companies and their share-holders, usually to the detriment of small farmers and the environment.

Post-development theory has been criticised for its rhetoric, dogmatism and intolerance, and a lack of engagement with not only the complexity of development but also the benefits (Payne & Phillips p. 140). It has also been dismissed because "there is critique, but no construction" (Pieterse 1998, p. 141). However, contemporary post or alternative development literature is engaging with constructive alternatives to the dominant paradigm of economic growth, one that is rooted in the argument that true prosperity consists of our ability to flourish as human beings – within the ecological limits of a finite planet (Jackson 2009, p. 16).

Due to the failings of world governments to address the global threat of environmental degradation and the increasing power of the social movements from above (Chatterjee & Finger 1994), citizens are taking matters into their own hands.

3.3. Social Movements

> The struggle for emancipation cannot be carried out in isolation or individualism, but only in fellowship and solidarity.
> (Freire 1999 [1970], p. 73).

A definition was provided in section 1.3.3 but, to reiterate, social movements are characterised by networks of individuals that mobilize in solidarity about conflictual issues, often through the use of various forms of protest (Della Porta and Diani 2009, p.

16). Whilst networks can be informal; social movements can also be highly organised and bureaucratic with 'core' organisations (SMOs), supported by a large number of supporters and sympathisers (Crossley 2002; Pakulski 1991, p. 43). Strictly speaking, social movements do not have members, but participants (Malseed 2008, p. 501). Whilst confrontation between the 'masses' and ruling elites is deeply historical, Tarrow tells us that coordinated and sustained collective social action, in the form of social movements, is relatively modern (2011, p. 37).

Tarrow also notes that there is power in social movements (2011, p. 95). They are "the fundamental animating forces in the making and unmaking of the structures of needs and capacities that underpin social formations" (Cox & Nilsen 2014, p. 56). Social movements are forces that continue to shape, and change our world (Crossley 2002, p.8). Such movements can destabilise hegemonic norms and taken-for-granted meanings (Bebbington 2007, p. 806). They are successful in politicising issues (Doyle 2005, p. 165; Eckersley 1992, p. 151) and can generate new lines of conflict but also new ideas and creativity (Eyerman & Jamison 1991), while developing "new outlets and avenues for articulation, and mark the appearance of new social actors" (Pakulski 1999, p. 55).

Cohen tells us that there are four types of movements:

- Transformative – seeking to change the total social structure.
- Reformative – aiming at partial change in an effort to offset current injustices and inequalities.
- Redemptive – aimed at personality change and self-improvement, and
- Alternative – countercultures (2000, p. 2).

Pakulski identifies three modalities:

- particularistic (with a focus on a key, particular issue);
- universalistic (with broader, more holistic concerns) movements, and
- hybrids of the two (1991, p. 195).

Many social movements are reformative only, ignoring the array of structural issues that result in injustices and poverty (see Choudry & Kapoor 2010), but the global social

movements that have emerged over the past few decades, particularly since the G8 and Economic Union (EU) summits in early 1999, are increasingly transformative (Della Porta & Kriesi 1999; Della Porta & Diani 2009, p. 21). These include the Arab Spring uprisings, the Occupy movements and the World Social Forum (WSF) (established as a space for movement representatives to discuss alternatives to globalisation and to stand in sharp contrast to the World Economic Forum (WEF)). While, as Della Porta and Diani, point out, global initiatives against neoliberal globalisation are very heterogeneous (2009, p. 2), they share common objectives, of autonomy and justice.

Many social movements elude categorisation, leading to Melucci's oft-cited comment that "anything that moves is a social movement" (1989, p. 24). This is pertinent in light of the new social movements emerging in late capitalism. The new protest repertories and operationalisation of transnational activist networks have been challenging conventional approaches to social movements (Borras Jr, Edelman & Kay 2008; Escobar 2004, p. 221). There has also been a call for the acknowledgement of new voices from the global South and from the periphery (see Connell 2007; Patel 2009; Salleh 2015).

In a discussion about 'the environmentalism of the poor', Guha and Atelier suggested that local struggles against the process of resource-intensification "could be seen as the manifestation of a new kind of class conflict" (1997, p. 5). They referred to the meta-industrial class - peasants, landless labourers, indigenous or tribals, pastoralists, artisans, and urban poor, many of them women and youth (Guha & Atelier 1997, p. 12; al; also see Salleh 2004 & 2000). These 'eco-system people' belong to communities which depend very heavily on the natural resources of their own locality, and can be viewed as a social movement 'from below' (Guha & Martinez-Alier 1997, p. 12).

This Marxist conception of social movement mobilisation has been developed by Nilsen and Cox (2014 & 2013) and this theory is utilised as a lens for understanding the mobilisation of the social movement in this study. A Marxist analysis is useful in explicating what it is that this grassroots movement is producing in the social world, and what its confrontations with ruling relations bring into view (see Choudry 2015, p. 47). Finally, much informal and incidental learning occurs within social movements (as discussed by Branagan & Boughton 2003; Choudry 2015; Choudry & Kapoor 2010;

Foley 2004). It is vital that activist scholarship engage with the opportunities for learning that are discussed in section 4.7.

The conception of why and how social movements emerge, as well as how they persist or fail, has evolved following attempts by the early sociologists, Weber, Durkheim and Marx, at explaining collective social behaviour (Buechler 2016, pp. 9-58). Theories have undergone a number of paradigm shifts since the functionalism of the Chicago School and Blumer's 'collective behaviour' model, with its emphasis on irrationality, pathology and mal-function (Crossley 2002, pp. 11 & 17-38). Smelser's 'value-added approach' was the first major attempt at addressing structure and agency by integrating different processes, ones that would be treated disparately by subsequent theories (Crossley 2002, pp. 39-55; Della Porta & Diani 2009, p. 8). Notions of agency were subsequently subsumed in the structuralist theories of 'resource mobilisation' (Crossley 2002, pp. 77-105; see McArthy & Zald 1977) and 'political process' and 'contentious politics' theories (see McAdam, Tarrow & Tilly 2001; Tarrow 2011; Tilly 2005), and the focus on social movements as reactive responses to social crisis (Della Porta & Diani 2009, p. 8).

The political and cultural upheavals of the 1960s and 1970s created a parallel modification in social movement theory and the concept of 'new social movements' (NSMs) emerged. NSM theories sought to explain the post-industrial movements of environmentalism, feminism, pacifism, civil rights, gay rights and so on, and their focus on identity, lifestyle and culture, as opposed to the economic concerns of the 'old' proletarian movements (see Buechler 1995; Pakulski 1991, p. 25; Pichardo 1997). Although the notion of 'new' movements is contested, post-structuralist and postmodernist approaches have enabled valuable sociological insights to individual motivations and behaviour, and the practices and processes of social movement activity (see Castells 2015 & 2010; Escobar 1998; Guttal 2007; Habermas 1979; Melucci 1989 & 1990; Touraine 1981).

Major social movement traditions are shown in Table 3-1 below. This highlights the Euro-centric nature of social movement theory.

Table 3-1 Four Traditions of Movement Analysis
(informed by Crossley 2002, p. 10)

	USA	Europe
Pre-1970s	Collective Behaviour	Marxism
1970s onwards	Resource Mobilisation Political Process	New Social Movements (NSMs)

Certain aspects of the traditional theories are helpful, but no one alone adequately explains the complexities of new, more global and loosely connected movements. Nor do they address the relationship between capitalism and the causes and concerns behind contemporary global and trans-national grassroots movements (see Choudry 2015, p. 48; Doyle 2005, p. 66). This has resulted, in part, in the emergence of a contemporary Marxist theory of social movements, as discussed in section 1.3.3 (see Cox & Nilsen 2014; Nilsen & Cox 2013). The conceptualisation of a meta-industrial class and collective action based in labour struggles has brought us full circle after nearly 150 years of theorising.

Traditional social movement theories do offer some insights, and a few are considered in the analysis of the social movement organisation at the heart of this study. Benford and Snow's 'framing' perspective is useful for enhancing understanding of the generation, diffusion and functionality of mobilising and counter-mobilising ideas and meanings (2000, p. 612-614), as well as social movement diffusion, and how ideas spread between movements and cultures (2000, p. 627). After all, it is necessary to identify and frame an issue before acting on it (Escobar 1995).

McArthy and Zald's resource mobilisation theory (RMT) assists in considerations as to how people join and support social movements, and why some do and others don't (1977, p. 1216; Crossley 2002, p. 89). However, RMT is founded on rational actor theory (RAT) and fails to engage adequately with emotions, conscience or values as strong motivators and the fact that some people will put their life on the line for a cause, resources or no resources. Crossley's synthetic framework, utilising Bourdieu's 'theory of practice', has substance because of its focus on the connection between agency and structure and consideration of values (2002, pp. 168-191). However,

Crossley tends to downplay the role that crises play in movement mobilisation (2002, p. 189).

This thesis utilises a Marxist conception of social movement mobilisation. As Catton and Dunlap have noted, class and class conflict is not dead; it is just manifesting for reasons that Marx could not have foreseen (1976, p. 47). Of course, other social relations and identities play distinct roles, but a Marxist theory can be helpful in analyzing the power struggles between social movements from both above and below - the state and hegemonic structures in society above and local rationalities below (see Nilsen & Cox 2013, p. 66). A class analysis enables a deeper understanding of the processes and outcomes of development (Borras Jr, Edelman & Kay 2008, p. 193). A Marxist theory is particularly valid in the analysis of a social movement organization whose objectives are explicitly embedded in the means and modes of agriculture and food production. Nilsen and Cox believe that the starting point for collective action is in everyday practices, 'local rationalities', that are developed in response to specific needs, problems and places, materially grounded in concrete situations (2013, p. 74). This encourages a micro-analysis of social movement mobilization.

There is a vast, and growing, body of literature enquiring into contemporary global and trans-national social movements, both in the South and North (see Bebbington 207; Buechler 2016; Della Porta & Kriesi 1999; Della Porta & Diani 2009; Doyle 2005; Escobar 2004; Malseed 2008; Mann 2014; Rose 2015). Doyle offers a comprehensive discussion surrounding global environmental and social justice movements, encompassing both the global South and North (2005). He points out the similarities between some movements, but, more importantly, he notes the differing concepts of the human/nature dichotomy in the North and South as affecting and shaping social movement sensibilities and activity (2005, p. 53 & 135). He reminds us of the global North's concept of the environment as primarily having instrumental value, and of the concept of sustainable development as a repressive idea system (2005, p. 162).

Bebbington discusses the role social movements can play and are playing, in addressing, and influencing, policies relating to poverty (2007). He notes that social movements do not aim to reduce poverty as such, but work instead at challenging the institutions at the heart of the political economy of poverty, by reworking the cultural

politics of poverty and engaging with the state (2007, p. 794). He concludes that these social movements emerge in response to 'demands' created by the colonization of people's everyday life-worlds by new forms of accumulation, or by the deepening of actual or perceived inequities among social groups (2007, p. 813).

Borras Jr, Edelman and Kay discuss the transnational agrarian movements (TAMs) representing the rural poor (2008). TAMs have a long history (2008, p. 174 & 196 Borras Jr, Edelman and Kay note the shift from class to identity politics within this class although, as they point out, not all movements have rejected class politics altogether (2008, p. 197). They also note that, while many agrarian movements have localised their struggles (2008, p. 170), larger groups, especially La Via Campesina (to be discussed later) have significant influence at the global level (2008, p. 172). The authors believe, that it is due to this influence that TAMs are attracting academic scholarship. They also note the role that NGOs play in facilitating or constraining social movement activity (2008, p. 197). One of the largest TAMs is the *Landless Workers' Movement,* formed in 1985 in Brazil which now claims around 1.5 million members (Malseed 2008, p. 502). Bebbington (2007, p. 803), Borras Jr, Edelman and Kay (2008, p. 171) and Doyle (2005, p. 65) remind us of the complexities and diversity, within and between these social movements.

With regard to Myanmar, a number of authors have analysed recent social movement activity. As Malseed notes, "writing on agrarian movements generally ignores states like Myanmar (Burma) where, historically, any overt movement must either cooperate with the state or face annihilation" (2008, p. 490). Kevin Malseed has studied the Karen villagers in Myanmar[30] who have developed, and practice complex resistance, involving inter-community action and solidarity across wide regions; practices that have been successful in weakening state control over land and livelihoods largely because their lack of formal organisation makes them difficult to target (2008). Malseed believes that Karen village resistance has characteristics that resemble 'movements' as broadly defined and make it comparable to some existing agrarian movements (2008, p. 502). Further, Malseed argues that transnational agrarian

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[30] The Karen probably number between four and seven million and are concentrated in Karen State and Pegu, Irrawaddy and Tenasserim Divisions. Karen identity has largely been formed as a defence against 'Burmanness', a reference to the dominant ethnicity of central Myanmar (Malseed 2008, p. 491).

movements and local struggles could both benefit from active engagement, and his work highlights the need for more research into nascent social movements that might be beyond the radar of the larger global movements like TAMs (2008, p. 506-511). As Borras Jr, Edelman and Kay, suggest, no single organisation, group or movement can fully represent the diverse interests of one class (2008, p. 183).

Adam Simpson is concerned about environmental politics under an authoritarian regime and discusses transnational environmental campaigns acting for environmental justice within Myanmar (2013, p. 182). He discusses how political and economic strategies emanating from the state in Myanmar have created an *activist diaspora*, a dynamic transnational community of expatriates (2013, p. 183). The *tatmadaw's* suppression of political activism domestically, stimulated transnational linkages, nodes and networks of activism, enabling activists access to NGOs, aid agencies and human rights groups, training and material resources outside of the country (2013, p. 189). These environmental movements focus on human rights and justice. Ecological issues are significant but not of primary importance (2013, p. 206). This is in line with many of Doyle's findings (2005).

Finally, Kevin Woods has worked on resource politics in mainland Southeast Asia's uplands since 1999, and since 2002 he has focused his research on resource extraction and land rights in northern Myanmar's ceasefire zones (2013, p. 4). In his discussion on the war surrounding food sovereignty, Woods notes the strengthening of ethnic identities and activism as a response to nation-state building in the post-colonial era, establishing fifty years of conflict between the core and periphery within Myanmar (2013, p. 7). Woods tells us that:

> Farming communities in Myanmar are mostly not informed about any sort of international food sovereignty struggle, let alone an 'indigenous' struggle. There is just starting to develop some sort of shared collective smallholder farmer vision for agrarian justice and perhaps food sovereignty, although so far it is perhaps too built upon an NGO-led process (2013, p. 23).

He also found that regional and ethnic differences in the country are diffusing the potential for a more powerful united utopian vision (Woods 2013, p. 12). Woods does not identify a social movement per se, but comments on farmers' political mobilization,

which, he believes “is one of the most significant rural-wide movements since independence, although mostly discounted by the urban-based elite since they are mostly not perceived as a 'class' with any political purchase” (2013, p. 29). However, as he concludes, this subaltern class, holds the country’s greatest capital - land (Woods 2013, p. 32).

Now the three social movements that underpin the praxis of NEED in Myanmar are discussed.

3.4. Permaculture

As noted in section 1.6.4, permaculture is a consciously designed system of production embedded in organic agriculture that is mooted as a sustainable solution to poverty, food insecurity, soil erosion, biodiversity decline, and climate change (Holmgren 2013, p. 3). This is because, unlike industrial agriculture, organic agriculture sustains, rather than depletes, the health of soils, ecosystems and people (IFOAM 2016, online). Further, by protecting and regenerating local systems, and the ecological services they provide for meeting human sustenance, shelter and energy needs, permaculture adopts a human metabolic fit with nature (Foster 2009, p. 26; Salleh 2010, p. 125). Centred on three key ethical principles: ‘care for the earth’, ‘care for people’ and ‘share the wealth’, permaculture is a less ecologically violent means of food production.

These permaculture principles are articulated in the ‘permaculture flower’, the symbol of permaculture, developed by Mollison and Holmgren (1987) and shown in Figure 3-2 below.

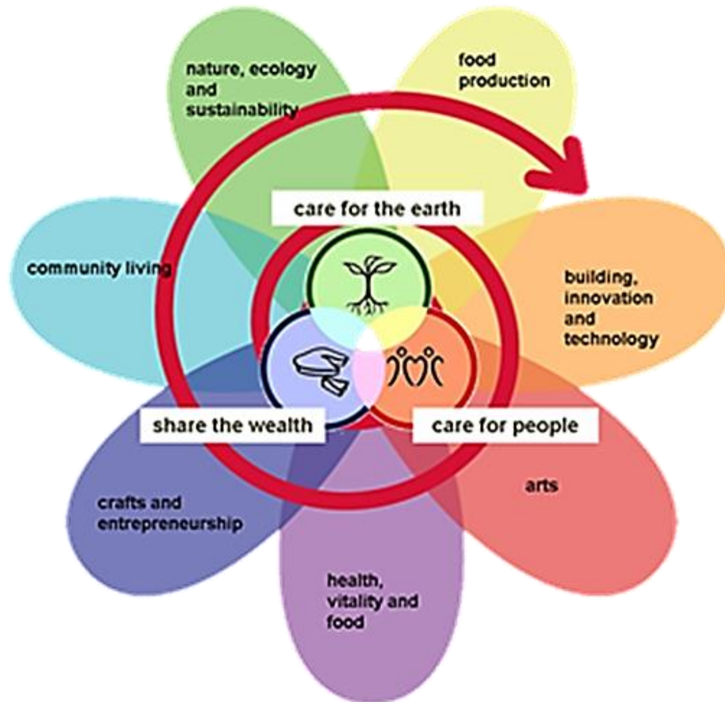

Figure 3-2 The Permaculture Flower: Ethics and Design Principles of Permaculture (source: http://permacultureprinciples.com/resources/free-downloads/)

The concept of permaculture is attributed to the Australian biologist, author and educator Bill Mollison[31] and his student, David Holmgren, now a designer, writer and ecological educator in his own right. Mollison and Holmgren formalised their conception of a holistic, organic system in 1978 in their co-authored introductory text, *Permaculture One – A Perennial Agriculture for Human Settlements*. They coined the term 'permaculture' for what they called at the time, "an integrated, evolving system of perennial or self-perpetuating plant and animal species useful to man" (Mollison & Holmgren 1987, p.1). The process, however, is based on their observations of many traditional farming systems around the world, and can be traced back to the early 20th century to the work of an American scientist, J Russell Smith.

Smith introduced the notion of a 'permanent agriculture' and "integrated farming management systems utilising trees and multi-layered plantings adapted to varying eco-regions" (1929, pp. 4-7, 257 & 284). Mollison was influenced by Smith, but also by the work of the pioneers of modern ecology, Eugene and Howard Odum, and their 1953

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[31] In 1981, Mollison was awarded the *Right Livelihood Award* (the Alternative Nobel Prize) for his contribution to environmental design.

textbook *Fundamentals of Ecology.* He found further inspiration in the anticipatory design science of Buckminster Fuller, as well as James Lovelock's (1979) 'Gaia hypothesis'. Holmgren says that he is also indebted to Howard Odum (2013, p. 6).

Permaculture is characterised by

- Small scale land-use
- Intensive, rather than extensive land-use
- Diversity in plant species, varieties, yield, microclimate and habitat
- Long term planning
- The use of wild or little-selected species
- Integration with existing agriculture and animal husbandry
- Being adjustable to steep, rocky, marshy or marginal lands

(Mollison & Holmgren 1987, p. 6).

Permaculture and organic agriculture are aspects of the 'agroecology' movement (see Ferguson & Lovell 2014, p. 255). Agroecology is the science of applying ecological concepts and principles to the design and management of sustainable food systems, often based on local, traditional or indigenous knowledge (Ferguson & Lovell 2014, p. 252; Gliessman 1998; Rosset et al 2011, p. 163). Agroecology is a growing movement that offers potential for small-holder farmers to adopt more sustainable practices (see Mann 2014, p. 41; Rosset et. al 2011 for example). Agroecology has the potential for regenerating family and community life otherwise impacted by industrialisation (Rosset et. al, 2011, p. 184). This is because of its labour intensity, diversity of crops, and the subsequent increase in income generating activities for women and youth. Many peasant farmers are utilising agroecology as a form of resistance and as a revolutionary tool (Mann 2014, p. 41).

Permaculture's focus has expanded since its inception in the 1970s, and it has developed rapidly over the past twenty years. This expansion is partly due to David Holmgren, who has become increasingly concerned and focused on the notion of 'energy descent' - the reduction of oil use, rather than increasing oil use, due to dwindling oil supplies (2009). The Permaculture Design System Flower shown below in Figure 3-3, shows the key domains that Holmgren, and permaculture advocates, believe require transformation to create a (truly) sustainable culture (2007, p.3).

Permaculture is a process that begins at the personal, local level, embedded in ethics and principles, then expands out to the collective and global level.

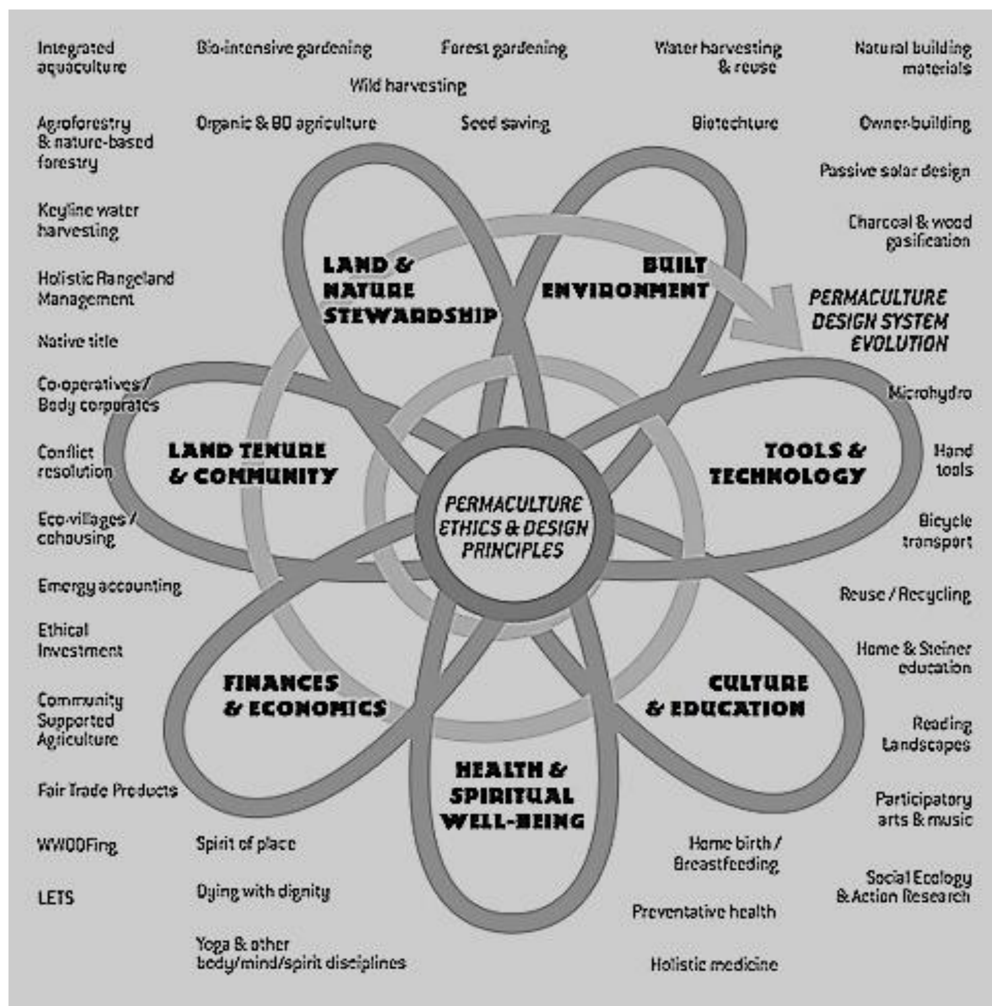

Figure 3-3 The Permaculture Flower
Adapted from Introduction: Permaculture, Principles & Pathways Beyond Sustainability, Holmgren 2002 (source: https://www.flickr.com/photos/thelazygardener/3924422674)[32]

A key aspect of permaculture and agroecology is ‘composting’, a long-standing technique that is integral to rejuvenating degraded soils (FAO 2015b; Jules Pretty 1995, p. 56). Another aspect of permaculture is seed saving, seen as integral to preserving diversity, but also, in many cases, a political act. As Vandana Shiva argues “in diversity, the smallest has a place and a role, and allowing the small to flourish becomes the real test of freedom” (2005, p. 94). Seed saving is also a global social

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[32] Holmgren (2007) outlines twelve principles of permaculture in *Essence of Permaculture*; a precis of his book *Permaculture: Principles and Pathways Beyond Sustainability*.

movement, explicated by Shiva's *Navdanya* organisation (http://www.navdanya.org/) for one.

3.4.1. Permaculture as a Social Movement

Permaculture gained traction in the 1980s and 1990s with environmentalists, particularly those in the 'back to the land movement' and counter-culture movement in Australia (see Bible 2016, pp. 159-210). It has been embraced globally by those seeking to develop more caring and sustainable society-nature relationships (see Birnbaum and Fox 2014; Gamble, 2011; Lockyer and Veteto 2013). Permaculture appeals to people on many levels, primarily because of its focus on food and rebuilding community. Permaculture's principles align with the argument that we need a shift in the social relations of production and society as a whole (see Foster 2009, p. 14).

Mollison and Holmgren believed that a society that lacks values, direction and ethics, and thus relinquishes control over its future destiny, can't survive (1987, p. 95). They felt that their book was a contribution to the taking of such control and, in this respect, permaculture has a radical, political nature (see Holmgren 2007, p. 5). For many people, permaculture and community food systems are viewed as a non-violent political statement (Gamble 2011, p. 315). They follow Bill Mollison, who once said:

> I teach self-reliance, the world's most subversive practice. I teach people how to grow their own food, which is shockingly subversive. So, yes, it's seditious. But it is peaceful sedition (2005).

As a global social movement, permaculture plays the role of network-as-structure (see Borras Jr 2008, p. 93) in that it represents an overarching umbrella for the individuals and groups that operate within its ideology. Permaculture has spread as a practice through the establishment of training and research centres and through education via the *Permaculture Design Course (PDC)*, and is represented by a number of publications (Holmgren 2007, p. 4; Lockyer & Veteto 2013, p. 99).[33] Over 50,000 people in 160 countries have undertaken some form of permaculture training, either

[33] Bill Mollison founded the first Permaculture Institute, in 1979, in Tasmania as an education facility and in the late 1980s established another institute at Tyalgum in northern New South Wales. At the same time Holmgren established his own property Melliodora near Hepburn Springs in Victoria. In the 1980s the first permaculture, eco-village in Australia, Crystal Waters was built and then the *Australian Permaculture Research Institute* and *Permaculture College Australia* were established.

through the institutes, eco-villages or community organisations.[34] In early 2016, the *World Permaculture Association* (www.world-permaculture.org) was established in Europe, and the *Permaculture Institute Asia*, based in Thailand, is growing.

David Holmgren believes the strength of permaculture, as an organising framework for sustainability and intergenerational justice, is that "it draws together diverse ideas, skills, and ways of living that need to be re-discovered and developed" (2007, p. 3). It recognises 'other' ways of being as valid and vital. Gamble agrees, noting that permaculture "is an open and accessible form of design that appeals to people because they are able to directly participate in the most basic aspects of human existence in cooperation with others" (2011, p. 313). In this way people are making a contribution to bigger picture world issues through practical local action. However, Holmgren also feels that permaculture's potential to contribute more broadly to agro-ecological transition is constrained by oppositional forces in the mainstream (2007, p. 4). These forces include the prevailing scientific culture of reductionism, the dominant culture of consumerism and political, economic and social elites which stand to lose influence and power through the adoption of local autonomy and self-reliance.

Ferguson and Lovell, in their research into the scientific applications of permaculture, feel that it is more "the lack of scholarly research about permaculture and scientific rigour within the permaculture literature itself" (2014, p. 252). Ferguson and Lovell note that "there is a substantive lack of assessment of permaculture as an approach to agriculture, which is surprising given its international public profile" (2014, p. 254). Permaculture is gaining academic interest, however. In their comprehensive literature review into permaculture (as an aspect of agro-ecology) Ferguson and Lovell found that, whilst the majority of permaculture literature is written by non-scientists for a popular audience, scholarly articles are increasing, primarily in the social and life sciences, then architecture and education (2014, p. 258).[35] Literature emanates primarily from the US, Australia and the UK, although it is becoming more geographically diverse. Key interests are in its design, community, sustainable and farming applications.

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[34] Permaculture became relatively main stream in 2002 when it became accredited under the permaculture industry body, Accredited Permaculture Training (APT), offering more than 50 units of permaculture training.

[35] They note 50 graduate theses, primarily in the social sciences.

Lockyer and Veteto provide examples of the myriad applications of permaculture in their edited collection, *Environmental Anthropology Engaging Ecotopia: Bioregionalism, Permaculture and Eco-villages,* and argue for further engagement by the academy in both increasing understanding in, and the development of, permaculture (2013, p. 106). As they point out, permaculture has much to offer in our understandings of human/nature interactions (2013, pp. 106-108). In a recent thesis, Conrad presents a fascinating discussion of the efficacy of permaculture practice versus conventional agriculture in Malawi, Africa (2014). In her study she found that the diversity of crops grown by permaculturalists increased food security and levels of nutrition more than conventional methods (Conrad 2014, p. 285). As she suggests, this has implications for agricultural development.

The range of permaculture projects is as varied as the individuals and groups that promulgate its practices. Permaculture was central to the establishment of the *Transition* movement in Totnes, in the UK in the early 2000s (see Henfrey 2014, p. 123; Hopkins 2010). It is being utilised for development and peace initiatives, an example being *Permaculture for Peace* (2016, online), a collective of international farmers, educators, and artists utilising permaculture for peace-building in post-conflict areas through workshops aimed at "empowering marginalized and displaced communities to co-develop long-term food security, energy efficiency, and participatory democratic structures based on permaculture principles". The INGO, Oxfam, has supported permaculture projects and permaculture, together with agro-ecology, has been discussed by larger agencies, such as the UN's Food and Agriculture Organisation, in regard to food security. Permaculture as a form of agro-ecology, has been utilised in the agricultural development of Cuba (see Rosset et. al 2011).[36]

3.5. Localisation

The millions of people around the world seeking out alternative lifestyles, learning or developing small agricultural systems, and reclaiming traditional lands, knowledge and cultural practices are part of the localisation movement, defined by Helena Norberg-Hodge as "a strategic response to the escalating social and ecological consequences of

[36] And which is now under threat as Cuba opens up to the world and US hegemony.

the ruling economic system – capitalism" (2013, online). Localisation is embedded in the notion that we need a far-reaching adjustment of economic focus from the global to the local (Curtis 2003, p. 84; Hopkins 2010, pp. 237-8), one that is democratic, egalitarian and reduces consumption (see Magdoff & Foster 2010, p. 16-18).

Helena Norberg-Hodge is founder of the localisation organisation, the *International Society for Ecology and Culture* (ISEC). She outlines the core processes of localisation as:

- the re-regulation of global trade and finance
- diversifying and decentralising economic activity
- strengthening human-scale business, and developing a greater reliance on human labour and skill
- a reduction in the scale and power of trans-national corporations and banks
- less transportation, packing and processing
- adapting economic activity to the diversity of ecosystems, and
- rebuilding community (2013, online).

One of the key aspects of the localisation movement is simply living more simply (see Curtis 2003, p. 84 for examples). A simpler way of living was mooted in the 1970s by Schumacher (1973) when he tried to persuade us to adopt smaller, local economies and to downsize. From the point of view of Schumacher's Buddhist economics, production from local resources for local needs is the most rational way of economic life (1973, p. 49). This is line with arguments that we can have prosperity (and happiness) without the growth associated with free-market capitalism and neo-liberal ideologies (Jackson 2009 for example). Alexander and McLeod have collated a compilation of examples of simple living throughout history, and what they all have in common, are notions of frugality, sufficiency, moderation, minimalism, self-reliance, localism and mindfulness (2014, p. xiii). Ted Trainer's *The Simpler Way* exemplifies localisation. He sees a future consisting of small-scale highly self-sufficient local economies producing goods with local labour from local resources; co-operative and participatory local systems; use of alternative technologies and a very different economic system (2000, p. 55). He is adamant, however, that these localised initiatives collectively seek to overturn the current capitalist system, not merely attempt at local reforms.

Advocates of localisation argue that large-scale, global problems are only going to be solved at the local level (Macnaghten & Urry 1998, p.270). There is, however, tension between the local and the global, and localisation, as an ideology, has been dismissed as naïve and/or idealistic or utopian by some (Stevenson 2012, p. 68). Monbiot, the global justice advocate, is one critic (2003) and Giddens and Hutton warn that "associated 'protectionism', produces lower growth and national rivalries, which can result in conflict' (2000, 216). Albo in a discussion about scale, argues that local socio-ecological struggles cannot be delinked from – and are indeed always potentially representative of – universal projects of transcending capitalism on a world scale (2007, p. 23). Scale is central to arguments regarding localisation.

Some argue that while localising economies we need to 'globalise' consciousness (Korten 1995, p. 268). However, as noted in the discussion about globalisation and the development project above, formal changes in global institutions could be a long time coming (see Monbiot 2003). This possibility reinforces the argument of localisation advocates, such as Homer-Dixson who points out the benefits of regional self-sufficiency, arguing that "communities or regions that are not absolutely reliant on the globalized system are going to be more resilient if, and when that system fails" (2006, p. 184). Albo (2007, p. 11 on) is critical, like Goodman and Salleh (2013) and Salleh (2000), for example, that 'capitalism' in *any* form can take us into the future. The market, however green and sustainable, cannot within itself, take us out of this situation of reducing resource use and associated waste. In this respect, localisation is seen as reformist at best.

Despite, the arguments for a new type of centralization, and concerns with scale, however, there is a growing body of work surrounding localisation initiatives (Stevenson, 2012; Norberg-Hodge, 2009 & 2013; Hawken, 2007; Shiva, 2008 for example). As Albo states, "claims that sustainable local ecologies can serve as the foundation for political action and social alternatives at least require careful scrutiny" (2007, p. 3). Localisation has been discussed in regard to the re-ruralisation of economies and empowerment of women (Shiva, 2010 & 2008), as a way of retaining cultures and increasing well-being (Norberg-Hodge, 2013 & 2009), and as a way of addressing issues of peak oil and climate change (Hines 2007; Hopkins 2010; North 2012).

Localisation is in many respects in line with a Gandhian vision which stresses the importance of individuals being able to satisfy their personal needs through their own efforts, in cooperation with others and in harmony with nature (Burrowes 1996a:103). Helena Norberg-Hodge believes that community is a key ingredient in happiness, arguing that localised, community based, solutions bring power back to the individual – to those with a history of a place, who identify with that place and who are part of a community embedded in that place (2009, pp. 144-147). Local communities can support sustainable livelihoods and provide cultural events and activities. The social support and embodied experiences offered at the local level within community provides opportunities for community members to develop deep and meaningful interpersonal relationships - the core of true human happiness (2009, pp. 144-147).

One of the many aspects of the localisation movement is the growth in 'eco-villages', generally defined as "intentional human communities that are developed to be socially, economically and ecologically sustainable" (Lockyer & Veteto 2013, p. 218). Eco-villages are being established around the globe by private citizens with shared values embedded in eco-sufficiency and often serve as centres of research, demonstration and training. The majority of eco-villages aim at self-sufficiency, but at the same time aspire to create and be part of social, economic and political networks (Lockyer & Veteto 2013, pp. 220-223).

3.6. La Via Campesina (The Farmers' Way)

La Via Campesina is a transnational social movement of economically and politically marginalised, poor peasants and small-holder farmers from the global South and North spanning five continents (see Borras Jr 2008; Borras Jr, Edelman & Kay 2008, p. 171; Desmarais 2014 & 2007; La Via Campesina 2016; Mann 2014; Martinez-Torres & Rosset 2010; Torrez 2011).

Scott defines a peasant as "a rural cultivator whose production is oriented towards subsistence" (1977, p. 157). For members of La Via Campesina, the term peasant speaks to 'people of the land' (Mann 2014, p. 4). For the peasantry and smallholder farmers, notions of land relate to space, territory and belonging (Torrez 2011, p. 51) and loss of land, primarily through land grabbing, is one of their key concerns (Mann

2014, pp. 55-59). Land grabbing signifies a return to colonialism, and the concentration of resources through the appropriation of large tracts of land for agribusiness, mining, plantations and factories (see Torrez 2011, p. 53).

La Via Campesina was formed by 45 Latin American farmers in 1993 as a response to loss of control over land, agriculture, seeds and water, but has its roots in grassroots concerns surrounding structural adjustment programs in the global South in the 1980s (Desmarais 2007). La Via Campesina's mobilisation has been facilitated by NGOs and it now has 160 member organisations in 80 countries (Mann 2014; p. 3),[37] representing some 500 million rural families (Martinez-Torres & Rosset 2010, p. 165). With a growing membership, particularly from Asia, this amount is likely to increase exponentially. La Via Campesina's key principles are outlined in the Nyeleni Declaration (2007) (La Via Campesina 2007).

La Via Campesina is a movement with a high degree of density and cohesion, made up of national or regional peasant organisations, in which each member organisation has its own decision making process – which is primarily though consultation and consensus (Martinez-Torres & Rosset 2010, p. 165). Through its formal structure, the movement represents a plurality of interests and identities, with diverse histories and unique roots, but all share a common goal of food sovereignty (Borras Jr 2008; Mann 2014, p. 45). A conceptual model of food sovereignty is provided in Table 3-2.

Table 3-2 Dominant model versus food sovereignty model
(taken from Martinez-Torres & Rosset 2010, p. 169-170)

Issue	Dominant Model	Food Sovereignty
Food	Chiefly a commodity; in practice this means processed, contaminated food	A human right: specifically should be healthy, nutritious, affordable, culturally appropriate and locally produced.
Being Able to Produce	An option for the economically efficient	A right of rural peoples
Hunger	Due to low productivity	Problem of access and distribution due to poverty and inequality

[37] La Via Campesina's website states 164 organisations in 73 countries but this data is dated 2013 (La Via Campesina 2016, online).

Issue	Dominant Model	Food Sovereignty
Food Security	Achieved by importing food	Greatest when food production is in the hands of the hungry, or when produced locally
Control over productive resources	Privatised	Local, community controlled
Access to land	Via the market	Via genuine agrarian reform
Seeds	Patentable commodity	Common heritage of humanity, held in trust by rural communities and cultures; 'no patents on life'
Farming Technology	Industrial, monoculture, Green Revolution, chemical intensive, uses GMOs[38]	Agro-ecology, sustainable farming methods, no GMOs
Farmers	Anachronism; the inefficient will disappear	Guardians of culture and crop germplasm; stewards of productive resources; repositories of knowledge; building block of truly sustainable development.

The term 'peasant' is commonly associated with resistance to progress, or backwardness, and subsistence farming has historically been seen as regressive and outdated (Mies and Bennholdt-Thomsen 2000); hence the Green Revolution (Bennett 2012, p. 978). Members of La Via Campesina, however, are leading the way in empowerment for land-based communities, and is considered by many to be the most important transnational movement in the world (Martinez-Torres & Rosset 2010, p. 150). La Via Campesina's ideology and practice stands in stark opposition to the neoliberal market-led agrarian reform (Borras Jr 2008, p. 93-94) and in 1999 the organisation initiated the Global Campaign for Agrarian Reform (GCAR) (Torrez 2011, p. 50). By adopting a human-rights approach to land reform, the movement is seeking alternatives to capitalist agrarian reform, based on peasants' perspectives (Torrez 2011, p. 50). La Via Campesina is fighting for sustainable peasant agriculture, and the promotion of agro-ecological farming practices takes centre stage (Martinez-Torres & Rosset 2010, p. 168).

La Via Campesina, like the permaculture and localisation movements previously discussed, is involved in a struggle against established orthodoxies and represents an

[38] Genetically Modified Organism (GMO)

ontological shift that re-values small-scale or peasant farming (Mann 2014, p. 3). As a powerful 'voice from below', it constitutes a serious counter-argument to the development project (Borras Jr 2008, p. 92). For over twenty years the movement has been redefining agriculture and food systems management at local, national and international levels. It is achieving this through political protest at the World Bank and WTO meetings regarding agriculture, and involvement in the World Social Forum (WSF) process (Martinez-Torres & Rosset 2010, p. 151). It also assists local communities to resist agri-business through political activity (Desmarais 2014).

Its strategies, that have a focus on protest in the global public sphere, expose power dynamics whilst cultivating new spaces for debate and tactics – radically contesting power relationships in public ways (Martinez-Torres & Rosset 2010, p. 163). However, the movement has realised the need to strengthen internal capacities in order that "ever more people are enabled to intervene in the reality they are confronted with" (Martinez-Torres & Rosset 2010, p. 164). This is taking the form of schools of political 'formation', aimed at creating skilled 'cadres' who can take on organising roles at the local and regional levels (Martinez-Torres & Rosset 2010, p. 164).

La Via Campesina is deeply revolutionary (Desmarias 2014; Martinez-Torres & Rosset 2010, p. 150; Torrez 2011, p. 54) and members have been imprisoned, outlawed, and even assassinated for their political activity (see Martinez-Torres & Rosset 2010, p. 163 & Torrez 2011, p. 54). But these "peasants will not disappear or be silenced" (Desmarais 2014). The glue that holds it together as a vast organisation is the desire to (re)create, maintain and strengthen a 'peasant identity' (Martinez-Torres & Rosset 2010, p. 166). It is strengthening through the linking to other sectors, such as workers, the urban informal sector, environmental and women's and indigenous rights movements (Martinez-Torres & Rosset 2010, p. 168), and the alter-global movements, the Global Justice Movement, World Social Forum (Mann 2014, p. 63).

3.7. Conclusion

This chapter has considered the issues surrounding environmental peace. Globalisation, free-market capitalism and the 'development project' have been cited as key underlying factors contributing to structural and ecological violence that is resulting in environmental and food insecurity and growing inequities between the materially rich

and materially poor and a 'metabolic rift' between us and our first nature – our natural environment.

The ideology behind the development project, and the associated policies and processes, has resulted in a philosophical, ethical and ecological crisis, but it is in this moment of strain that the counter movements that have emerged as an aspect of the new environmental and social justice movements of the 1970s, are strengthening and mobilising further, exploring alternative political, economic and social forms. This chapter has highlighted collective social action in the form of global grassroots, agrarian and environmental social movements. These groups, primarily from the global South are defending place, whilst the counter-cultures of the North are seeking to remake new spaces. Combined they are a powerful force from below resisting the social movements from above.

The review discussed social movements as means of working towards more ecologically sustainable ways of being in the world, and lifestyles that put the planet above people and people above profit. The chapter focused on the social movements of permaculture, localisation and the food sovereignty movement, La Via Campesina because each seeks to address the issues stated above, each has food as its focus, and their ideologies are key influences for the SMO at the heart of this study. As democratic political space (the ability for citizens to influence political and economic policy) shrinks due to the hegemonic forces from above, social movements from below need to be more imaginative and creative, and there is a call for more research into these eco-cultures to raise our understanding of their processes, particularly at the micro-level, in the everyday life experiences of social movement actors.

The following chapter discusses environmental education and EAE for environmental peacebuilding, as well as the learning that occurs within social movements such as these discussed above.

Chapter 4. Transformative Education for Resistance and Renewal; Environmental Adult Education (EAE) and Learning in Social Movements

We can't solve problems by using the same kind of thinking we used
when we created them.

Albert Einstein

It is more than just what we know about the natural world, the facts and figures.
It is more about how we respond and how we let the natural world shape us,
and our cultures.

Jules Pretty 2009, p.158

A major component of environmental discourse is the argument for social change, and how new and different processes and systems need to be designed and implemented and how this can be achieved (Bookchin 1971, 1999 & 2005; Foster 2000 & 2009;). The early environmental movements' focus on conservation and regeneration has been overridden by the understanding that we must not only resist harmful practices but provide creative, practical solutions for developing resilience to future impacts. Further, individual behaviour change is not going far enough to arrest large-scale and far-reaching ecological damage and the associated socio-economic impacts.

It is argued (after Dewey 2004 [1944]; Freire 1999 [1970]), Gramsci 1994 & Illich 1971) that the key to social change is education. This literature review explores the evolution of, and research into, environmental adult education (EAE) through environmental education (EE) and education for sustainable development (ESD). This includes a discussion of EE in Myanmar. Examples of research into applications of EAE are then provided before learning in social movements is discussed. It is important to have an understanding of the learning occurring, or the potential for learning, within any program or situation in order to facilitate or engage with it.

It is noted that the vast majority of the literature into environmental pedagogies of all types emanates from, and focuses on, the North. Whilst the gaze is expanding to include the global South (Connell 2007; Kapoor 2003; Salleh 2015; Shiva 2010; Walter

2009b are all good examples) there is a paucity with regard to EE in Myanmar. Hla Hla Win (2001) and Bhundari and Abe (2000) are exceptions.

4.1. Environmental Education (EE)

EE emerged as a concept, primarily in the wealthier nation states in the North, as a response to international conferences and reports regarding the environment, and the subsequent argument that education was critical in addressing environmental problems (Sauve & Orellana 2004, p. 106; UNEP 2016 online). The main thrust of state-led EE is "to foster clear awareness and concern about environmental issues, to provide each person with the opportunities to acquire the skills and knowledge to protect the environment and to create new patterns of behaviour towards the environment" (Palmer 2002, p. 7). EE was ratified as a discipline in 1968 at the UNESCO Biosphere Conference, Paris, was formalised at a joint UNESCO/UNEP conference in Belgrade in 1975 and entered global politics in October 1977, at the Intergovernmental Conference on Environmental Education in Tbilisi (Palmer 2002, p. 7). EE was formally defined in 1970 as

> the process of recognising values and clarifying concepts in order to develop skills and attitudes necessary to understand and appreciate the inter-relatedness among man (sic), his (sic) culture and his (sic) biophysical surroundings.

An environmentally responsible citizen could therefore then be defined as

> having an awareness and sensitivity to the environment, a basic understanding of the environment, feelings of concern for the environment, skills for identifying and solving environmental problems (and/or issues) and an active involvement at all levels in working toward resolution of environmental problems (and/or) issues.
>
> (Hungerford & Volk 1990, p. 258).

Gruenwald says that "one unintended result of these carefully crafted, albeit vague, definitions of EE is that any practice that can be loosely connected with these goals can be, and often is, called environmental education" (2003, p. 74).

Researchers and practitioners tend to consider EE to be properly located within schools and universities but, as Flowers, Guevara and Whelan note, EE takes a myriad forms,

occurs at all levels of society, and in differing sites and spaces (2009, p. 45). Sauve (2005) for example, identified fifteen often conflicting), currents, all of which promote different world views. EE is now well embedded at all levels of educational institutions, media and policies. EE in schools, focuses on children and youth, and has its roots in nature studies and outdoor education (Palmer 2002, p. 3).[39] EE was developed as an education *for* the environment, in contrast to studies *about* the environment.

As Walter (2009a) tells us, the majority of literature over the past forty years focuses on institutionalised, state-led EE. The focus of research over this period has been on curriculum development (Payne, 1997 & 2006; Stevenson & Evans, 2011 for example), teacher development (Robbottom & Hart 1993) and the need for EE to be more applicable in responding to environmental issues (Stevenson & Evans, 2011). There is also a large body of literature criticising mainstream EE (Apple, Au & Gardin 2009; Au & Apple 2007; Bowers 1995; Burch 2012; Clover 2003 & 2004; Cranton 2002; Gadotti 2010; Kahn 2010 & 2008; Orr 2004; Payne 2006; St. Clair 2003; Trainer 2012; Welton 1995 for example) and arguing for alternative sites and formats (Amster 2002; Burch 2012; Bush-Gibson & Renfret 2010; Giroux 1983; Hall 2004; Hall, Clover, Crowther & Scandrett 2013; Trainer 2012 for example). The key argument is that EE not only ignores the underlying, root causes of ecological violence, it serves to maintain the status quo, and, therefore, can only be reformational in outcomes. Alternatives that exist outside of the ruling paradigmatic institutions and prescriptions are therefore required. These will be discussed below but first an overview of EE in Myanmar is provided.

4.1.1. Environmental Education (EE) in Myanmar

In 2000, in a status report of EE in the Asia-Pacific region, Bhundari and Abe found that EE occurs in all forms of education in the region, and that, in many instances, it is seen as an integrated education with cross-disciplinary approaches being taken in

[39] Some form of nature study has been embedded in Western societies' mainstream curricula since the late 19th/early 20th century. Learning about nature was considered an essential part of a 'progressive' education (see Dewey 2004). These early environmental studies were *about* the environment – a study of flora and fauna, geography and discussions surrounding conservation (Saylan & Blumstein 2011, p. 24).

efforts to ‘green’ curricula (2000, p. 62-65). They found some incidences of EE in Myanmar overseen by the Ministry of Education, Ministry of Forestry and National Commission for Environmental Affairs (2000, p. 67). Bhundari and Abe (2000) also note that informal EE is an aspect of Buddhist culture. In a review of EE within Myanmar, Hla Hla Win notes the development of some EE programs particularly at the primary school level, but also feels there has been an increase in EE in non-formal settings (2001, p. 99).

In 2004 the Ambassador of the Ministry of Foreign Affairs, Myanmar, speaking at the 12th Environment Congress for Asia and the Pacific in Japan, said that Myanmar was committed to sustainable development in line with Agenda 21 and that, due to state efforts, “environmental awareness and public participation and involvement in sustainable development activities was, at the time, gaining momentum in the country and a key aspect of this was EE” (U Nyunt Tin 2004, p. 2). However, in 2008, in a report into the status of environmental education (EE) in Southeast Asia, Nomura and Abe found the prevalence of EE and ESD in Myanmar to be weak (2008 p. 9). They did note that the Forestry Department was conducting some non-formal EE programs in collaborations with NGOs (2008, p. 12). From anecdotal evidence it appears that EE has primarily been provided by environmental groups, such as *Earth Rights International*, the *Curriculum Project, Burma Environmental Working Group,* and primarily to refugees living in the border regions (see Kupczyk-Romanczuk 2009 for example).

Since the 2011 reforms the government has been attempting to address problems and issues surrounding education. A National Education Law was passed in late 2014 with a key focus on critical thinking and to nurture students to a) become law-abiding citizens with democratic principles and b) to enhance human resources in preparation for economic development and higher standards of living (National Education Law 2014, p. 5-6). The new NLD-led government, concerned at the standard of education and the lack of highly educated citizens, is now focusing on the nation’s higher education system as key to economic development (Anderson 2016, online). There is concern about the incidence, or lack of, EE in the region (Bhundari & Abe 2000). It could be assumed that EE will be integrated into these updated curricula, but time will tell.

4.1.2. Pro-environmental behaviour – what should EE be educating for?

The ultimate aim of education is shaping human behaviour (Hungerford & Volk 1990, p. 257). From the beginning, the focus of EE has been changing *individual* attitudes and behaviours towards the environment (Robottom & Hart 1993, p. 22; Stevenson 2007). The problem has been which behaviours to change, and how this can be operationalized (Hungerford & Volk 1990, p. 257) and environmental educators struggled in the early stages of their new discipline as they attempted to develop curriculums and models (Hungerford & Volk 1990, p. 262; Payne 2006; Robottom & Hart 1993; Stevenson 2007 for example).

Early EE research focused on identifying variables that might predict pro-environmental behaviour so that these could be incorporated into goal setting and expected outcomes for EE programs (Hines, Hungerford & Tomera 1987; Hungerford & Volk 1990 are key texts). Pro-environmental behaviour is defined as "behaviour that consciously seeks to minimize the negative impact of one's actions on the natural and built world" (Kollmuss & Agyeman 2002, p. 240; also see Stern 2000, p. 408). The argument being, that the more concerned people are the more likely they are to act positively and responsibly towards the environment. In their seminal study into 'responsible environmental citizenship' Hungerford and Volk coined the term 'environmental sensitivity' to describe someone who shows concern or who has "an empathetic perspective toward the environment" (1990, p. 261)

Levels of environmental concern have mostly been measured by the *New Environmental Paradigm* scale developed by Dunlap and Van Liere (1978). Their 1980 study into the social bases of environmental concern showed that higher environmental concern correlates positively, but weakly with pro-environmental behaviour (Van Liere & Dunlap 1980); a thesis that has endured. Then, in 1987, Hines, Hungerford, Harold and Tomera conducted a meta-analysis of 315 environmental behaviour research studies and found the following variables to be associated with responsible environmental behaviour: knowledge of issues, knowledge of action strategies, loci of control, attitudes, verbal commitment, and an individual's sense of responsibility.

Hungerford and Volk found that "having in-depth knowledge of a local environmental issue, i.e. issue specific problems, is a strong predictor of pro-environmental behaviour (1990, p. 261). Also, formal outdoor settings as well as "sensitive and willing teachers" contributed in a big way (Hungerford & Volk 1990, p. 263) to developing environmental sensitivity. Finger, in an investigation into the link between environmental experiences, learning and behaviour found that "environmental behaviour to be mainly related to environmental experiences, often negative" (1994, p. 159). These findings were supported by Tanner (1980) and Chawla (1998 & 1999) in their investigation into Significant Life Experiences (SLEs), discussed at length in section 7.5 regarding motivation.

Finger concluded that "information and knowledge acquisition about the environment did not correlate with increased environmental behaviour" (1994, p. 159) and Chawla whilst arguing that school based instruction was important, felt that environmental educators needed to "foster out of school – place based experiences" (1999, p. 25). Gruenwald (2003) took up this challenge in his notion of place based education, expanded on in his 2010 book with GA Smith, *Place-Based Education in the Global Age.* He believes that a critical pedagogy of place "encourages people to re-inhabit their places and engage in the kind of social action that improves their social and ecological life" (2003, p. 7).

Ronald Inglehart (1990) in his book *Culture Shift in Advanced Industrial Society* focuses on post-materialist values and increasing individualisation as an aspect of affluence and security in industrialised/developed countries, as contributors to increasing environmentalism, particularly from young adults. Values as motivating factors are also mooted in Schwartz's (1994 & 1992) 'values theory'. Values, as an aspect of attitudes and beliefs, are found to be universal and enduring motivating variables, and are discussed at length in section 7.4 regarding motivation.

Meanwhile, social psychologists Ryan and Deci (2000) examined factors that might enhance intrinsic motivation, self-regulation, and well-being, leading to pro-environmental behaviour. They found three innate psychological needs—competence, autonomy, and relatedness—which when satisfied yield enhanced self-motivation and mental health and when thwarted lead to diminished motivation and well-being. The

introduction to their paper suggests the potential of a more holistic environmental education. They state:

> The fullest representations of humanity show people to be curious, vital, and self-motivated. At their best, they are agentic and inspired, striving to learn; extend themselves; master new skills; and apply their talents responsibly. That most people show considerable effort, agency, and commitment in their lives appears, in fact, to be more normative than exceptional, suggesting some very positive and persistent features of human nature (2002, p. 68).

Yet, as they go on to say, "it is also clear that the human spirit can be diminished or crushed and that individuals sometimes reject growth and responsibility". Their conclusion is that social conditions play a key role in supporting or hindering behaviour. In relation to pro-environmental behaviour, we need to create conditions that support autonomy and competence (2002, p. 76).

Finally Stern (2000) and Stern et. al. (1999) developed their 'value-belief-norm theory' in an effort to identity variables that can be manipulated to encourage environmentally responsible action. Stern identified four causal variables underlying pro-environmental behaviour: attitudinal factors, contextual forces, personal capabilities and habit or routine (2000, p. 417). He concluded that there are limits to single-variable theories, arguing that "behaviour is determined by multiple variables, sometimes in interaction" (2000, p. 419).

Overall, it is held that an individual with direct experience of an environmental issue will be more environmentally sensitive, holding more concern for the environment and therefore be more highly motivated to act for the environment. Strong values and sense of connection, together with a sense of competency is more likely to result in pro-environmental behaviour. Education provides knowledge and skills for action, and assists in pro-environmental behaviour but this is not an ensured outcome. Social factors play a key role in behaviour, as will be discussed in section 4.7, regarding learning in social movements.

Many goals/outcomes have been mooted for EE. One, that has gained traction, is the notion of 'ecological literacy' and the need for more knowledge about ecological issues. Charles Roth developed the concept in 1969, "in response to media references to

environmental ‘illiterates’ who were polluting the environment” (1992, p. 7). Environmental literacy is essentially “the degree of our capacity to perceive and interpret the relative health of environmental systems and to take appropriate action to maintain, restore, or improve the health of those systems” (Roth 1992, p. 14). It is embedded in the notion that more knowledge means people are more likely to act and falls within the rubric of preservation environmentalism. The notion of eco-literacy is expanded upon in Goleman, Bennett and Barlow (2012) *Ecoliterate: How Educators are Cultivating Emotional, Social and Ecological Intelligence*.

More recently the call has been for the development of and the need for an ‘ecological consciousness’, the sense and awareness of our interconnectedness (Hill, Wilson & Watson 2004; Uhl 2013). This is embedded in the deep ecology of Arne Naess (1973) and Devall & Sessions (2012[1985]) and systems thinking (Capra 1996 for example) (all discussed in Chapter Three). The argument is that “raising ecological consciousness will result in an increasing proportion of the population identifying as environmentalists (Hill, Wilson & Watson 2004, p. 47). From this discussion it can be deduced that the social change required to truly address our current ecological crisis is going to come from those individuals, communities and societies with a deep connection to land and embedded in values and value systems that sit outside of the capitalist system with its focus on material wealth as an indicator of happiness and well-being. Education can be utilised as tool to facilitate a transition to more ecologically sound social structures, processes and practices.

4.2. Education for Sustainable Development (ESD)

A pivotal event for mainstream EE was the publication of *Our Common Future* (1987) and the notion of ‘sustainable development’. ESD is aimed at propping up the three pillars of economics, environment and people. ESD practitioners impart, and provide opportunities, for the acquisition of knowledge, skills, attitudes and values to shape a sustainable future. Issues addressed include climate change, disaster risk reduction, biodiversity, poverty reduction, and sustainable consumption (UNESCO 2002). ESD gained kudos with the 1992 World Conference on Environment and Development in Rio de Janeiro and the development of *Agenda 21,* particularly Chapter 36, ‘Promoting Education, Public Awareness, and Training’ (UNESCO 2002). Education was viewed by the global community as a vital tool in achieving sustainability (Fien & Tilbury

2002, p.1). From the 1990s on, therefore, Bonnett (1999) tells us, the main focus of mainstream EE has been on ‘education for sustainability’ (EfS), commonly known as ESD.

ESD was the focus of attention at the World Summit on Sustainable Development in Johannesburg in 2002 (Fien & Tilbury 2002; Jickling & Wals 2008, p.4). At that summit it was noted that “education for sustainable development should focus on adult education because it would be unwise to wait for the present generation to grow up and begin applying what they were learning” (Flowers, Guevara & Whelan 2009, p. 38).

Notions of sustainability are complex[40], and the interpretation of adequate educational responses, reflect this complexity. At the local level many authorities engage in education for sustainable development activities and a myriad of creative and imaginative non-formal and informal programs have arisen from the framework *Agenda 21* (see Jenkins & Jenkins 2009; Sterling 2009; Tilbury et al. 2002; UNESCO 2002 for examples). In 1992, this concern led educational philosopher Bob Jickling (1992) to declare that he would not want his children educated for sustainable development, arguing that the concepts of EE and ESD were evading in-depth analysis, and that it was patently unclear what educators were actually teaching for. Decades later he remains one of those concerned about the sustainable development project (see Payne 2016).

In 2002, environmental educators, Tilbury, Stevenson, Fien & Schreuder collated an anthology of descriptive case studies to highlight the ways the educational community was responding to sustainable development in varying cultural settings. Like the vast majority of ESD initiatives, these were localised and small focused primarily on individual behaviour change. ESD is going to be central to the implementation of the UN’s 2016 Sustainable Development Goals (SDGs) (discussed in Chapter Three).

[40] And, as noted in Chapter Three, 3.2.2, the concept of sustainable development is socially and culturally contested

4.3. Keep Calm and Reduce, Reuse, Recycle - EE fails

Twenty years after EE emerged, despite all the research, resources and institutionalised efforts, it was noted that "educators around the world were not being successful, on a widespread basis, in convincing world citizens to act in environmentally responsible ways" (Hungerford & Volk 1990, p. 266). Critics such as Clover (2003 & 2004) argue that the failure lies in the fact that the main focus of the sustainability rhetoric and EE has been reformation of individual behaviours. Remember the three 'r's'?

Figure 4-1 Don't Panic!
(source: www.thinglink.com).

Whilst keeping calm, we either fail, or are inspired, to ignore the root causes of environmental problems and issues. Whilst raising ecological sensibilities and eco-literacy is vital it is not going far enough as it fails to challenge underlying structures. Also, EE and ESD, particularly in the formal educational institutions, and in the informal public sphere such as the media and information from government, is co-opted and maintaining the status quo. Bowers (1994, p. 42) reminds us that "taken-for-granted cultural patterns of thinking are complicit in deepening the ecological crises".

As Welton tells us "applying critical theory to the institution of education enables us to see how, like the totality of society, it is dominated by a technocratic and instrumental rationality that blocks and constrains even autonomous, self-directed learning that does have, in itself, emancipatory potential" (1995, p. 12). For education is not politically, economically or ecologically neutral (Marcuse 1964, p. 47); it is not value free

(Foucault 2002 [1972]). As Freire comments "it does not matter where or when it has taken place, education has always been a political act" (1999 [1970], p. 127)

Through the process of mass education, it is the dominant groups' values and ideals that are becoming incorporated into everyday life, guiding how people should act and react (Gramsci 1971, p. 268). As Darder points out "formal education reproduces the traditional social arrangements that can, or tend to, support and perpetuate inequality and injustice" (2000, p. 57). Within mainstream EE its, vital, counter-hegemonic role has been, from the start, stymied and constrained by the very institution it should be critiquing (discussed by Robottom & Hart 1993, p. 28-35).

Kollmus and Agyeman (2002) point out that numerous theoretical frameworks have been developed to explain the gap between the possession of environmental knowledge and environmental awareness, and displaying pro-environmental behaviour. As they say "many conflicting and competing factors shape our daily decisions and actions" (2002, p. 256). Intent on stimulating dialogue around the most effective ways educators might assist in developing pro-environmental behaviour they reviewed the major theories and concluded by stating:

> We see environmental knowledge, values, and attitudes together with emotional involvement as making up a complex we call 'pro-environmental consciousness'. This complex in turn is embedded in broader personal values and shaped by personality traits and other internal as well as external factors (Kollmus & Agyeman 2002, p. 256).

They also noted that "the longer the education, the more extensive is the knowledge about environmental issues. Yet more education does not necessarily mean increased pro-environmental behaviour" (2002, p. 257).

Many environmental educators continue to argue for the efficacy their discipline and of formal settings, tertiary in particular, as opposed to non-formal (Bush-Gibson & Renfret 2010; Cranton 2002; Goleman, Bennett & Barlow 2012; Moore 2005; Payne 2016 for example). However, philosophical, ideological *and* pragmatic concerns about the constraints of EE and ESD, together with the strengthening of elites, global institutions and TNCs (those social movements from above) has led to contemporary

EAE and eco-pedagogy, which both have their roots in Freire's popular education and critical pedagogy (as discussed by Au & Apple 2007).

Adult education is education "that brings about changes in attitudes or behaviour in adults, in the twofold prospect of full personal development and participation in balanced independent social, economic and cultural development" (Merriam & Brockett 1997, p. 248-256). Adult education in its broadest sense simply is the process of adults learning (Knowles 1980, p. 25 cited in Merriam & Brockett 1997, p. 8). Welton (1995, p. 13) Flowers, Guevara and Whelan tell us that, in the North, adult and community education or non-formal education has been hugely important within the context of environmental education (2009, p. 37). As Welton, argues, adult education should provide adults in both formal and non-formal settings with opportunities to examine critically, "ideological systems and societal structures that hinder and impede human development and socio-environmental change" (1995, p. 13). Walter (2009a, p. 22) argues for mainstream respect of informal adult education and acknowledgement of alternative epistemologies than those of privileged white males as so eloquently argued by Connell (2007). This is occurring in EAE which is now discussed, before discussing other critical forms of adult education.

4.4. Environmental Adult Education (EAE)

EAE emerged in the 1970s as an aspect of the new environment movements (NEMs) and has developed as an element of environmental activism; as a form of critical enquiry, instrumental learning and praxis (see Clover 2013, 2004 & 2002; Haugen 2010). EAE, as a distinct field of formal study, emerged in 1975, at the same conference that formalised EE, in a paper presented by Professor Lars Emmelin (currently the UNESCO Chair in Sustainable Development and Spatial Planning). In his presentation, Emmelin (1976) acknowledged the role that non-formal organisations could play but felt that, although this was resulting in some environmental change, informal environmental education of this type, had little educational value. He argued for the development of formalised EAE curricula within tertiary institutions and was a key player in EAE gaining international, mainstream recognition at the Fifth International Conference on Adult Education, CONFINTEA V, held in Hamburg in 1997 (Haugen 2010, p.).

Professor Darlene Clover, has been integral to the development of EAE, partly through the development of the Learning for Environmental Action Programme (LEAP) of the International Council for Adult Education (ICAE) in 1989. She tells us that LEAP was "the first global network to provide a meeting place for adult educators working within an ecological framework" (Clover 2004, p. vii). By this time, as noted previously, in the discussion surrounding EE, there was a global growing awareness that environmental problems were not going to be solved without citizenship participation. Also, many environmental adult educators felt that the focus needed to be shifted to the non-formal learning occurring and being provided in communities themselves (Clover 1997, p. 12).

At the UNESCO conference in Hamburg, Clover described EAE as "a key tool to help people to work locally to improve their lives, to understand the global impacts and implications of what they do, and to work together for change" (1997, p. 12). She also reminds us that EAE is about critically examining the root causes of environmental issues, together with recapturing a more sensual relationship with the rest of nature. EAE "explores how dominant ideologies and values work to shape the ways individuals see and interpret nature" (Clover et al 2000, p. 5)

EAE is a response to globalisation and the subordination of nature in capitalist production (Clover 2003, pp. 8-9). EAE is informed by environmental, adult, and peace education and acts, in places, in response to the ineffectiveness of mainstream EE. EAE occurs within formal, non-formal and informal settings; universities, colleges, community and non-governmental organisations, communities, and social movements (Clover 2003, p. 11). It differs from EE and ESD in that it seeks more than individual behaviour change. Clover says that "from its inception EAE has turned away from the behavioural modification or awareness-raising model" (2002, p. 316). EAE fits the naturalist, humanist, value-centred, holistic, bio-regionalist, holistic, feminist, praxic, eco-education and. socially critical streams of EE identified by Sauve (2005). One aspect of EAE is the understanding that we are part of nature, not external to it. Another is acknowledging the dissonance between our personal beliefs and values, and those of the dominant culture (Hill & Clover 2003, p.23; discussed by Marcuse 1964).

Mainstream EE tends to be more aligned with conservation, scientific approaches and problem solving, in that the environment is a set of problems to be addressed (Sauve 2005, pp. 14-15).

EAE has a number of commonly shared conceptual frameworks and strategies and utilizes a variety of critical and creative practices, strategies and tools in the praxis of learning (Clover 2003, pp. 10-11). EAE practitioners ask questions “building analytically and practically upon the experiential and reflective knowledge of adults through authentic dialogue inter-action within a framework of power dynamics” (Clover 2002, p. 3). As stated by Clover and Hill:

> The fundamental challenge for EAE worldwide has been to articulate a theory and practice that adequately addresses contemporary social and environmental problems, encapsulates the complexity of human-earth relations and provides new ways of learning to live with the earth on just and equitable terms (2003, p. 89-90).

Of interest to this thesis is non-formal and informal EAE, and the variety of “critical and creative practices, strategies, and tools that are utilised by EAE practitioners, in the praxis of learning” (Clover 2003, p. 11). This is because EAE curricula developed at the grassroots level tend to be untainted by government, development or corporative prescriptions, programmes or policies, and, therefore, offer more potential for collective social action. In non-formal and informal settings, EAE utilises local, and/or indigenous, ecological knowledge, “dialogue, debate and resistance, as well as the land, to tackle complex contemporary issues” (Clover 2003, p. 12). It provides opportunities “for adults to gather, share experiences, learn from one another, challenge assumptions and create new meaning and knowledge” (Hill & Clover 2003, p.266). As critical educator, Peter Mayo argues “an effective counter-hegemonic pedagogy should involve as wide a range of social practices as possible” (1999, p. 26).

Finally, EAE advocates a holistic and integrated approach for educating towards a culture of social and ecological peace (Sauve & Orellana 2004) and this is in line with peace education. Betty Reardon, one of the pioneering generation of women in peace studies, tells us that the general purpose of peace education is “to promote the development of an authentic planetary consciousness in order to transform the social structures and patterns of thought that have created the current human condition”

(1988, p. x). Educating for the environment results in an education for peace as it aims at prevention of conflict and peaceful resolution of conflict as it arises. Harris divides peace education into 5 categories: international education, development education, environmental education, human rights education, and conflict resolution education (2004, p. 6).Reardon and Nordland in their 1994 book, *Learning Peace*, note the need to acknowledge ecological violence, as well as direct violence and structural violence, as a motivating factor for peace education. As Jenkins & Jenkins argue, in their discussion surrounding peace education in the post-conflict state of Bougainville, an education for peace that encompasses ecological peace is vital for enduring sustainable and peaceful futures (2009, p.25).

4.4.1. Research into EAE programs

It has been argued that EAE is effective in addressing specific, local or one-off environmental problems and research into EAE shows that it results in positive socio-environmental behaviour as well as social change (see Allman 2010; Clover 2013; Orr 1992; St Clair 2003). Hill points out that EAE has been applied in addressing environmental justice in the United States, South Africa, Central Mexico and the South Pacific (2003, p. 29). In *Global Perspectives in Environmental Adult Education* (2004) Clover has collated stories from Australia, Canada, Fiji, India, Kenya, Mexico, Philippines, Sudan and the US. The aim of the case studies is to focus understanding on traditional knowledge, women's learning and activism, as well as practice and research; to "illustrate some of the contexts, issues, practices and principles" being applied under the rubric of EAE (Clover 2004, p. xvii).

In Clover's book, Budd Hall (2004) discusses seven initiatives around the world regarding food production, local identity, cultural recovery and poverty alleviation - from Brazil, Canada, El Salvador and Germany, to India, Sudan and Venezuala. He identifies a number of principles that emerged from these various case studies. These principles, discussed by Hall are fairly extensive but listed here as it is important to understand the potential of EAE and, as Hall explains, these principles serve as "a useful framework for thinking about all forms of transformative EAE" (2004, p. 176). The principles are: recovery of a sense of place; the importance of bio-diversity; reconnecting with nature; awakening 'sleepy knowledge' (indigenous and marginalised knowledge in danger of being lost); acting and resisting; building alliances and

relationships; skills are important too; valuing process in learning, and deconstructing relations of power.

In 2013 Clover, Jayme, Hall and Follen created *The Nature of Transformation*, a book that was developed as "a learning resource for adult educators interested in weaving environmental issues into their adult education practice in community, workplace or institutional settings, as well as for environmental activists seeking to strengthen the adult and public education aspects of their work" (2013, p. 2). Clover, Jayme, Hall and Follen developed their handbook based on three underlying premises: environmental problems are political so educational emphasis should be political; collective action and learning is more powerful than individual behaviour change, and that sharing information, statistics and scientific data by experts is an important way for adults to learn (2013, p. 2-4). The book serves as a showcase of creative and EAE activities from around the globe in varying locations and contexts responding to differing challenges and highlights the social learning that occurs when individuals and groups come together both understanding their situations and developing critical and creative strategies for change.

Walter (2009b) conducted a study into adult learning in an eco-tourism setting in southern Thailand wherein locals teach traditional ecological knowledge (TEK) to visitors, and in doing so, enter into a cross-cultural exchange. He found that through the informal learning occurring through their community activism, the adults involved developed new skills and knowledge in democratic organisation and direct action and a new consciousness of their ability to make change (2009b, p. 529). This resulted in (amongst other things) empowerment, ownership and improved livelihood opportunities through an alternative development model (2009b, p. 527). Walter also notes other research into eco-tourism learning in Costa Rica, Tanzania, South Africa, China and Canada (2009b, p. 529).

Sauve & Orellana discuss a collective project developed by tertiary institutions in Bolivia, Brazil and Colombia - assisting students in their schools, villages or neighbourhoods address environmental conflict and socio-environmental conditions (2004, pp. 109-117). They utilised the strategy of 'the learning community' which is related to the construction of 'spaces of freedom' wherein individual and collective

needs are considered and collective action enabled through dialogue amongst various parties (Sauve & Orellana 2004, p. 112). As a pedagogical strategy the learning community enables community based projects which are beneficial at the local level.

In this regard environmental anthropologist David Meek (2015) analyses the learning occurring within a vocational high school in a settlement of the Brazilian Landless Workers' Movement and how schools can advance alternative land management strategies and forms of environmental knowledge. In his analysis of this 'political pedagogical project' (PPP), that is being utilised by the movement as a tool for social and environmental justice, he notes how the school enables and encourages critical reflection as well as critical action in the development of agro-ecology in their region (Meek 2015). He concludes that "activist schools are important sites for the co-production of environmental knowledge and material relations and have potential for broader social action" (2015, pp. 420-424).

Dip Kapoor examines the links between EE, popular education and the development of SMs in the Indian context, with specific reference to the Kondh Adivasi, indigenous peoples of the coastal state of Orissa (2003, p. 47). He found that this environmental popular education (EPE) helped "initiate, define, develop and glue together the Adivasi social movement against destructive development in their region, thereby improving the prospects for environmental and social change" (2003, p. 55). The movement had utilised EPE for a period of five years in collaboration with activist educators in developing organised resistance when Kapoor conducted his research. He argues that it is the exchange of knowledge and information that is a strength of EPE, or EAE (2003, p. 55).

Whilst the timelines of the projects and the demographics vary, all the EAE projects cited above have resulted in successfully addressing local and regional environmental issues by utilising local knowledge and resources, and empowering local actors and they all highlight the breadth and depth of learning that occurs within collectives, in a multiplicity of contexts.

In a reflection on where EAE needs to go in the future Clover is concerned about "the neo-liberal agenda that results in the reduction of adult education and learning to basic

literacy workforce preparation" (2013, p. 50). She does feel that EAE has come a long way but argues there is an urgent need for more education for women in particular (2013, p.57). This argument is supported in the writings of the eco-feminists, primarily Shiva (2010), Mies and Bennholdt-Thomsen (2000) and Mies (1998).

Ultimately, EAE aims at "unlocking the powers of critical engagement and imagination to enable people, to resist structural and ecological violence, seek social and environmental redress, and to design new forms of civic engagement, modes of production and community living" (Clover 2003, p. 11). EAE is effective because as St. Clair (2003) tells us it is localized and aligned to a lived experience and it results in action. It is in this respect that it takes from Paulo Freire.

4.5. Popular Education

> The interests of oppressors lie in changing the consciousness of the oppressed, not the situation which oppresses them.
>
> Freire (1999[1970], p. 55)

Popular adult education was developed by Paulo Freire in the belief that "the role of progressive educators is to create the means for understanding political and historical realities so as to bring about the possibility of change" (Freire 2007, p. 3). Freire's philosophical anthropology and pedagogical practice was a response to the economic disparities and oppression of colonialism (Bowers 2008, p.135; Freire 1999[1970]; Mayo 2004, p. 4), and his focus was on Third World education and empowerment strategies for marginalised groups (as expressed in *Pedagogy of the Oppressed* (1970) and *Pedagogy of Hope* (1994)). His analysis into his role as educator was informed largely by Gramsci and Marx (Mayo 2004, p. 16). Marx's early writings provide the basis for Freire's social analysis (Mayo 2004, p. 4).

A key aim of popular education is "the democratisation and reconfiguring of concentrations of power that are oppressive and dehumanising" (Kapoor 2003, p. 47). Darder tells us that Freire was concerned about the natural world that "he loved very much" but was more concerned with the social structures, politics, culture and history (2000, p. 57). Freire believed praxis, the process of action-reflection-transformative action, as central to this emancipation (Mayo 1999. P. 48).

Freire analysed and discussed the tensions between theory and practice, authority and freedom and educator and student and highlighted in his writings the reflexive nature of education – how teachers and students learn from each other and how wonderful and important this is. Freire (1999 [1970], p. 123-125) criticised leadership programs and argued instead for the whole community to be involved. His pedagogy, 'for' the people, has been used by many in societies round the globe in resistance to dominant and oppressive cultural norms. Peter Mayo's *Liberating Praxis* (2004) is an excellent overview of the history and varying applications of a Freirian pedagogy. Marxist Paula Allman's (2010) *Critical Education Against Global Capitalism* is a timely argument for a materialist praxis geared towards a global transformation, and she sees critical education as central to this process. Without critical education, she argues, 'we will never know what to challenge, nor an idea of what must be transformed in order to create a future of social and economic justice" (2010, p. 1).

Freire's dialogic process has been adopted by environmental educators in the formal, non-formal and informal realms of education (see Darder 2002 & 2000; Darder, Baltodano & Torres 2003; Mayo 2004; Morrow & Torres 2002 & Schurgensky 2000). Amster believes that Freire's modern "problem-posing" counterpart might better be understood as a "pedagogy of the repressed" (2002, p. 435). Initially adopted by radical educators aspects of Freire's methods have been co-opted by mainstream educational institutions, particularly tertiary institutions in the West. According to Bowers the adoption and adaptation of a Freirian pedagogy means that it has lost its emancipatory possibilities for those who are still truly oppressed, the poorer people in less-developed countries (2008, p.135). Bowers is concerned at the tendency towards making critical reflection the only legitimate approach to knowledge, thereby ignoring generational and traditional knowledge (2008, p. 136). He argues that Freire's legacy, grounded in Western assumptions (like Marx), is anthropocentric in nature and undermines community that requires multiple forms of knowledge in order to flourish" (2008, p. 137).

Contemporary popular education encompasses a wide variety of forms of education that enable people, through critical inquiry, to collectively address inequalities and injustices analysis (Foley 1998, p.140). With its emphasis on collective and

emancipatory struggle, it goes further than individual empowerment and institutionalised education that results in skills and certificates intended towards employment opportunities or a field of expertise (Foley 1998, p. 141). Freire has influenced the field of critical pedagogy as well as the emerging field of eco-pedagogy.

4.6. Critical Pedagogy

Critical pedagogy is inspired by Marxist critical theory and is rooted in the everyday experiences and interests of ordinary people, is overtly political and critical of the status quo and committed to progressive social change (see Darder, Baltodano & Torres 2003). Critical pedagogy has a long history that can be traced back to counter-hegemonic activity by the African American community in the late 1880s and feminists in the early 1900s but not only in the US but also amongst some subaltern groups round the globe (Apple, Au & Gandin 2009, p. 5-7). Ivan Illich (1926-2002) is one of the most critical educational theorists and practitioners of the 20th century. Whilst Illich (1971) posited de-schooling society many critical pedagogists such as Ira Shor, bell hooks, Michael Apple and Henri Giroux from the US, together with Brazilian Moacir Gadotti, from the *Paulo Freire Institut*e, are the key instigators of a more critical education within mainstream, institutionialised and formal education.

Examples of alternative pedagogies include Burch (2012), and other simplicity and de-growth advocates, like Ted Trainer (2012, 2010) and Samuel Alexander (2014) who argue for 'an education for a simple life'. Burch believes that "the most ideal education for our times is one that not only allows us to consider and realise our potential but that also results in an ever-decreasing impact on the eco-sphere" (2012, p. 2). He argues that we need education "for values other than those of the market" (2012, p.5).

Other critical educators are concerned about environmental security and injustice issues and argue that a transformative environmental and social justice education is required to address serious environmental security issues and the systems that are causing them (see Allman 2010; O'Sullivan 1999). Flowers, Guevara and Whelan (2009, p. 40), for example, argue for "popular and informal education for sustainability". Some, like Uhl feel that we are not going to achieve anything truly tangible until we re-assess our values and develop a 'collective eco-centric consciousness' (2013, p. 109). O'Sullivan (1999) speaks of 'transformative learning' for the environment as "survival, critique

and creation" and O'Sullivan and Taylor argue that this sequential learning requires "immersion in practices that embody ecological values" (2004, p. 3).

Critical adult educators view adult education and learning as "instruments or tools for critical discovery (Clover et al. 2013, p. 12). Critical learning, therefore, "extends the learner; it moves him/her beyond current understanding and analysis" (Foley 2004, p. 105). In critical education the learner is an active participant in the appropriation of knowledge in relation to lived experience (Morrow & Torres 2002, p. 1). As a theory and practice critical pedagogy aims at assisting students gain a critical consciousness in order to challenge the hegemonic practices of neo-liberal politics and corporate capitalist economics. Critical education practices include dialogue, critique and the study of power (Clover et al. 2013, p. 12). Sullivan (1999) for example, talks of 3 educational moments; critique, resistance and creation that exist in a combined and mixed discourse – are inter-weaving. This notion is reflected in EAE and its transformative critical curricula.

Finally, aimed at analysing effects of power on knowledge formation, critical pedagogy includes a critical analysis of mainstream curriculums and processes (Apple, Au & Gandin 2009, p.7 & 15). The argument being that the praxis that is required to truly address the complexities of the current geo-political situation is not being, nor is it going to be, provided by mainstream educational institutions that "exist to perpetuate the ruling growth-oriented consumer society" (Illich 1971, p. 39). This argument is continued in the emerging field of eco-pedagogy that has the environment as its core concern.

Eco-pedagogy is an overarching concept with a broad vision that is being pursued by critical educators, primarily in the US but also by those from the *Paulo Freire Institute,* like Gadotti (2010). Eco-pedagogy utilises *The Earth Charter* (2012), a document that exemplifies the integration of peace education and EE. The ecopedagogy movement "opposes the globalization of neoliberalism and imperialism……and attempts to foment collective ecoliteracy and realize culturally relevant forms of knowledge grounded in normative concepts such as sustainability, planetarity, and biophilia" (Kahn 2010, p. 18). Kahn (2008) outlines the general principles of ecopedagogy in the inaugural issue of the ecopedagogy journal, *Green Theory & Praxis*. The eco-pedagogy

movement literature, as an aspect of critical environmental pedagogy, seeks to engage with alternative formats, practices and sites and signifies a move towards a more holistic education by critical educators within the system. Next is a discussion about informal and incidental learning and teaching that occurs outside the system and within social movements.

4.7. Learning in Social Movements

It is often understood that the majority of what we learn is to be acquired through formal 'instruction' or education, but, learning can occur incrementally, collectively, informally, often accidently (Choudry 2015, p. 17). As Merriam and Brockett tell us, in describing adult education, whilst education cannot exist without learning, learning is most frequently found outside the context of education (1997, p.6). Incidental learning occurs through daily, local struggles, as people learn, reflect, strategize and act (Choudry 2015, p. 13; Kapoor 2003; Marx 1976; Salleh 2015 & 2000; Mies & Shiva 1993). Learning is, therefore, "pandemic occurring in all dimensions of our life and is not something confined to educational institutions" (O'Sullivan & Taylor 2004, p. 22). It is, in fact, in the informal realm that "most of the significant learnings that we apply to our everyday lives occur" (Schugurensky 2000, p. 2). Real, material experiences shape our learning and consciousness in ways that formal learning do not (Choudry 2015, p. 33) and "those close to us facilitate this learning" (Sullivan & Taylor 2004, p. 22).

Social movement learning is:

- learning by persons who are part of any social movement, and
- learning by persons outside of a social movement as a result of the actions taken or simply by the existence of social movements.

Kilgore tells us that:

> understanding learning in social movements requires not only a concept of the group as a learner and constructor of knowledge, but also an understanding of the centrality of the group's vision of social justice that drives it to act, as well as an awareness of the creation of spaces for previously marginalised voices (1999, p. 192).

Welton notes that “the learning occurring in social movements takes on an historical aspect when utilized collectively in challenging and changing power relations” (1993, p. 159). As Freire says “any educator who dreams of a different society cannot dismiss social movements” (1985, p. 195).

There has been a growing understanding of the learning that emanates from within and out of social movements since Finger (1989) and Welton (1993) mooted the idea of the new social movements as learning sites (see Branagan & Boughton 2003; Choudry 2015; Choudry & Kapoor 2010; Cox & Fominaya 2009; Foley 2004; Hall et. al 2013; Holford 1995; Holst 2002; Motta & Esteves 2014). It is now accepted that social movements produce new knowledge and understanding not only for their activists but, importantly, for this thesis, for the societies around them (Branagan & Boughton 2003; Choudry 2015; Cox & Fominaya 2009; Kapoor 2003 for example). The study of social movement learning recognizes they are exceedingly rich learning environments (Hall et. al 2013; Holford 1995 for example). “Social movements are ‘epistemic’ communities (Eyerman & Jamison 1991, p. 10) from where “new knowledge including worldviews, ideologies, religions, and scientific theories originate” (Eyerman & Jamison 1991, p 14).

John Holst discusses social movements and radical adult education, describing how through participation in a social movement people, not only learn numerous skills and ways of thinking analytically and strategically, but “as coalitions are formed, people become aware of the interconnectedness of relations within a social totality” (2002, pp. 87-88). He refers to this learning, inherent in the building and maintaining of social movements, as a “pedagogy of mobilization”. This understanding of the power and potential for collective action is a vital aspect of social movement success.

Branagan and Boughton discuss the different types of learning that can occur within social movements, citing Newman (1995, p. 253-254) who identified three layers; instrumental learning, interpretive or communicative learning, and critical or emancipatory learning (2003, p. 349). Instrumental learning refers to the skill sets that activists acquire throughout daily practices, interpretive learning occurs as social movement members work together problem solving “through discourse, reflection and seeking consensus”, and emancipatory learning involves “deep self-reflection or meta-

awareness as activists re-consider their worldview" (Branagan & Boughton 2003, p. 349-350).

Clover notes that "increasingly, citizens, both young and old, are becoming more politically active, often weaving the pedagogical with the political" (2003, p. 12). She also notes that environmental adult educators, particularly within institutions, need to become activists due to the success of many social movements' actions in challenging "capitalism's negative impact on equity, justice, and the environment" (2003, p. 12). [41]

Luke Foley's *Learning in Social Action* (2004) offers one of the deepest explorations into the informal and incidental learning that occurs with the context of social movement praxis. His studies are broad ranging and varied and include women's learning in community and workplace struggles in the US, workers' learning as they negotiate workplace changes in a factory in Australia, the learning dimension of women's movements in Brazil from 1964-1989 and a successful environmental campaign to preserve a rainforest in eastern Australia – *Terania Creek*[42].

The thread that ties these case studies together is capitalism. He concludes that "learning and education are complex and contested social activities" and emphasizes the importance of developing an understanding of learning in popular struggle (2004, p. 131). Finally, he stresses the need for an emancipatory adult education theory that is centred round a critique of capitalism (2004, p. 138). Meanwhile, Hall points out the "rich global heritage on the role of learning in social action" and discusses a number of campaigns that developed intentional adult learning strategies within the context of their overall movements (2004, p. 189).

In the first edition of *Interface: The Journal for Social Movements*, that had a focus on movement knowledge, co-creators, Cox and Fominaya note how social movements generate knowledge about the social world, from 'below' (2009, p. 11). They tell us that social movements generate ways of knowing "grounded in particular experiences" and shine a light on often ignored or marginalised issues (2009, p. 1). They note that

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[41] Also see Tim Gee's, *Counterpower* (2011) regarding social movements.
[42] This campaign is discussed at length by Bible (2011).

efforts to analyse the ways in which social movements produce knowledge have focused on two key aspects: “the issue of subaltern knowledge as against official knowledge, and the specific processes of knowledge production that occur within social movement development” (2009, p. 4). They also discuss the need for more research into understanding social movements themselves (2009, p. 6).

Choudry & Kapoor’s *Learning from the Ground Up* (2010) is a diverse collection of movement actors and sites of knowledge production from both the global South and the global North. Their examples are “rooted in the contexts of recent or contemporary social struggles” aimed at “exploring their knowledge, learning, and educational dimensions” and supplied to support their argument that some of the most radical critiques and understandings about dominant ideologies and power structures, and visions of social change, have emerged from those spaces. They feel that “despite the considerable body of scholarly literature on adult education and learning, there are still relatively few attempts at theorizing the informal learning and knowledge production through involvement in social action” and they argue for more scholarly engagement pertaining to local “critical struggles for social change” (2010, p. 2 & 5). Contributions are from authors closely engaged with diverse social movements, including NGOs, and popular mobilizations in the Asia-Pacific, Africa, Europe, the Americas, and the Caribbean.

In *Learning and Education for a Better World* (2013), critical environmental educators, Hall, Clover, Crowther & Scandrett seek to deepen our understanding of the rich interaction between education, learning, teaching and action. It is an eclectic mix of case studies and theorizing from around the globe, aimed at “making visible” the “extraordinary scope, diversity, range of actors, breadth of means and methods and the knowledge making occurring in social movement activity” (2013, p. x). They conclude that the most important role of social movement learning is that “it makes hope possible” (2013, p. xv). It enables a new, creative and imaginative vision for a better world.

Lockyer and Veteto (2013) observe the learning occurring in eco-cultures; eco-villages, bioregionalism and permaculture, and argue for the importance of academic engagement with these grassroots movements, highlighting the potential for mutual

learning. They believe that "we are living in a utopian moment" and it is vital that we gain an understanding about "real possibilities for a just and sustainable world", alternatives that are solution-focused (2013, p. 1). They provide sixteen case studies in their book *Environmental Anthropology Engaging Ecotopia* which is aimed at increasing understanding of these eco-topian movements but, more importantly, opening up a space for a critical analysis "aimed at advancing the goals of justice and sustainability (2013, p. 25).

Finally, Motta and Esteves, in a special, more recent edition of *Interface: The Journal for Social Movements,* focusing on pedagogy within social movement, observe that "pedagogical practices of social movements often emerge from and build upon rich traditions of subaltern philosophies, knowledges and pedagogies" (2014, p. 6). They also note the processes of learning and unlearning that occur through the micro-practices of movement everyday life, that not only enable the learning of specific skills, but "of the practices and understandings which (re)produce a movement's dominant political meanings, knowledges, subjectivities and relationships" (2014, p. 10).

All of the literature into social movement knowledge provides a rich understanding about social movements. What emerges from these readings, however, is the clarion call for further research, particularly through engagement with practitioners, subaltern groups, the grassroots, activists and action research. It is important to acknowledge, the base being created for broader social change by those in local, daily struggles, as they build strategies and skills (Choudry 2015, p. 13).

4.8. Conclusion

Education and the role it plays in society, as well as its potential for environmental activism and broad social change is integral to this thesis. This review has examined varied perspectives on how we should, or could, be educating for the environment, and in doing so, for ourselves. The body of literature in this field is, of course, vast but environmental peace is a multi-disciplinary approach and a review of this breadth is necessary. The frustration at the lack of change from those who have been at the coal face of environmental and critical education for up to forty years now, shouts out in some of the literature which has highlighted two key factors.

First, together with environmental regulations, aimed at preventing or alleviating environmental degradation, EE, which is aimed at pro-environmental behavioural change, has been developed as the primary mainstream, institutionalised response to environmental problems. Second, EE, and its modern development, ESD, are failing to instigate necessary or desired level of attitudinal change required to seriously address the environmental problems facing humanity today. Many also claim that ESD, despite its potential for collective action, is not only failing the environment but is a tool being utilised to uphold and increase ruling interests and values.

EAE is mooted, therefore, as a more effective means for social change and for cultivating environmental peace, because it focuses on root causes, and is deeply critical of the structures and institutions, processes and practices, of globalised, free-market capitalism. There is much rhetoric in the EE, ESD and EAE literature and many convoluted discussions surrounding the background problems. As can been seen from the review into the application of eco-pedagogical programs, alternative and informal, grassroots EAE programs *are* gaining traction. The shift in more holistic thinking and the merging of disciplines together with increasing collaboration between the North and South is facilitating this, in part. In light of the socio-ecological crisis facing us in late modernity, and in light of the spread of globalised capitalism and homogenisation of cultures it is vital that this collaboration continue. If EAE is to be truly effective more research is needed into its applicability for broader social change, particularly in relation to social movements. As Flowers, Guevara & Whelan (2009) notes, there is a need for further research into non-formal and informal and grassroots EAE of all forms.

General education is increasingly an instrument of government and industry. Critical education is an instrument of the people. EAE, as a transformative education, is an instrument of the planet. The following chapters discuss how EAE is being utilised for planetary peace and wellbeing in Myanmar.

Chapter 5. Local Witnesses; On the Ground in Myanmar

It is important to understand the context of this study – the rapidly changing political, social and economic world that is shaping the everyday experiences of the participants of this study. Myanmar's history and political economy is multi-faceted and has been well-documented.[43] Myanmar has a history of conflict but, as one of the students in Myanmar told me, "Nowadays, the people are living with conflict between environmental quality and economic development" (S13 2015, pers. comm., 24 March). It is this socio-ecological conflict that is the focus of this chapter.

This is not to ignore the broader political, economic and ethnic issues currently facing contemporary Myanmar, but to focus instead on the participants' everyday lived experiences that inform their environmental activism. As Rigg (2007, p. 9) says "privileging the local, and the everyday, gives consideration to human agency". Of course, an individual's perspective is shaped by his/her social and political experiences, and any predominant culture, or situation, is not similarly experienced by all people (Ryan 2005, p. 789). But, through the participants' stories common threads have emerged which, woven together, create a rich tapestry; one of landscape, community, love and loss.

This chapter highlights the participants' deep connection to land and community, the impacts of structural and ecological violence on this space, and the resulting environmental and food insecurity issues facing their communities, increasingly through mainstream development embedded in the 'green economy'. Social and economic issues are expanded upon in Chapters Six and Seven.

The participants come from deeply traditional communities in a country where cultural and social stability at the local level has persisted for a number of reasons: the traditional practice of subsistence farming with a small surplus for taxes and barter (Silverstein 1977, p. 70), distance from the centre of government and not being

[43] See Adas (1974); Aung San Suu Kyi (1991); Callahan (2005); Fink (2001); Holliday (2011); Lintner (1994); Rieffel (2010); Scott (2009); Skidmore & Wilson (2012); Steinberg (2013) and Thant Myint-U (2011).

absorbed by the state (Fink 2001, p. 117-119; Scott 2009), and strong family structures which have been maintained by multi-generational living arrangements and filial obligations to parents (Knodel 2014, p.12). The most stable cultural factor, however, is the shared/common faith of Theravada Buddhism (Gravers 2014a, p. 293-295).

It was the culture of Buddhism that primarily attracted me to Myanmar. I assumed its practices would not only translate to care for self and care for each other, thereby creating spiritual and harmonious communities, but also care for the environment. I was disappointed to find that this was not an accurate view of what is happening on the ground. According to a young Burmese environmentalist with whom I discussed this issue, I was reassured that Buddhists were true environmentalists, but I did not, in my research, find a significant or direct correlation between Buddhism and environmental awareness or environmentalism per se. Buddhism does certainly have an impact on values, however, and is a driving factor behind the mobilisation and activism of NEED, and of many of the participants.

5.1. Buddhism in Myanmar

Theravada Buddhism was brought to Myanmar in the 3rd century BCE across the Bay of Bengal from Sri Lanka, and was well established by the 15th century (Fink 2001, p. 17; Skilton 1994, pp. 155-156). Buddhism is integral to Myanmar society, and is practised by approximately 90% of the population. Instated as the national religion in 1961, it is crucial to an understanding of the culture of Myanmar (Steinberg 2013, p. 24). Buddhism in Myanmar takes many institutionalised forms and sits alongside 'animism', a folk religion which, among other things, postulates the existence of 'supernatural' beings called *nats* (Spiro 1967, pp. 40-63). Animism (together with Christianity which was brought by the missionaries) is still practised by hill tribes on the periphery (Scott 2009, p. 299-302).[44]

Buddhist teaching and morality is upheld by the *sangha*, the hierarchal, monastic community of hundreds of thousands of monks and (much fewer) nuns (Gravers 2014a, p. 295). The *sangha* is the only institution in the country that rivals the '*tatmadaw*' (the

[44] It is noted that some of the participants in this study are very devout Christians. They do, however, still take part in some of the Buddhist festivals and traditions.

military) in size, influence and national presence (Steinberg 2013, pp. 24 & 136). The *sangha* relies on donations, primarily of food and money, for its survival and is supported by a population that gains 'merit' through their offerings in order to obtain a favourable rebirth (Gravers 2014a, p.293; Schober 2011, p. 19). The *sangha* has traditionally been viewed as a benevolent institution. It continues to play a significant educational and social welfare role in contemporary Myanmar.

All Buddhist parents make sure their sons are ordained as novice monks by performing a '*shinbyu*' ceremony once they have reached the age of seven or older. All the male Buddhist students with whom I worked had gone to the monastery as young boys, and some had returned again as adults. This time spent in the monastery was seen as a break from everyday life, a time for simplicity and spiritual reflection on the 'right' life (according to NEED staff).[45] Monks, shown in Figure 5-1, are a common sight in Myanmar. Women, meanwhile, have been excluded from the Myanmar Buddhist sangha since the 13th century and Buddhist nuns are considered to be spiritually below monks.

Figure 5-1 Novice monks, early morning, Southern Shan State (source: James Vicars)

[45] The teachings of the Buddha are discussed at length by de Silva 1998.

The landscape is dotted with monasteries, meditation centres, beautiful *paya* (pagodas), giant Buddha images and shrines – many built by the ancient kings who embraced the new religion. None are as impressive as the golden and magical Shwedagon Pagoda in central Yangon (formerly the capital, Rangoon), shown here in Figure 5-2.

Figure 5-2 The Shwedagon Pagoda, November 2013

There are many faces to Buddhism in Myanmar - it is a cultural, spiritual, and political institution (Gravers 2014a; Schober 2011). The *sangha* provides social welfare assistance, while maintaining entrenched patriarchal and hierarchical structures. Buddhism acts as a moral compass for the ruling elite – a form of social safety valve (Gravers 2014a, p. 294; Schober 2011, p. 142). Now, in a modernising and more secular society, a new form of Buddhism is emerging. Rooted in traditional Buddhist notions of good governance, this 'socially engaged' Buddhism emphasises "social justice, sustainable development, and peace as foundations for spiritual development" (Schober 2011, p. 132). The majority of the participants in this study are Buddhist, and all of them come from agrarian communities, from the villages and small townships of rural Myanmar.

5.2. Village Life – Living on the Edge

The participants in this study are part of some 40 million people in Myanmar who live on the land or are reliant on the land in some way for their livelihoods. They reside in villages or small townships; some quite geographically isolated, all on the political and social periphery, and at the bottom of the ladder, economically. Rural populations in Myanmar, like others in the 'meta-industrial class' (Salleh 2000), are marginalized and weakened due to their peripheral geography and social status (Jones 2014). Their traditional agrarian livelihoods are centred round wet-rice cultivation, or upland 'dry' rice farming, seasonal crops, fishing and livestock. A focus on rice production increases food insecurity for landholders in Myanmar as they need large tracts of land (Ramohan & Pritchard 2014, p. 606). There are many landless farmers in Myanmar – they tend to be seasonal, casual workers, reliant on the local market for food. There are differentiations in villages and townships in rates of insecurity (Ramohan & Pritchard 2014, p. 606).

Rice is the staple food for the vast majority of the population, which is traditionally served twice a day with a raw salad, soup and a curry of fish, meat, prawns or egg. A wide variety of wild greens, fruit and vegetables are consumed but only in small portions. Chicken, pork and beef tend to be reserved for special occasions. Myanmar people love their snacks and offer a wide variety of sweet dishes and juices. Food varies enormously as you travel through the regions and it appears plentiful. Despite this, however, the population on the whole exhibits relatively high levels of malnutrition which is attributed to the lack of a varied diet, cooking practices and maternal care (FAO 2013; WHO 2015, pp. 106-107).

Vulnerable to the vagaries of an 'autarkic' state, villagers have been severely impacted by fifty years of economic incompetence, greed and corruption that has resulted in cycles of economic collapse and recovery, and ultimately the impoverishment of the vast majority of the population (some say 99%) (Thant Myint-U 2011, p. 68; Holliday 2011, p. 51). Reforms instigated since 2011 have been working from a fiscal point of view, with the economy growing 7.8% in 2014-15 (ADB 2015), but financial and social benefits have yet to trickle down to the grassroots, and may never.

Family size in Myanmar averages around five, and this is reflected in the participants' demographics. I was told that the majority of families in any village, if not all, had at least one member working abroad; mainly in Thailand or Malaysia.[46] In fact, it is thought that up to 400,000 Burmese migrant workers are working in the fisheries in southern Thailand alone (Nyien Nyien 2016).[47] Some of the participants had siblings working abroad or within Myanmar, involved in a range of occupations. I was constantly told about issues surrounding young people, particularly the lack of job opportunities and high levels of migration. One student elaborated on this saying

> Many young people graduate but there are no jobs so they have to migrate. There are no more young people in the villages due to migration, including my friends. It is good to make money to support the family but leaving your homeland makes you homesick. My friends go to Thailand, Korea and Japan, sewing in factories. They get good money but the workers get tied into contracts and pay back costs with interest, so the companies win. They go for a few years, get money and come back. They borrow from others at interest – sometimes up to 20% - for travel costs. Some people sell their land for their children to travel. One family sold two acres to send their son. It has been like this for about 20 years (S4).

I was also told on a number of occasions that in some villages there are many very young people, old people, but not so many middle aged people. This is partly due to migration as Fink (2001, p. 124) found, but anecdotal evidence is that high level of pesticide use and poor diet is contributing to ill health for the middle-aged cohort. Life expectancy in Myanmar is around 64 for males and 68 for females (WHO 2015, p. 48) but malaria and TB are rife and hypertension in adults is on the rise (WHO 2015, p. 84-85).

Lack of access to education for villagers is a key issue for the participants in this study (as noted in section 1.1, the state has allowed the absolute devastation of the education system in Myanmar). A student from Inle Lake told me that "when the women aren't successful in growing, they are stopping their children's education" (S24 2013, pers. comm., 17 November). Another student, from Rakhine state, said that "the poor people don't have money, so they can't go to school and this makes their lives harder" (S7

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[46] On any one day at the international airport in Yangon, you can observe planes offloading young people from abroad. They are usually loaded up with presents for families and friends back home.
[47] Migration is identified as a key concern for the participants and is discussed further in the following chapters.

2013, pers. comm., 17 November). The situation for the majority is described by these two students:

> Most of my villagers don't have education. I think it is one of the important things for the village. They don't have electricity and good schools because the government can't support fully because it is very far from a township and they don't have a motor car road. The car can reach only in summer season. So it is a big problem and threats for the villagers and the students. So, some children can't attend school and some are attending but the students can't study their lessons at night because of no electricity (S8).

> In my village we do have a primary school, with three teachers and seventy students. But the teachers are very tired because they are teaching many children. The students of my village have to go to high school by boat, but their parents have to use the boats to go to their farms, so the students can't go to school if they don't have boats, so the most of youth are not finished in basic high school education (S24).

Education is highly valued in Myanmar and, as will be shown in the following chapter regarding NEED, education is deemed integral to grassroots empowerment. I visited two schools and noticed the crowding and lack of resources, but also the passion, dedication, and frustration, of the teachers. The picture at 5-3 is an example of a village school. This one is adjacent to the NEED eco-farm, and would be similar to the ones attended by many of the NEED students.

Figure 5-3 Nyaung Bin Thar Yar Village School
Hmaw Bi Township, November 2014

5.2.1. Village Social Structure

Households in the villages tend to be inter-generational with nearly half the population living in three-generational households. This traditional familial system has endured in Myanmar and ensures material and emotional support for the elderly (Knodel 2014, p. 12 & 15) but also shapes the identity of young people (Maria 2002, p 177). Respect for elders and authority is embedded in Myanmar culture, and children grow up with a strong sense of duty and personal and social responsibility (see de Silva 1998, p. 80 re Buddhist norms; Fink 2001, p. 120-121). These societal expectations and cultural norms are important (as shall be shown in Chapters Seven and Nine) with regard to the participants' agency and their potential as leaders and educators in their communities.

The hierarchical structure of Myanmar is replicated in the social stratification in Myanmar villages. The 'village headman' (rarely a woman) is the leading authority, village representative and lowest level of state bureaucracy (Steinberg 2013, p. 32). Within Myanmar society, there is vertical stratification between towns and villages, between the shop owners, business people and traders, and the small land holders down to the landless farmers. There is also a horizontal differentiation based on a family's livelihood; whether they farm hillside, or irrigated rice for example, or on the livestock they possess but also on their employment status, whether they work in a shop or as a landless day labourer for example. Also, as in any community, there are the other important lines of differentiation of gender, age, education, civil status and religion (Scott 1977).

5.2.2. Gender Issues

Women comprise 51.8% of the population in Myanmar. Officially they have equal legal and political rights, access to education and employment and are generally well respected yet have limited opportunities in this largely patriarchal society (Ma Khin Mar Mar Kyi, 2014)[48]. Women are also more vulnerable with regards to ethnic conflict and environmental and food security. As a female student told me "many women are forced to migrate for work, and may be confronted by trafficking and exploitation" (S4 2014, pers. comm., 22 February).

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[48] See Harriden (2012) for a history of women in Myanmar.

Women are very active in civil society, primarily in healthcare, education, sanitation, and microfinance (Manoletti 2014, p.1). They are massively under-represented at the state level, in government. They are also excluded from many religious practices (as noted above).[49] Filial obligation to parents is still high and many single women still live at home looking after parents (as discussed by Knodel 2014). Manoletti (2014) and Ma Khin Mar Mar Kyi (2014) find that there are a number of, not unexpected, barriers to women's participation in the public sphere. And, I was told by one of the female staff at NEED (San Myint 2015, pers. comm., 28 March) that "a woman's role in the home is pivotal to maintaining strong families and communities and it was unrealistic to expect that rural women could take on extra duties as they spent hours a day simply gathering firewood and water". Some of the female students at NEED felt differently, however, telling me that "village women simply don't have the skills and knowledge to find another way" (S2 & S6 2014, pers. comm., 22 February).

Myanmar is committed to several international policy initiatives aimed at ending gender discrimination and promoting women's participation in public life, and a vast majority of participatory development models are aimed at women. The "active participation of women in social, economic and political life is crucial if the country wants any form of sustainable development, and enduring peace structures" (Ma Khin Mar Mar Kyi 2014, p. 305). Some argue that the situation is slowly improving (Manoletti 2014, p. 3 for example.) Certainly, many of the female students I worked with were involved with women's groups or initiatives, and, as Ma Khin Mar Mar Kyi (2014, p. 313) found, the majority of young women I spoke with are now seeking a career over marriage and children, and feel that some form of training or education is pivotal to their success. Gender as an issue in relation to NEED and its program is discussed further in following chapters.

5.2.3. Administration

Historically Myanmar has been administered by a centralised, hierarchical system that served the monarchy (Kyi Pyar Chit Saw & Arnold 2014, p. 4). This tradition of hierarchical control over geographically-defined, administrative institutions continues

[49] At many stupas and monasteries that I visited women were denied access to the inner sanctums. At the famous Kyaikkami (Yele Paya) in Mon State, according to legend if women were to go up on the higher level, where the men were, their added weight would cause the whole pagoda to sink into the sea over which it was built.

today through the General Administration Department (GAD). Established in 1988, GAD has served the *tatmadaw* by facilitating direct control of the country's core administrative institutions, the districts and townships (Kyi Pyar Chit Saw & Arnold, 2014, p. 13). There are fourteen major administration regions in Myanmar; seven states and seven regions, and each of these has its own *hluttaw* (parliament).

The vast majority of basic public services are administered through the country's 330 townships; the lowest level of political representation which forms the constituencies for the *Pyithu Hluttaw* (the Assembly of the Union Lower House). The administrative structure in Myanmar is shown at Figure 5-4 below.

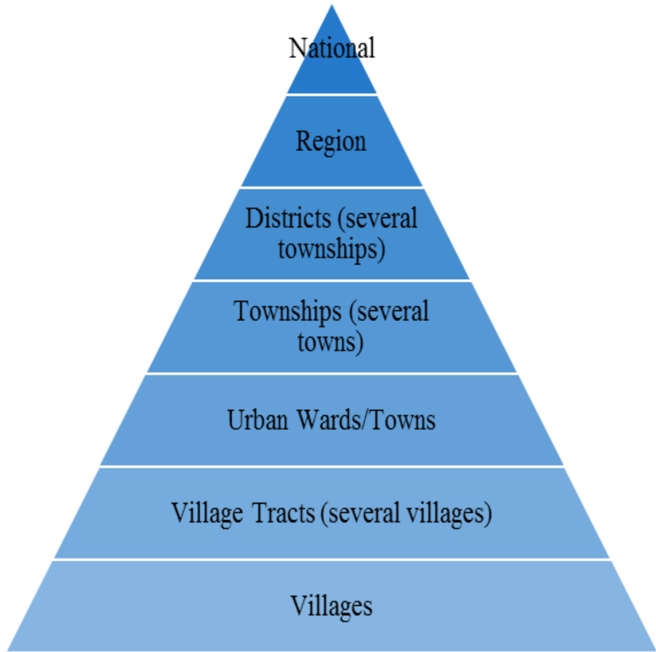

Figure 5-4 Administrative Structure, Myanmar

There is considerable evidence that many villages in Myanmar, as in most of South-East Asia, were a creation of the colonial period, designed by the British, as units of social relations and geographical space to facilitate administration, control the population and extract a surplus from them (Rigg 1994, p. 128; Steinberg 2013, p. 31). Whatever their genealogy, villages around Myanmar continue to be organised according to local or indigenous customs and cultural traditions, and traditional practices have endured (Holliday 2011, p. 35; Scott, 2009).

These include the wearing of the traditional *longyi* or *tamein* (a piece of cloth tied at the waist), the chewing of betel nut and the use of *thanaka* (a white paste made from the *thanaka* tree that is applied to the face as a sunscreen and as decoration).

Figure 5-5 Village women at harvest time
Nyaung Bin Thar Yar Village, Yangon District.

Traditional villages (as opposed to 'modern' villages) are thought to be egalitarian, corporate (community oriented), peaceful, self-reliant and, in a sense, moral (Rigg 1994, p. 124; Scott 1977). Rigg argues, in his treatise on villages in South-East Asia, "village life, in many aspects, has been mythologised/ romanticised" (1994, p. 127). This could well be true for some community members, but, as this student says in a description of his village, for many the village provides a livelihood, stability and a sense of well-being:

> The population (of my village) is over a thousand people. The village was founded in 1840 (but) we can't say exactly years because we don’t have record books and letters. The Chin people believed in or worship Nat before the British came. Most of villagers are farmers and some work at the government department and some are trading goods to Mizo Ram State in India. But the livelihood of most villagers is farming so they are dependent on the natural environment. Most of the villagers don’t have education. Long, long ago, my village had big forests and good natural resources. They could get fire woods from the forests. They could get not only fruits but also meat. And many different animals were grazing in these forests so they can get meat easily. But they don’t sell them. It is only for their family and their relatives. So we can say their life once was good and perfect (S8, Chin State).

Much of the village and family life that was recounted to me, and which I experienced during my time in Myanmar, is reminiscent of traditional life described by the British administrator and chronicler, Shway Yoe (aka Sir James George Scott) (1963 [1882], pp. 65-74) who travelled around the country in the late 1800s, and as described by Adas (1974, p. 69) a century later. Children herd goats after school and work alongside their parents in the rice fields, women weave on ancient looms on the verandahs, men make farming implements and nets from locally-sourced resources, and communities gather together for traditional ceremonies. In the countryside, at dusk, decorative haystacks shimmer in the golden haze as women and children, carrying firewood and silver water pots, cast long shadows. Buffalo carts, ambling slowly homeward, churn up the dusty paths. Visitors are warmly welcomed, and village hospitality appears to know no bounds. Sharing food is a feature of Myanmar culture, particularly at the many agricultural and religious festivals throughout the year.

The participants in this study recounted many stories to me about their villages. The following extracts and photographs are provided as examples:

> My village is a beautiful village. My village is surrounded with water. It is the same as an island. Those mangroves are grown around near the creek. These plants are very useful for my villagers. They are using the plant for the fire woods. Those time my village has no solar and electricity. Now some of my villagers have solar but my village has no electricity. People use the fire woods for cooking. My village has a lot of farmers (S11, Rakhine State).

Figure 5-6 Student's village
South-west of Naungshwe, Inle Lake, Shan State.

> My village has very much of traditional festivals every year. These festivals are very busy in my village. The villagers like these festivals to held happily. The water festival is very popular in Rakhine state and Myanmar too (S5, Rakhine State).

Figure 5-7 Village, Southern Shan State
(source: James Vicars).

5.3. Village Life Is Under Threat

Over the past 50 years, the *tatmadaw* has permeated every aspect of the people's lives in Myanmar, and the majority of the peasantry, despite their isolation, have not been exempt (Fink 2001, p. 124). No-one, or no-thing, has eluded the military's gaze in its search for resources. Prisoners in their own country villagers have been utilised as slave labour or kidnapped to boost army numbers (Fink 2001, p.123)[50]. Many have been subject to serious human rights abuses by the military that include rape, torture, assassination, bayoneting, land confiscation, burning of villages, or displacement of whole villages (Fink 2001, p. 50; WLB 2014). As Aspinall and Farrelly (2014, p. 164) point out, this brutality has been naked, undisguised and unapologetic, "leavened neither by a convincing ideological rationale nor by sustained performance legitimacy".

The majority of the population has suffered this abuse in silence (Fink 2001, p. 50).[51] This could be, as Barash (2014, p. 216) tells us, because people who have been oppressed "adapt to the structure of domination and become resigned to it". This, he says, results in "a fear of freedom". This fear is a double-edged sword because "without freedom they (the oppressed) cannot exist authentically; they desire authentic existence yet fear it" (2014, p. 216). Daw Aung San Su Kyi (1999) has fought for decades to unshackle 'her' people from this fear, but, until very recently, any solace for the vast majority of the population has primarily been found in their spirituality. Lacking material wealth, they have managed to achieve a relatively harmonious life of goodwill, contentment and surprising resilience. As one student (S6) commented, "the villagers are poor but they are happy". Whilst this is obviously an over-generalisation, Myanmar people are re-known for their stoicism, warmth, generosity and broad smiles, a character that emanates from their strong sense of community and communitarian values.

Many villagers have been exposed to ethnic conflicts, primarily over resources (Scott 2009; Lintner 1994), and in many border regions a form of 'frontier capitalism' is firmly entrenched in the local political economy. Here insurgents and war lords, wage

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[50] I was repeatedly told stories about boys being stolen from villagers by the military, and about subsequent desertions and/or lives in hiding.
[51] Rare instances of mass resistance are discussed in section 1.1.

battle, financed by illegal logging, the drug trade (historically opium but increasingly methamphetamines and heroin) and human trafficking for prostitution and indentured labour (Gravers 2014c, p. 150; Lintner 1994; Paladin 2016). Now, like elsewhere, modernisation and the development of infrastructure, especially dams and highways, industrialisation and agri-business, is putting more and more pressure on indigenous peoples and small-hold farmers (Aung Min & Kudo 2012; and see Woods 2013 for a discussion re agri-business). The villagers, like other rural people around the globe (Borras & Franco 2012; Bruun & Kalland 2013, p. 13; ERI 2013 for example), are losing control of the natural resources on which they depend, and which have been integral to their way of life for centuries.

The participants in this study identified a number of key environmental issues as problematic; factors that must be considered in both short-term and future community development programs. These are: deforestation, soil degradation, water pollution and loss of land/land grabs. Also noted are the impacts of climate change on local weather patterns. These issues are discussed below, in the understanding that it is these local problems, embedded in the broader global socio-ecological crisis, that the organisation at the centre of this study, the Network for Environment and Economic Development (NEED), and the participants, are seeking to address.

5.3.1. Deforestation

Deforestation was the prime environmental concern cited by the students, because, as articulated below by some of them, rural people rely on the forests for shelter, fuel and livelihoods:

> In my village they cut the trees to sell to the rich people. They saw wood and they make tables, chairs and other things. The woodcutter makes bamboo handicrafts and the sell everywhere (S10).
>
> Most of the villagers are depending on the natural forest. They make their livelihoods from hillside, so they cut the natural forest and grow the paddy plant on the mountain every year (S20).
>
> My village is surrounded by the mountains. We use the woods and bamboos for building our houses that we get from the forests. The indigenous people are logging the trees and bamboos for their livelihoods (S18).

Southeast Asia has the highest rate of deforestation in the world, due to population pressures and rapid modernisation (Fahn 2003, p. 107), and forest mass in Myanmar is depleting rapidly, in spite of a number of government initiatives (discussed by BEWG 2011, p. 33-34; Bryant 1996, p. 351; Simpson 2015, p. 153). Forest loss is due to a mixture of commercial and illegal logging, mining, agri-business, *taungya* (hill cultivation) by local populations, combined with a lack of conservation and regeneration efforts (BEWG 2011, p. 66; Fahn 2003, p.p.124; Tun Myint 2007, p. 193; Webb et. al. 2014, p. 321). In the period 1990-2005, within the childhood of the students, the country lost around 10% of its forest cover (BEWG 2011, p. 65; Tun Myint 2007, p. 194).

Also, in the decade 2000-2010, the country was in the top five nation states with the largest net loss of mangrove area (MCRB 2014, p.162). Mangrove loss is of grave concern because, as two of the students point out below, mangrove forests support critical natural resources, rural livelihoods, coast protection and water regulation services:

> The mangrove forests are very useful for my villagers and they protect biodiversity and the eco-system. Not only this they give the villagers traditional medicines, but also when storms are coming they protect their lives and housing (S2).

> The mangrove forests are important for the villagers' livelihood. The most of villagers are dependent on these forests to live in their livelihoods. The mangrove forests supply or provide the foods for bio-diversities. So, they live there (S15).

The Ayeyarwady Delta, the expansive alluvial floodplain to the west of Yangon in one of Myanmar's key biodiversity areas, has sustained the highest deforestation rate in the country (Webb et. al. 2013, p. 322 & 326). A number of the students come from that area and two note that:

> In the last 5 years, 90% of the villagers have been cutting down the trees to use for cooking and making furniture. The companies are also logging, but they are not replanting. So, the occurrence of deforestation is everywhere (S6).

> The forests are less year after year because of cutting down and extraction. Recently, in 2000, the company came to my village to produce paper. The

> paper is made by wood and bamboo. This company produces 200 tons of paper in a day so they use much wood and bamboo (S3).

Meanwhile, in the hills and mountains where “there was once very beautiful forest and many wild animals” (S9), extensive deforestation is resulting in soil erosion, landslides and decreased soil fertility (MCRB 2014, p. 160-162). In March 2015 I travelled with some of the students through Southern Shan State, where as Tun Myint (2007, p. 209) points out, deforestation, shifting cultivation, poverty, over-grazing and forest fires are constant problems. I witnessed scenes of forest burning similar to that seen in this photograph supplied by a student from Chin State, shown in Figure 5-8 below.

Figure 5-8 Deforestation in Chin State (source: S8, April 2014).

This is a common site throughout South-East Asia at certain times of the year as the farmers practice ‘slash and burn’ agriculture, but, in this instance, I was told that business people were clearing for plantations. As one of the students (S13) later explained:

> Some of the rich people are making the large scale agriculture. They plant rubber, teak and other plants. They need a lot of land to plant that. They cut a lot of trees from the mountain to plant that. They burn a lot of trees from the mountains to take out the weeds.

Local practices are one of the key reasons for high rates of loss of forest cover, whether it is mangrove or high mountain forest (Tun Myint 2007, p.194). Agrarian communities in Myanmar rely on biomass, primarily wood, as energy source as modern energy services are either lacking or unaffordable (Sovacool 2012, p. 219). Fuelwood does not require the destruction of the whole tree but charcoal, used extensively in braziers used for cooking, does (Sovacool 2012, p. 228). I was told that "many villagers cut timber for making wood charcoal" (S9). It is a key livelihood. Figure 5-9 shows villagers bringing firewood home one afternoon in northern Rakhine State.

Figure 5-9 Locals gathering firewood
Northern Rakhine State (source: student S13, March 2015).

The military and business practices are also responsible for deforestation (Fahn 2003, p. 114-128 for example), and of increasing concern for many communities is the rubber industry. Rubber has been cultivated in Myanmar since the early 1900s, primarily in Mon State, in the south of the country (Global Witness 2014, p.3) The rubber industry is dominated by the private sector with 90.5% of rubber managed by smallholders with less than eight ha (Fox & Castella 2013, p. 16). Large-scale investors (primarily Chinese) are securing land for large-scale plantations and expanding into non-traditional rubber growing areas. Since 1990 rubber plantations increased by round 500% - from 77,000 ha to 380,000 ha (Fox & Castella 2013, p. 165) and, according to Fox & Castella (2013, p. 159), the amount of acreage covered by rubber trees in Myanmar will almost double by 2020. Expansion of this industry is going to have serious impacts on agrarian communities, especially those living on the uplands and

those who rely on their land and forests for their livelihoods (Global Witness 2014, p.5).

It is argued that rubber has provided sustainable livelihoods to local communities (Global Witness 2014, p.3). However, recent growth in rubber production is impacting on smallholdings and the environment, as noted by a student from Mon State:

> In March, 2010, a big company came to my village and it bought a lot of land and forests around my village, because they wanted to grow a lot of rubber plants. And then they were cutting down all of forest around my village and they burned it. After burning it, they started to grow rubber plants (S19).

Deforestation is also resulting in conflict between people and wild animals as they lose their habitats, as noted by one of the students:

> Many animals depend on the mountain. Now they can't live in there because they haven't anything to eat and other trees have been destroyed. The elephants come to the village and they find their food and destroy the villages because they have no food in the mountain (S10).

Also, a student, from northern Rakhine State, told me that their village had regular conflict with elephants, but also tigers which are "sometimes desirous of eating us".[52] One student noted the cultural impacts of deforestation stating that:

> The environment being degraded has affected the villagers' culture because they used big trees to make double headed drum and other materials for their traditional festival. But they can't find big trees around their villages now (S8).

5.3.2. Land Degradation

The second main concern for the students, and closely related to deforestation, is land degradation. This includes soil erosion, nutrient depletion, structural decline, biological decline, acidification, salinization and rising water tables (Myo Win & Batten 2006, p. 119). Land degradation is a result of deforestation, but also the over use of agro-chemicals such as nitrogen fertilisers and pesticides (NEED 2013). One student (S15) explained that "the villagers like farming, but they're not getting good rice, so they try

[52] She went on to say that in 2010 someone had actually been eaten by a tiger, although this is unsubstantiated.

to increase yields with chemicals".[53] As Jules Pretty (1995, p. 46), notes in a report to the United Nations Food and Agriculture Organisation, there are two major problems with this external input centred approach. First is inequitable access to inputs and products and, second are the adverse environmental and health impacts.

High use of pesticides and fertilisers places many farmers in large amounts of debt, as noted by this student who says that "the villagers have to give money for the cost of chemical fertilisers – making the companies from Yangon rich" (S17). Historically, farmers have had to take out loans at exorbitant rates on the black market, and this has created an endless cycle of economic dependence for poor farmers (NEED 2015b). As another student explains, "they are living under the influence of business" (S6). Yet another noted that:

> The farmers are poorer and poorer. Some farmers sell their land for payment because they grew on their land and that is not successful. Some people sell their land and they go to another country (S10).

Many of the students noted the environmental impacts of chemicals. One of the students said that, in his village, "high levels of chemical fertilisers are causing water pollution" (S5), and the student who commented on his villagers' use of chemicals to increase yield, went on to say:

> Before 2007 the villagers used organic agriculture – cow manure. The first time they use chemicals they get more rice but now not so good. Strange diseases in 2010 affected rice paddy field. In one day, in 4 fields, there were 1 million caterpillars - maybe from the mountain (S15).

Anecdotal evidence, provided in interviews and conversations with students and the staff at NEED, suggests that poor diet, high chemical use, and pollution are contributing to disease and death in rural areas. One student said that "in her village they were using a lot of chemical fertiliser to increase yield" (S19). That worked at first, he said, but subsequently what they got wasn't fresh and strong. Moreover when they ate it, the villagers were getting affliction. At a Women's Forum I attended in Yangon in late 2013, a doctor from the Yangon District Hospital talked about the high

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[53] See Than Tun, Kennedy & Nischan 2015, pp. 29-33.

rates of brain disease occurring in young adults and teenagers due to chemical and pesticide poisoning. These findings are supported by literature from the international community (Byfield & Moodie 2013, p.34 for example). These health concerns are one of the key reasons NEED is focusing on organic agriculture.

Figure 5-10 Padi rice fields near NEED eco-farm
(I was told that this soil had been denuded by pesticides and chemical fertilisers, and soil tests showed high acidity).

5.3.3. Water Pollution

Concerns over water pollution were raised by many students, particularly those students living near Inle Lake in southern Shan State, cited as being the main area for water pollution concern in Myanmar. The lake is a wetland ecosystem of ecological importance, home to diverse species of birds, fish, otters and turtles (Akaishi et. al., 2006, p. 57-58; UNDP 2015, p. 9). A number of the students come from this region and the following is a description by one of the students:

> Inle Lake is Myanmar's second largest inland lake, 22 km (14 miles) long and 11 km (7miles) wide. The lake is surrounded by mountains. Different ethnic group in Inle Lake are Inthar, Baoh, Taung Yoe and Shan. There are about 100,000 people in my area. The Inthar have also developed a singular from of aquaculture. A network of interwoven seaweed and hyacinths creates a thick layer of humus over the years, and this is attached to the bottom of the lake with bamboo poles, and then planted with tomatoes, cauliflower and flower. Nowadays I'm seeing more and more water pollution year by year.

The lake is famous for its one-legged rowing fishermen as shown in this photograph, supplied by one of the students.

Figure 5-11 Fisherman on Inle Lake
March 2015 (source: S24).

It is apparent that, water quality in the lake has been declining over the past few decades, the main causes being fertiliser and pesticide pollution from agriculture, recreation and tourism, sewage contamination, over-fishing, and aquaculture (Akaishi et al, 2006, p. 59-61; Sidle, Ziegler & Vogler 2007; UNDP 2015). This is resulting in an over-abundance of 'water hyacinth' (a free-floating perennial water plant that forms large, dense mats on the water surface and is deemed one of the world's worst weeds (DPI 2016 online). An example of development of the lake is shown in Figure 5.12 in a photograph supplied by the same student.

Figure 5-12 Impact of development on Inle Lake
(source: S24).

Two of the students describe the situation in Inle Lake:

> Farmers usually grow tomato plants such as rice plants, chili plants, egg-plants, etc. They are using chemical fertiliser and pesticide in planting ……. Farmers always grow tomato plants every year. They must spray pesticides once every seven days but they don't understand the labels of pesticide. The water in the lake is degraded because of the using of pesticides for tomato planting. Ten years ago the water in the lake was better than it is now. Biodiversity in the water is degraded because of the bad water. Some people have skin diseases (S14).

> The increasing usage of fertiliser and pesticide in the farm is a great concern in Inle Lake and surrounding area. 60% of the people are growing, tomatoes, flowers and vegetables in the floating gardens. In floating garden they use a lot of chemicals and this greatly affects the water pollution, so much pollution it means we can't use the water from Inle Lake because we did use a lot of organic and more chemical so good water is scarce and local fish species are nowadays rare. At the same the farmers are facing health problems as a result of chemical sprays which poison their food supply (S22).

On 9th June 2015 Inle Lake was inscribed as the first UNESCO Biosphere Reserve of Myanmar. This has resulted in the implementation of the *Inle Lake Conservation and Rehabilitation Project*, currently being funded by the Norwegian government. There are a number of environmental organisations active in the Inle Lake region that include the United Nations Development Program, the Ministry of Environmental and Forestry, the Shan State Government, civil society organizations and ethnic community groups as well as representatives from the private sector, including the hotel industry (UNDP 2015).

Overall, in Myanmar, there is a general lack of access to safe drinking water, and basic sanitation is a crucial issue, as infrastructure is extremely limited (MCRB 2014, p. 161). Myanmar's agricultural sector uses the vast majority of available water (up to 90% according to MRCB 2014a, p. 161), while industry and domestic use is only about 10%. Water in the villages is supplied by the rivers, reservoirs or wells. Other students described water access in their villages:

> The Ngawon River is the life- blood for the Ayeyarwady's people. This river is very important for my villagers. This river has various species of fishes and wilderness. We get the water from this river for our agriculture (S3).

> My village is surrounded by streams and mountains. We get a lot of water under the ground from the wells. We get a lots fresh water fish in the stream. The stream of the village is fresh water, so we can use it (S20).

I was told that sometimes the water would make the people sick - they knew it was the water when all the villagers got sick at the same time (Than Shwe 2014, pers. comm., 14 February). Reservoirs tend to be unfenced, due to the cost of fencing, and often the cattle get into the water. River and lake pollution from sewage, industrial waste and solid waste disposal in particular are serious problems (MCRB 2014, p.161). One of the students made a general comment about waste:

> By the way, the wastes are growing more and more year by year. The people are throwing away without thinking. Especially, it is plastic bags than other decomposed wastes. They don't know about plastics and not to be aware of that. We can see the wastes everywhere and especially beside the roads. There don't have baskets to put rubbish. My villages don't have places for waster. We need places for waste. The plastic will take to decompose about thirty years (S15).

Many of the rivers and waterways in Myanmar are choking with rubbish – such as in the picture below.

Figure 5-13 Rubbish at the port of Sittwee Rakhine State, March 2015.

I commented often on the state of the river in the township of Hmaw Bi, near the eco-farm (it too was choked with rubbish, mainly plastic). I was told by the staff at NEED that about 5 years ago it was a lovely, clear river that the children used to swim in. Many of the students had stories about their polluted rivers and of the villagers disposing of rubbish in the river. The general feeling was "that was just their way".

5.3.4. Loss of land/land grabs

Land tenure and security is fundamental to the future of agrarian populations around the globe and in Myanmar (GRAIN 2016; Ramohan & Pritchard 2007). Land grabbing is becoming a global human rights issue (Edelman, Oya & Borras 2013; GRAIN 2016). Farmers must have land in order to maintain their traditional livelihoods or to adopt new ones, and to keep families and close-knit communities intact. Unfortunately, land grabs have resulted in high rates of landlessness among the rural population, though this varies by region (LIOHN 2015, p. 8-10 & 14). The state is the ultimate owner of all land in Myanmar, meaning that individuals and other entities may use land but cannot own it, and tenure rights vary depending on the type of land involved (LIOHN 2015, p. 8-10)

The primary central body governing land in Myanmar is the Ministry of Agriculture and Irrigation (MoAI). In December 2015, the government released a draft, new *Land Law Policy,* ostensibly aimed at addressing issues surrounding security and tenure for landholders. However, this policy, like its legal predecessor, the Farmland Law (2012) and the Vacant, Fallow and Virgin Lands Management Law (2012), has been criticised as "designed primarily to foster promotion of large-scale agricultural investment", thereby providing 'weak protection for smallholder farmers" (On the Land We Live 2015). As Woods (2013, p. 25) states, "land is now a prime (possibly the central) commodity in the Myanmar economy".

Land laws in Myanmar allow the state to use compulsory acquisition to acquire land for public and business purposes, neither of which the law defines in detail. Although the laws require the state to pay compensation for land it acquires, in practice the compensation often falls short of minimum standards or does not occur at all (*On the Land We Live* 2015; LIOHN 2015, p. 28). In the past in order for the military to feed their families, military camps have confiscated land to grow rice, forcing the local

farmers to work on the paddy fields without any pay (NEED 2013). But now, it is agri-business (Woods 2013, p. 13) and industrialised development models; mining (Smith 2007), dams (BEWG 2011), pipelines (ERI 2004; MCRB 2014; Simpson 2009) and special economic zones (SEZs), all of which require vast tracts of land that threaten farmers.

Despite promises from the previous government to protect smallholder farmers, vast swathes of land in Myanmar have been given in concessions to companies with close connections to the military (On the Land We Live, 2015; Woods 2013). By March 2012, 3.5 million acres had been allotted, primarily for palm oil and rubber; a 75% increase from 2011. Some of the students discussed issues surrounding land as noted below:

> Nowadays, the farmers haven't land enough for agriculture because business, company and local government has confiscated the land - about 1000 acres from them to make shrimp farming during 5 years, from 2004 to 2009 (S2).

> Some of the rich people are making the large scale agriculture. They plant rubber, teak and other plants. They need a lot of land to plant that (S13).

> Long time before the farmers used very simple methods in agriculture. Nowadays, some greedy people are changing into new methods of industrial agriculture and grow one kind of crop on many acres of land, monoculture. By growing one kind of crop, they just try to produce more and more (S3).

> Some business men have bought the lands with little money from farmers. So some farmers are jobless (S1).

5.3.5. Climate Change

Finally, a few of the students talked about climate change.[54]

> In my village the livelihood is mainly farming and their livelihood is dependent on weather. Nowadays we are facing the climate change and other environmental problems such as global warming, late rain, flooding water and storming. So the people can't do their farm well (S13).

[54] The majority of students had not been exposed to the concept of climate change before attending NEED but they quickly made the link between changing weather patterns and global warming.

> Nowadays we can't find fire woods near the villages and the weather is changing. Their plants are damaged when they grow because the weather isn't the same as before (S8).
>
> Climate change is happening such as so much rain and flooding water. It was so much rain and flood water in my village in 2004. The villagers can't go their work. And then their crops were destroyed by water. The land slide happened because of deforestation (S18).

One student from Inle Lake said:

> I would like to talk about the year 2010. We had no water and no rain in my area. For the people this was a disaster. They could not product their vegetable in their floating garden because of drought. A lot of animals are dependent on the lake and they died because of water pollution (S25).

Another from the Ayerwaddy Delta region said that:

> The weather is changing because of deforestation. Sometimes, there are very bad storms and floods. So, they have to close the school and loss of property. In May 2008, about over 130,000 people were killed and loss of many property because of the cyclone Nargis storm. So, my villagers are now faced with poverty problems (S6).[55]

Myanmar is ranked as the most vulnerable country to natural disasters in the Asia-Pacific region (WWF 2014, p. 3). Myanmar is vulnerable to both geological and meteorological hazards (earthquakes, floods, cyclones and tsunamis) as a result of the country's southwest location within the Bay of Bengal and low-lying coastal zone (MCRB 2014, p.161). It is certain that continuing deforestation, together with changing weather patterns, will exacerbate the impacts of these types of natural disasters (see Simpson 2015, p. 156). In fact in July 2015 (and in some parts, again in July 2016) severe flooding, as a result of intense rainfall, resulted in severe landslides, such as in the photograph below, supplied by a student from Chin State.

[55] Cyclone Nargis hit the west coast of Myanmar on 2 May 2008. It was the worst natural disaster in Myanmar's history, killing approximately 135,000 people, destroying 800,000 houses and displacing millions.

Figure 5-14 Houses destroyed by landslides
Chin State, July 2015 (source: S8).

5.4. Development in Myanmar

Theories abound as to why newly appointed President Thein Sein instigated political and economic reforms in 2011 (Aspinall & Farrelly 2014, p. 164; Jones 2014). Jones (2014, p. 153) says that the reforms shouldn't have come as a surprise as they are a culmination of pledges made post 1988 to establish a multi-party constitutional order, a market-oriented economy and greater freedom for the people to participate in political activities. The reforms opened Myanmar up to a plethora of investment and exploitative opportunities, INGOs, NGOs, civil society and global development institutions such as the World Bank Group, World Economic Forum and the United Nations Development Program, as well as a raft of trade and aid agreements. Foreign direct investment (FDI) has exploded, rising from $330 million in 2009-1010 fiscal year to $9.48 billion in 2015-16. Aung Sun Suu Kyi's NLD-led government looks set to follow a modernisation program through its 'people-centred' economic policy; one that is focused on jobs and economic growth.

Myanmar is keen to develop its oil and gas industry, which is managed by the Myanmar Oil and Gas Enterprise (MOGE). As well, a number of 'special economic zones' (SEZs) are being mooted around the country, and a deep sea port to support a developing export industry is planned for the town of Dawei in Mon State (Thant Myint-U 2011, p.318). New factories are appearing everywhere; it did not take long for

Coca-Cola to establish itself in the country – opening a bottling factory in Yangon to employ 2,500 people. International tobacco giant BAT has invested US$35 million in Burma since 2013 and more US companies are expected to arrive in Burma, after the White House pledged to lift remaining economic sanctions on the country on 14 September 2016. This flood of investment is already having serious health impacts (Byfield & Moodie 2013, p. 34-35).

Any, and all forms of development hold environmental impacts, but of real concern to this thesis is the focus on agricultural development (see Kattelus, Rahaman & Varis 2014; Than Tun, Kennedy & Nischan 2015). Mainstream development in Myanmar is being couched in terms of the 'Green Economy' (discussed in section 3.1) (see UNEP 2014; WWF 2015). As noted above in 5.2, malnutrition is a pressing issue in Myanmar, and better nutrition is seen as a vital element to ensuring long term national development (FAO 2013, p. 1).

The list of companies and organisations involved in the development process in the country is endless and the situation is complex and confusing.56 Suffice it to say, a cheap labour force and a lightly regulated business environment are attracting foreign investors, whilst a more relaxed political situation has opened up opportunities for development and aid workers. It appears that the vast majority of established INGOs and NGOs in Myanmar, those with close connections to rural communities (see Ware 2013, p. 138 regarding NGO processes) are being utilised by the non-democratic global institutions such as the World Bank and World Economic Forum, for implementing their prescriptive agricultural models, and these are primarily tied to mechanised and chemical agriculture.

There is much discussion surrounding participatory and community based development (see Ware 2013 & 2011 for a comprehensive discussion) but the reality is the green economy is being implemented by chemical companies, supported by global financial funding. The drive by multinationals and agribusiness corporations is to incorporate Myanmar farmers in their business model (see GrowAsia 2016). Primarily, development for Myanmar is embedded in a neo-liberal paradigm, couched in

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[56] This is discussed further in Chapter Nine.

sustainability rhetoric, wherein a vast proportion of the profits is going to go straight to chemical companies like Bayer who see tremendous growth potential, in this new economic market.[57]. Meanwhile "there is a daily struggle in the countryside over the discourse and material conditions of this 'modernity-in-the-making'" (Woods 2013, p. 18). This struggle, and the challenges facing the participants in this study, are discussed at length in sections 9.3.2 and 9.4.

In some respects the economic reforms have been working. The economy grew 8.3% in 2014-15 (ADB 2015) but, it is argued that any economic benefits have yet to reach the grassroots. As noted in section 1.1, Myanmar is described as a 'weak' state. The concern has been that Myanmar has not had the will, the capacity or the institutional structures to draft and implement the necessary policies to implement the majority of the reforms (The World Bank 2012, p. 5).

Finally, this development focus has serious implications for young people as a large percentage of employment will be in industrialised production, not the subsistence or smallholding agriculture that has been their heritage. Those not being dispossessed are going to be absorbed into this 'green economy'. This situation is summed up by one of the students, who does note some potential benefits:

> If more international businesses invest in Myanmar, they must build so many industry when that time they will cooperate the government and they will buy land from the farmers but they might oppress the farmers because they usually don't understand about land law well and some farmers are illiterate people. After that they won't have enough land to do agriculture, so they will be lack their livelihoods. After that they will be lack social accept and education accept because Myanmar is a country that make agriculture especially. They will be degraded their environment ………After that the villagers will lose their culture. Finally the natural resources will decrease in Myanmar and the people will get in food insecurity, which are negative impacts for local people but they might get job opportunities and they will build infrastructure to transport the products which are positive impacts for them (S2).

[57] In 2015 Bayer generated €10.3 billion in sales here with 28,800 employees (https://www.bayer.com.au/en/about/bayer-worldwide/).

5.5. Conclusion

The participants in this study exist within a fiercely traditional society that has, despite a variety of external influences, resisted major change for hundreds of years. However, their agrarian communities are increasingly vulnerable to externalities. This is due to a combination of geographical and cosmological factors, rampant, and poorly regulated, resource extraction and management, lack of state provided public goods, and intra-state conflicts. As shown in this chapter, the vast majority of land-based communities in Myanmar are experiencing high levels of environmental, human and food insecurity. This situation is likely to worsen due to top-down, mechanistic community development models that either ignore or ride rough-shod over local epistemologies and experience.

Myanmar culture cannot be separated from Buddhism; its edicts and practices shape the everyday lives of the vast majority of the population. Buddhist and communitarian values, tight knit village communities, and civil society networks have provided social security for agrarian populations, who are politically, economically and socially marginalised.[58] This tenuous security, embedded in village life, is fading, however, due to the structural and ecological violence embedded in political and economic processes and practices, as the nation modernises and embraces capital and industrialisation.

Administrative and political processes have not allowed, and continue to constrain, political protest and involvement for the vast majority of the population. Those at the grassroots and women in particular, lack the resources for broad-ranging civil society engagement. Whilst some development projects are aiming at participation, greater involvement of women, and a focus on the environment, the majority of development programmes, as is seen globally, continue to follow the usual positivist and mechanistic trajectory of patriarchal capitalism. Villagers are viewed as a cheap labour source for economic growth.

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[58] Whilst conscious of the fact not to romanticise village life per se, visiting these villages in Myanmar not only gives one a sense of stepping back in time, but also provides a sense of how localised, ecologically-sound, community based, alternative development models just could work.

For the participants in this study identity is shaped by their traditional lifestyles, spirituality and embodied materialism of a close connection to nature and agricultural modes of production.[59] Through their practical, sensual experience of the impacts of ecocide on their local landscapes and communities, they have achieved a new sense of consciousness. Determined to protect what is valuable to them, their land and communities, they now have a framework within which to respond. The following chapters discuss how they are reacting, through environmental adult education (EAE), aimed at environmental peacebuilding

[59] These motivating factors are discussed at length in Chapter Seven.

Chapter 6. Preparing the Soil; The Network for Environment and Economic Development (NEED) – Myanmar

The previous chapter discussed the socio-ecological issues facing agrarian communities in Myanmar. These have formed the motivation behind the mobilisation of the grassroots organisation - the Network for Environment and Economic Development (NEED).

This chapter presents the case study of NEED under two main headings 'Mobilisation' and 'Operationalisation'. This chapter focuses on the following research questions:

- Why and how has NEED mobilised?
  - What is the motivation behind the organisation?
- What are NEED's objectives?
  - How is it setting out to achieve these?
- Why has NEED chosen to take this education based route in addressing environmental, social, economic and political problems and issues (instead of relying on other forms of activism)?

The first section of this chapter, 'Mobilisation', deals with the history of NEED, its motivation, objectives and influences. The second, 'Operationalisation', outlines how the organisation is operationalising its objectives within Myanmar. This discussion focuses on the EAE curriculum offered by NEED and how it is being delivered and is based on observational research and interviews conducted over a period of 2 years but primarily during October 2013 to March 2014 when I was resident on NEED's 'eco-

farms' in Myanmar and Thailand. NEED calls its school in Myanmar an *Eco Village Farm School*. However, the farm does not fit the typology of an 'eco-village' – an intentional community. It is really an 'eco-farm' school. An eco-farm is described as "a farm that aims at healthy, just, and ecologically sustainable food production as well as healthy communities by bringing people together for education, alliance building, advocacy, and celebration" (Eco-Farm 2016, online). The school is therefore referred to throughout this study as an eco-farm.

The motivation and objectives of the key participants of this thesis - the initial cohort of 25 students who undertook the NEED program in 2013/2014– are discussed in the following chapter.

6.1. Mobilisation

6.1.1. History of NEED

As discussed in Chapter One, the grassroots organisation, the Network for Environment and Economic Development (NEED) was instigated in 2006 by the Executive Director, Khaing Dhu Wan (53), a Myanmar national, father, educator, environmentalist and political activist. His key interests are human rights, environmental issues and sustainable agricultural development. Khaing Dhu Wan places a high value on education, as do the majority of Myanmar people (Fink 2001, p. 103). He also realises how hard education can be to come by. He told me that, "as a young boy, he sold milk to the tea rooms in his local district to pay for his schooling" (Khaing Dhu Wan 2013, pers. comm., 26 October).

Khaing Dhu Wan left his homeland in Myanmar in the late 1990s due to political tensions (discussed in section 1.2). He travelled and worked in South Korea, India and Thailand in various roles, studied environmental politics and undertook a BA in Languages at Chiang Mai University, Thailand. He was involved in a number of organisations and projects before NEED. For example, in 2003 he co-founded the Nationalities Youth Forum (https://nyforumburma.wordpress.com/) - a youth-based organisation focused on unifying ethnic youth from round Myanmar in shared community development practices. This organisation is still in operation, but he is no longer heavily involved.

Figure 6-1 Director of NEED, Khaing Dhu Wan
Eco-farm Hmawbi, Myanmar, November 2014.

6.1.2. Eco-Farm and LLETs Training, Chaing Mai, Thailand

NEED had modest beginnings, operating out of Khaing Dhu Wan's home in Chiang Mai. NEED was initially supported by the Canadian International Development Agency (CIDA) (now incorporated with the Canadian Department of Foreign Affairs). CIDA supported the first cohort of students in 2007 and 2008 only. Then, in 2008, with funding from a new (and its ongoing and primary) donor, Child's Dream (www.childsdream.org)[60], NEED was able to rent some farm land in Baan Bo Hi

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[60] Child's Dream is a charitable, not-for-profit organisation - established in Chiang Mai in 2003. (It opened an office in Yangon in January 2014). Its focus is on empowering marginalised children and youth in the Mekong Sub-Region and Myanmar. Its activities range from health interventions for children to reduce child mortality, construction of educational facilities to provide

Village, Doi Suket, on the outskirts of Chiang Mai, build a school and dormitory and establish a model farm initiative (MFI) and residential educational facility (Khaing Dhu Wan, 2013, pers. comm., 28 October). I visited and stayed on this farm a number of times.

NEED, at that time, was part of an activist diaspora, a loosely knit group of political and environmental activists working for human and land rights in Myanmar, and who were primarily resident and active in the Myanmar/Thailand border region (see Simpson 2013 for a discussion). Between 2006 and 2014, students from Myanmar travelled across the Myanmar/Thailand border to take part in the educational program offered by NEED. This travel was often at great risk to students due to visa and travel restrictions. From the beginning the education offered by NEED has been free of charge to students and remains so. Whilst attending the NEED school, students are supplied with basic resources (stationery, books), food and board, basic medical care, a small amount of financial assistance with travel costs and assistance for additional training in some cases.

NEED's initial training program was called 'The Land, Law and Economics Training (LLET)'. LLET ran for 3-6 months (the length varied over the years) and was offered twice a year at the 'eco-farm' at Doi Suket. LLET was designed by NEED as a response to the political changes in Myanmar as the country was opening up to foreign direct investment and economic liberalisation in the early 2000s. The aim of the LLET program was to empower young adults through learning about global economics, land rights, case studies of other liberalised countries, and development (NEED 2014, online). It was developed to assist them in promoting sustainable, people-focused development in Myanmar (NEED 2014, online). LLET was overseen by Khaing Dhu Wan but primarily was administered and taught by international staff, a number of whom were put on the payroll.

Many of the alumni from the NEED MFI at Doi Suket took up roles in small NGOs - primarily in the Thai/Myanmar border region. Over time, due to political reforms,

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universal basic education, youth employment centres to high school and university scholarships. It has been involved in about 20 projects in Myanmar (Child's Dream 2015, online).

students have also been able to initiate programs back in their local areas within Myanmar, to lead training on sustainable agriculture techniques, implement community development projects, and advocate for land rights. Projects have included sustainable education for the children in a village in Irrawaddy Region financed by an organic pig farm, a model organic farm and agro forestry project in Karen State and a small organic farm in northern Rakhine State.

LLET continued until the end of 2014.[61] The physical infrastructure at Doi Suket remains and some farmworkers are resident there, but the focus of NEED's operation since October 2014 has been in Myanmar and it is this operation, in Myanmar, that is the focus of this thesis, and that is discussed from 6.2 onwards.

6.1.3. Motivation

Khaing Dhu Wan is Arakanese (as are many of the staff and students at NEED). He is from a small township in the far north of Rakhine State, in the west of the country. He told me that he grew up in a native place and very rural area, largely undeveloped, with poor infrastructure, transportation and communication for meeting human needs and wants - social, political and educative (Khaing Dhu Wan 2013, pers. comm., 25 December).

Rakhine State is one of the poorest regions in Myanmar, has a population of about three million and is home to a large and often persecuted Muslim population, the Rohingya (Lewa 2009).[62] The Head Trainer, La Min, told me that:

> Rakhine state has been rich in natural resources, mangrove forests as well as green forest, a clean river yielding plenty of fish and salt, excellent soil for production of organic crops, and natural gas. The situation now is that the area is almost completely depleted of these assets due to government sale of them. This is being done without the knowledge or permission of the local people and with no compensation to them. Despite their resource-rich land, the local community have gained nothing from the

[61] In June 2014 six of the student participants in this study went on to undertake this course. Their involvement in LLET training is discussed further in Chapter Eight regarding outcomes of the NEED program.

[62] The Rohingya situation in Myanmar is of increasing interest and concern to peace scholars. Many of the staff and students have grown up alongside Rohingya and told me stories of conflict between communities. This conflict appears to be centred around resources, land in particular. None of the participants in this study were sympathetic to the Rohingya cause – in fact some expressed explicit animosity. It appears that no Rohingya student will ever be welcome at the NEED and this is a serious limitation of the school.

> government's sale of these resources, hence, poverty levels remain as high as ever.
>
> Even though the farmers are working at the farm every day they are losing money and land day by day because they have to borrow money from business or some rich people when they have not enough money to purchase chemical fertilizers and pesticides and then some authority and business confiscates the land for their business. Seventy per cent of the new generation from Rakhine state, are leaving their native villages for neighbouring countries such as Thailand, Malaysia and Singapore in order to find work. In Rakhine state there are no jobs, less businesses, no factory, no chance to educate, no opportunities to get general knowledge, they have no rights to demand an improved education and no chance to get knowledge in environment and other youth empowering skills (La Min 2014, pers. comm., 6 May).

Khaing Dhu Wan (like the vast majority of people in Myanmar) is Buddhist and is motivated by Buddhist values and the philosophy of the Buddha – in particular, self-sufficiency, sharing of food for those-in-need, and donating goods to others. He believes that these tenets can, and should, be applied to agriculture (NEED 2011).[63] Regarding self-sufficiency, he says that:

> The government's agriculture policy promotes trading of cash crops for exporting and importing. The people may follow for this policy but I think it will be wrong for them in the future. Especially, young people are getting less and less interested in the farming thing but you know on the other hand people still need to provide for themselves; they need the money to provide for their health or when they are hungry so if they grow the food by themselves and they can do by themselves they will have confidence in their lives (2014, pers. comm. 14 November).

6.1.4. Objectives

In our first interview Khaing Dhu Wan told me that his aim in creating NEED is to contribute to democracy in Myanmar (Khaing Dhu Wan 2013, pers. comm., 21 October). He believes that "as more foreign companies and governments invest in Burma/Myanmar it is important to have a strong civil society to ensure that any new investment and development is sustainable, equitable and benefits those who need it

[63] Unfortunately, as noted above, these tenets, although deeply entrenched in Myanmar culture, do not encompass the Rohingya.

most" (NEED 2013, online). I later asked him how NEED's program contributes to the democratization process in Myanmar and he said:

> If civil society, the villagers, the grassroots are educated they can meet with the government and contribute towards policy. The policy must not be made without the villagers – it must come from the grassroots - the government must not make the policy without consultation (2013, pers.comm. 26 October).

NEED's Mission Statement states that:

> NEED educates, trains and empowers the next generation of Burmese civil society leaders in sustainable agriculture, environmental conservation and community-based economic development in order to protect the livelihood, interests, and human rights of all Burmese people. This can be achieved through the motivation and education of social change-makers within Burmese civil society, so that they may engage in sustainable development by putting critical thinking and theory into practice. This can be achieved through the exploration of alternative development paths that takes into consideration the diverse ethnicities, religions, local knowledge and cultures of Burma.

NEED was founded with the intention of assisting local communities to "restore their agriculture-based livelihoods, diversify and re-establish new, sustainable, socio-economic opportunities to enable them to regain control over their livelihoods" (NEED 2013, online). This is specifically in order to address:

- a lack of access to adequate food, and perpetual food insecurity at the village level, and
- a lack of village-level knowledge and capacity to deal with bio-diversity loss and environmental degradation.

Khaing Dhu Wan says that "although Indigenous people in Myanmar have crucial knowledge of traditional farming and management of their environment, they lack awareness or understanding of imposed national laws and lack the power to protect their land, forests and natural resources" (2006, p.6). NEED's training program was developed after discussions with members of agrarian communities. Khaing Dhu Wan (2013) believes that civil society in Myanmar, particularly farmers, possesses significant potential for contributing to the prosperity of their nation. He also believes

that the government is keen to support/promote organic agriculture and they will be supportive of the NEED program. To this end, he told me that "he needs to start interacting with departments so that the government and civil society are not running parallel to each other, and not meeting" (Khaing Dhu Wan 2013, pers. comm., 25 December).

From the beginning, NEED has targeted the young generation of Burmese who are related to agriculture – particularly those from within the geographical and social periphery of Myanmar (Khaing Dhu Wan 2013, pers. comm. 28 October). NEED's focus is on training 'social mobilisers' - young adults from varying ethnic groups, ages ranging from 18 to 30 years of age – in the belief that Myanmar civil society, particularly youth, must be strengthened and empowered at the grassroots level (Khaing Dhu Wan, 2009). Khaing Dhu Wan (2013, pers. comm., 21 October) believes that key to democracy and peace in Myanmar is "uniting the different ethnicities".

As noted in Chapter One, Myanmar has a long history of conflict; between the state and citizens, between ethnic groups and between the people and the environment. Positive peace in Myanmar requires resolution of the myriad ethnic conflicts as well as, and together with, entrenched ecological violence. NEED believes that bringing together young men and women from different ethnic groups with a shared purpose (in this instance - addressing localised socio-ecological issues) can assist in the peace process in their developing nation. NEED strives to create an ethnically diverse learning environment for the students, enabling students to interact, learn and share with people from different backgrounds.

NEED believes that these new, productive and creative relationships can assist in resolving old conflicts (Khaing Dhu Wan 2009'). Many ethnic groups in Myanmar have shared experiences resulting from activities emanating from the state, multi-national corporations and 'crony-capitalists [64]. More importantly, they now have shared futures in this nascent democracy. NEED believes that young people are the key to

[64] The term 'crony capitalism' describes an economy in which success in business is largely dependent on a close relationship with government officials. 'Crony capitalists' are business people who have benefited from a close relationship with the authoritarian regime. As noted in Chapter Five, Myanmar has experienced one of the most extreme cases of crony capitalism seen anywhere in the world (Holliday 2011, p. 68).

sustaining long term educational, social, environmental, agricultural, economic and political development and that it will be impossible to maintain communities, and to protect the natural environment if the young people are lost (either through migration or mainstream development) (La Min 2014, pers. comm., 6 May).

As the Head Trainer, La Min told me (2014, pers. comm., 2 February):

> In the future, there will be coming out many environmentalists who we supported and trained and can protect for their natural environment and many of the people will be aware about new land law and land rights, farmers' rights. Most of the people will use organic fertilizer to produce food for all and will be fine in good health and can build very strong green community. That's why this program is very valuable for the youth and community to make a green world in the future.

NEED's program is pragmatic in nature. Its vision is "to promote the knowledge, education and critical thinking level of people and to strengthen youth and farmers' capacity toward development and peace for a better society and (the) environment in Myanmar" (La Min 2014, pers. comm., 2 February).

NEED's mission is to build a network of model organic, sustainable farms throughout Myanmar, to serve as learning centres for farmers and youth. Khaing Dhu Wan's vision is to for each state to have a demonstration farm developed by and with the students (Khaing Dhu Wan, 2013, pers. comm., 26 October). Khaing Dhu Wan can be seen in this video discussing the motivation behind NEED, as well as his aspirations for NEED in the future: http://www.shoottohelp.org/report/en/2015/3/5/need-myanmar. A conceptual framework of NEED's objectives developed by Khaing Dhu Wan, 2013, is attached as Appendix A.

This process, of farmers workshops, is in line with the actions of the transnational peasant movement La Via Campesina (2016, online) (discussed in section 3.3.3 and by Desmarais 2007; Martinez-Torres & Rosset 2010). Although we did not discuss this, and Khaing Dhu Wan did not allude to La Via Campesina, many of NEED's practices parallel this movement. Similarities can be seen in NEED's focus on small-scale sustainable agriculture, the establishment of a network of farmers groups, farmers' workshops and seed saving.

6.1.5. Influences

The structure of the NEED MFI in Thailand, and subsequently NEED's eco-village foundation (EVF) and school in Myanmar, was heavily influenced by a Thai grassroots environmental organisation, Pun Pun, and its organic farm and educational facility in northern Thailand (www.punpunthailand.org). Pun Pun was founded in 2003 by a Thai farmer Jo Jandai and his American wife Peggy Reents as an example of sustainable living through seed saving, natural building and appropriate technology (Pun Pun 2015). Pun Pun is a well-established and well-known (in eco-culture circles) example of an eco-village and aspect of the global, grassroots eco-culture movement. Jo Jandai and Peggy Reents' focus is on simple living and educating others in sustainable practices (Pun Pun 2009 video).

I visited Pun Pun in March 2014 and was shown around by Peggy. She told me that their goal was to create a network of organic agriculturalists and a seed saving network in Thailand, and to raise ecological awareness through workshops, residential training courses and internships (Peggy Reents 2014, pers. comm., 03 March). A staff member told me that Pun Pun's focus on seed saving is embedded in the belief that "companies colonise and control. If people want freedom and autonomy they need to own the seed and take control for themselves" (2014, pers. comm., 03 March). He went on to say that "Pun Pun does not practice permaculture per se but bases its knowledge on traditional farming skills. He felt that Pun Pun was established based on common sense and is not idealistic" (2014, pers. comm., 03 March).

In the beginning NEED was also heavily influenced by Earth Rights International (ERI) (www.earthrights.org/), an environmental NGO based in Thailand. ERI was created in 1995 by an American lawyer, Katie Redford and her Burmese husband, Ka Hsaw Wa, in an effort to defend human rights and promote environmental justice. In 2004, ERI won a ground-breaking lawsuit against the gas giant Unocal for human rights abuses in the development and maintenance of the Yadana Gas Project (Doyle 2005, pp. 64-65; ERI 2004).

ERI's focus is training local villagers, lawyers, and civil society leaders in human rights, environmental justice, sustainable development, and international legal advocacy (ERI 2015). ERI's educational program is aimed at "preparing the next

generation to protect their communities against human rights abuses and environmental devastation” (ERI 2015). I met with a number of ERI operatives throughout my stay in Thailand and Myanmar. They were focusing on resistance to land grabbing and displacement of ethnic communities but, at the time, they were still operating underground due to fear of state reprisal. They declined to be interviewed.

6.2. Operationalisation - Moving to Myanmar

Following the political reforms in Myanmar, in 2012 Khaing Dhu Wan, with assistance from an old friend and supporter of the organisation (who is on the Board of Directors), was able to purchase 4 acres of land in the small rural Nyaung Bin Thar Yar Village, Hmawbi Township about 50 klms north-west of the major city of Yangon (formerly Rangoon) – shown in the map, Figure 6-2 below. In 2013 he was able to return ‘home’ to fulfil a long-held dream – an eco-village foundation (EVF) and educational facility based in, and operating out of, Myanmar. Khaing Dhu Wan said to “we are like mushrooms, emerging from the darkness - seeking the light” (2013, pers. comm., 24 October).

Figure 6-2 Map of Hmawbi, Myanmar
http://www.ikimap.com/map/administrative-area-hlegu-myanmar.

Building on the land in Hmawbi began in early 2013 and was a slow process. The aim was to get the infrastructure ready for the initial cohort of students due to commence in June 2013, but they ran out of time. The organisation rented three houses in the nearby township of Hmawbi (about 20 minutes' drive away), to enable it to start the program. The staff and students lived and worked from there before moving onto the farm permanently in early December 2013. Figure 6-3 below shows the school room at the NEED Schoolhouse, Hmawbi Township, October 2013.

Figure 6-3 Students presenting group research to the author, November 2013.

As mentioned above, Child's Dream has continued to support NEED throughout this transition. The Myanmar Manager of Child's Dream told me that he pushed for the transition into Myanmar, mooting a three year plan of support, believing that the program being developed by NEED would have more of an impact if conducted within the country. He had been resistant two years ago, but the political reforms had opened up a space and Myanmar nationals needed to be there. One year later, he stated that the project was proceeding effectively and efficiently (2014, pers. comm., 24 February).

At the time of our interview he was monitoring the proceedings in Hmawbi, asking for monthly reports and assisting the Program Manager with budgeting, bookkeeping and reporting. He had concerns with NEED's lack of an overarching plan and the focus on mud brick building, arguing that it was slow and expensive and not resulting in quality

buildings. He also felt that the LLET program conducted by NEED in Chiang Mai could now be offered domestically as it was no longer so controversial.

Child's Dream usually supports more mainstream, academic programs and NEED is out of their usual agenda, due to its focus on farming but the Manager told me that he agreed with their principles, was amenable to continuing to providing both material and professional support and hoped that the farm and program continued to develop. He did feel that a synergy was missing from the program, he had yet to see a curriculum or course list or lessons plans. However, he was willing to wait for NEED to get established and prove itself, stating that "they have to make it work – if they can't do it with our support and resources they can't do it" (2014 pers. comm., 24 February).

NEED has an assortment of staff sourced from Myanmar nationals, alumni and visiting foreigners – primarily from the US and Australia. In 2013 to 2015 this included two female staff members who had completed LLET training in Chiang Mai in 2012, and a number of male students who had completed training in 2011 and whose key roles were managing the farming and building. The Project Officer was also alum from Chiang Mai.[65] Khaing Dhu Wan believes that his strengths lie "in building relationships across cultural lines and diverse backgrounds" (Khaing Dhu Wan 2013, pers. comm., 24 October). The variety of staff supports this view.

NEED holds regular staff meetings and reviews – Child's Dream requires monthly reports of the operations. Student representatives attend some of these meetings and are expected to input into planning and reviews. The student body holds monthly meetings in which they discuss issues pertaining to students. During my time on the farm I only witnessed one serious conflictual issue and was very impressed at the way it was dealt with through dialogue and consensus. Usually a staff member attends student meetings, although students can request that meetings be closed. The students' body elects two new representatives monthly – one male and one female. In this way each student has the opportunity of a leadership role. Student representatives liaise with staff and teachers to express student concerns or issues.

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[65] The organisational structure of NEED is attached at Appendix C.

6.2.1. Infrastructure in Myanmar – Eco-Farm and School

When I arrived at NEED in October 2013, infrastructure on the eco-farm consisted of a partly completed mud-brick school-house, one mud-brick dormitory, a lean-to kitchen constructed of bamboo and straw, a 'wash-house', two toilets and 2 water pumps. The photos at figures 6-4 to 6-8 are included to try to bring the farm alive for the reader.

Figure 6-4 NEED Eco-Farm
Rural Nyaung Bin Thar Yar Village, December 2013.

Figure 6-5 Schoolhouse on NEED Eco-Farm, December 2013.

Figure 6-6 Kitchen, December 2013.

Figure 6-7 Female Dormitory, December 2013.

Figure 6-8 The bridge to the NEED eco-farm, December 2013
(A bridge spanning two worlds and the pathway to a new world of knowledge).

The farm is bordered on two sides by a creek which is a resource for supplying water and the mud for the buildings. Mud brick building is not common in Myanmar. The majority of buildings in both rural and urban areas consist of bamboo or wooden walls, with corrugated iron or *dhani* (Nipa palm leaves) for roofs. Monasteries and larger, municipal buildings are either timber or concrete with tin or tiled roofs. An example of a typical rural abode is given in example in Figure 6-9.

Figure 6-9 Village compound near the NEED eco-farm

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NEED has chosen to build with timber, mudbrick and tin roofs. This is because Khaing Dhu Wan is modelling the farm on the eco-village of Pun Pun in Thailand (discussed in 6.1.5) where mudbrick is used extensively. Whilst mudbrick building is deemed to be eco-friendly and is the building style of choice for many eco-villages and environmentalists I was concerned about the environmental impacts of taking so much mud from the creek and I mentioned this to Khaing Dhu Wan. His response was that "it is not a problem because in the wet season it rains so much that the creek floods and the heavy rain washes more soil down the creek so there is always enough" (Khaing Dhu Wan 2014, pers. comm., November).

By the time of my last visit in March 2015 the school had grown exponentially – they had purchased another acre of land, fully fenced the property, built a new bridge (Figure 6-10) and upgraded the road so that vehicles could access the property. They had added many buildings including a male dormitory, new schoolhouse (Figure 6-11) and offices, a house for Khaing Dhu Wan, a roofed meeting area with a stage, an outdoor roofed training area, more washing facilities and toilets, and they had upgraded the kitchen.

NEED had acquired two more motorbikes, a number of computers, a TV which was connected via satellite, furniture and books. There were two more solar panels, with many more mooted[66]. Although NEED espouses permaculture practices, the eco-farm does not necessarily following permaculture design principles – it is very ad hoc and disappointing for some permaculture purists who visit the farm.

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[66] These finally came as a donation from 'The Burma Project' in 2015 – see Figure 6.12 below. The Burma Project was a small crowdfunding project initiated by the first English teacher who had worked with NEED in August/September 2013.

Figure 6-10 New bridge to NEED Farm, May 2014 (source: Ko Than Shwe).

Figure 6-11 New Schoolhouse, November 2014.

Figure 6-12 Solar Panels on the Farm, September 2015
(source: Ko Than Shwe)

The majority of this infrastructure has been possible due to funding from Child's Dream, but also from voluntary donations and small one-off funding from other organisations[67].

It is important that the school be able to house up to 40 students at a time, together with staff and the numbers of visitors, both domestic and international, that NEED hopes to attract. It is also important that the farm become as self-sufficient as possible food-wise and financially. NEED has planted fruit trees, bananas and a variety of vegetable crops but Khaing Dhu Wan says "it will take a few years before plantings are established and they can provide enough produce to feed everyone" (Khaing Dhu Wan 2013, pers. comm., October).

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[67] This included the peace organisation Euro-Burma Office and AWJS – a Jewish philanthropic association.

6.2.2. Publicity and Networking

NEED utilises the internet (www.need-burma.org) and social media (facebook.com/need.organics) for publicity and promotion.[68] NEED is gaining attention in the alternative development and permaculture movements, and from those wishing to promote their ideology and methods (see www.myanmartravelessentials.com/activities/need-eco-village-foundation-in-myanmar/forums for example). NEED also has contact with domestic media and has been promoted on local radio.

NEED hosts a variety of forums at the eco-farm and representatives from NEED travel the country promoting NEED, and attending conferences and forums. NEED has contacts around the world and hosts many foreign visitors. Networking is discussed further in Chapters Eight and Nine regarding outcomes of the NEED program.

6.3. The Program at NEED School

NEED conducts a residential, eco-pedagogical program at the eco-farm. The program runs for 10 months, from June to March each year. It is a formal program in an informal setting, with a set curriculum, and assessment process.

As previously discussed, NEED considers organic agriculture as a vehicle for positive social and environmental change (2015b, online). NEED practices and promotes sustainable agriculture and agro-ecology, in order to combat the never-ending cycle of poverty experienced by agrarian populations in Myanmar (NEED 2015b). The aim of the program, therefore, is to provide the young students with the skills that will enable them to work with their local communities towards self-sufficiency and sustainable livelihoods.

The program is very comprehensive, covering a broad range of subjects and offering many practical skills. NEED works very closely with the local villagers, state school and monastery, in consensus with the village head and local authorities. The NEED school is part of the local community – this is pragmatic and enables the students to put

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[68] This author has promoted NEED through various publications and conferences, and a blog written for the localisation organisation, Local Futures (www.localfutures.org/?s=myanmar).

some of their learning into practice, and is in line with NEED's community development ethos.

6.3.1. NEED's Requirements for Enrolment

NEED requires students to apply for their training program in writing. The basic criteria for the students is that they be

- between 16 and 25 years old
- fluent in Myanmar (writing, speaking, reading)
- basic English (four skills)
- self-directed
- recommended by a local organization or institution
- healthy and strong.

They must also have:

- respect for different ethnicities, religions and gender
- a minimum of high school education
- at least one year of experience in social work.

Finally, it is expected that candidate attend the full training – complete the whole ten months (information supplied by Ko Than Shwe 2016, email 19 January).

6.3.2. Curriculum

As discussed in Chapter Four, 4.0.1, central to any school or educational facility is its curriculum (Apple 2004, p. 6; Joseph 2000, p. 1). The learning at NEED is planned and guided. Forty percent of NEED's curriculum is focused on agriculture, twenty percent is focused on the Environment, and twenty percent is focused on Community as well as Interpersonal Development (see table 6.14 below). The remaining twenty per cent covers: Economics, Social Enterprise, English, Computer, Social Media, Politics, Gender and Building Practices. Mid-year the students are set a major community development project that is assessed at the end of the year, just prior to graduation.

Students either work alone or in groups that they establish themselves. They identify the problem, research possible solutions, develop a proposal and a budget.[69]

NEED's curriculum is primarily informed by the curricula developed by the EarthRights School, established in 1999 (www.earthrights.org), as well as The Curriculum Project, established 2001 (www.curriculumproject.org). As noted above, in 6.1.5, EarthRights shares NEED's focus on providing young adults in Myanmar with a toolkit - a variety of critical and creative practices, strategies, and tools , for addressing socio-ecological issues. As for The Curriculum Project, when NEED was first mobilizing in 2006 in Chiang Mai, The Curriculum Project, aimed at community development and preparing young adults for further education, was well established and respected by those working in the field of informal and critical education in Thailand and Myanmar.

More recently, NEED has adopted curriculum resources from Mote Oo. Mote Oo (2016, online) is a community-focused organisation that was established in 2013 by some of the staff from the Curriculum Project, with the purpose of supporting teachers and students in the non-formal adult education sector with learning materials and training. Mote Oo is also funded by Child's Dream and has partnered with NEED in becoming the key source for NEED's curricula materials. Mote Oo (2016, online) designs curricula and develops locally relevant materials for community schools, post-secondary and adult education programmes in Myanmar and on Myanmar's borders. Materials are developed in English, then translated into Burmese, and are made available in hard copy.[70] NEED utilised both Burmese and English language texts – contingent on whether a domestic or foreign teacher is taking the class. Input into the curriculum also comes from foreign educators such as myself.

In November, 2014, one of the visiting teachers involved with the second cohort of students became concerned at the lack of regulation and assessment criteria. She worked for a number of weeks in Yangon, in collaboration with staff at Mote Oo, to

[69] In March 2014, these projects were judged and the three 'winners' were given a small financial reward with which to implement their proposal. This is discussed further in Chapter Eight with regard to outcomes of the program.

[70] In Myanmar, materials have been censored by the government with the effect of making many subjects taboo (and therefore illegal for Myanmar nationals to write about); additionally, many internationally written materials are not locally comprehensible due to cultural differences and language usage in those materials (Mote Oo 2015, online).

develop tighter modules for the English, Politics and Social Studies subjects, and some of her recommendations were subsequently adopted.

Curriculum materials take a variety of formats: power points; books, and hard copy handouts. In order to explicate the curriculum material, the language and meanings transmitted to the students some examples are attached as Appendix B. NEED's current curriculum is shown below in Figure 6-14 below.

No.	Subject	Topic
1.	Agriculture	Theory of Organic Agriculture
		History of Agriculture
		Current Agricultural Problems in Myanmar
		Permaculture
		Introduction to Permaculture
		Permaculture Ethics and Principles
		GMO – Genetically Modified Organism
		GM Seed and the Future of Agriculture
		GM Food
		Use of GM and Ecology
		Agriculture Techniques
		Soil Test / Selecting Seed / Seed germination/ Seedling
		Making garden beds / Community food gardening / Raised bed garden
		Transplanting
		Mulching / Weeds
		Composting / Worm composting/ EM
		Intercropping / Three Sisters Plantation
		Mushroom farming
		Nursery Farm
		Seed Saving
		Aquaculture
		On Farm Fish Culture
		Integrated Rice and Fish Culture
		Integrating animal production with fish culture
		Agriculture and Development
		Rice Cultivation
		Saving seed / Sowing / Seedling / Transplanting
		SRI- System of Rice Intensification
2.	Environment	Climate Change
		Waste Management
		Deforestation
		Mining
		Special Economic Zone & Environment
		Carbon Cycle

No.	Subject	Topic
		Nitrogen Cycle Water Cycle Atmosphere Water (water on earth / grey water management) Pollution
3.	Community Development	Social Activism Sustainable Community Development Project Management Community Organizations
4.	Social Study	Active Citizenship Social Science Public Speaking Leadership
5.	Politics	Human Rights Public policy Democracy
6.	English Skills	English speaking, reading, listening and writing
7.	Computer Skills	Microsoft Word Microsoft Excel Microsoft Power Point Internet & Email
8.	Interpersonal Development	Writing Project Proposals Reporting Researching Survey Data Collection Writing Articles Video and Photographic techniques

Figure 6-13 Outline of NEED curriculum 2016
(source: Ko Than Shwe, 13 June 2016).

There are three curricula that any school teaches: explicit (obviously-stated goals), implicit (not official, often referred to as 'hidden') and null (not taught) (Joseph 2000, p.3). NEED's eco-farm is an ecologically grounded political project envisioning and implementing alternative futures through empowerment and liberation. Curricula formulated along these lines need to include "an analysis of the political economic processes that have led to the marginalization of the community as well as an understanding of development models that are promulgated through industrially-oriented paradigms" (Meek 2015). NEED's explicit and implicit curriculum is informed by popular education and critical pedagogy (discussed in sections 4.4.2 and 4.4.3). It is rooted in the everyday experiences and interests of ordinary people, is

overtly political, critical of the status quo and committed to progressive social change. Much of the learning and interaction that occurs between the students and staff, particularly foreign staff, and visitors is implicit, embedded in critical thinking, but not explicitly stated. The notion of a 'null' curriculum relates to the idea that some topics, subjects, ideas or concepts are systematically excluded, neglected or not considered (Joseph 2000, p. 4). Educators make choices as to what they teach (Joseph 2000, p. 4), and one of NEED's strengths is its comprehensive curriculum and the provision of opportunities for discussion and acknowledgement of alternative points of view.

The focus of foreign teachers is to teach English but they are also asked by Khaing Dhu Wan to teach whatever they know relating to environmental politics, environmentalism and community development. This is in line with his methodology of EAE and focused on his objectives of human-rights based pedagogy. The quality of the teachers is high – postgraduate level or with significant experience in community development or teaching English.[71]

6.3.3. Assessment and Graduation

NEED's school and program does not issue an officially (as per the state) recognised certificate. Although now registered as a company, NEED is not registered as an education provider. However, NEED's affiliation with farmer-based organisations, as well as many other youth, human rights, environmental and seed saving networks gives the education provided to the students some legitimacy and kudos (as discussed by the Project Officer 2016, email 19 January).

When I first arrived in October 2013, there was an assessment process in place, and students had been assessed for their English and IT skills after their first 3 months at the school. That year there were no other formal assessments conducted. There was a reward system for both individual and group set projects. Students attend a Graduation ceremony and are awarded a certificate.

[71] All staff have allocated, specific duties but, because the farm is such a work in progress, and is very labour-intensive, everyone is expected to contribute in whatever way possible. Staff are multi-skilled and talented, working long hours and with little personal time or time off.

6.4. Teaching at NEED[72]

NEED's work is grounded in local knowledge, skills and expertise, and teachers build on the students' vast wealth of intergenerational knowledge, encouraging locally-based research, and the documentation and utilisation of that knowledge. As much as possible, NEED's teaching process is student-centred, in that their issues and experiences are the focus of the lessons and activities. Through dialogue and brainstorming, students become aware of their body of knowledge and skills, and reach an understanding that they can produce their own solutions, without having to rely on too much on outside resources. In order to enlarge on the students' capabilities, and assist them in addressing specific issues, they are assisted in research, communication and writing skills, together with public speaking, public relations and networking skills. They are also taught proposal writing, budgeting, management and training skills, how to design workshops, and how to design permaculture projects.

English and computer training classes are teacher led and some of the afternoon lessons take the form of a lecture – particularly from foreign teachers who are asked to share their knowledge about politics, political economy, political ecology, sociology, environmentalism, activism, economics, peace-building and current affairs. Key to the program at NEED, however, is the cultivation of practical, hands on solutions. Students spent up to 3 hours a day involved in group work around the farm working collaboratively, brainstorming and generating answers to specific problems.

Whilst at NEED (utilising my Masters of Environmental Advocacy, and the few resources I had at hand), I discussed environmental issues embedded in capitalism, globalisation, mainstream development, materialism and consumption. I touched on economics, politics, international relations, human rights, environmentalism, activism, notions of power, peace and non-violence, gender issues, and alternative forms of development. I talked to them about Australia and our relationship with Myanmar, showing them maps and movies about Australia to place myself and show them about

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[72] As mentioned in Chapter Two I was asked by NEED to teach for them whilst conducting my research. After I arrived in October 2013, a number of meetings were held with staff to discuss programming and curriculum. During my time on the farm formal classes were timetabled for 5 days a week, Monday to Friday, 8am to 3.30pm although this program was very flexible. I understand that this process continues. Lessons given by foreigners are usually translated by either the Head Trainer or Project Officer. Outside of the formal timetable there were many opportunities, time and space for ad hoc/informal teaching, learning, and interaction between teachers and students.

‘my’ world. I showed them the movie *Gandhi,* following a discussion about the efficacy of non-violence, and one of the students was so moved he dressed as Gandhi for days. We held ‘movie nights’ in the schoolhouse and aired David Attenborough nature documentaries on an old projector balanced on a suitcase that someone had brought over from Thailand on the bus. Some of the students cried when I told them about the devastation of the Great Barrier Reef, leading one of the students to ask me “why, do we (in Australia), who know so much, make such terrible decisions?” – a question that resonates throughout this thesis.

We discussed ecology, biodiversity, climate change, environmental and food insecurity, community development, social issues in both of our countries, current affairs, religion, ethnic issues, art and modern culture. We talked about our families and our values. The students were like sponges, soaking up all this new information but, at the same time, eager to share their world with me. Through this interactive process we all grew as learners.

I approached my teaching as much as possible as a critical educator, enabling transformative processes etc. This was not entirely possible most of the time as staff and students in Myanmar are so used to rote learning and hierarchical structures – teacher ‘*sayarma*’ shown great respect. However, embedded in Freirian principles – dialectical – the teacher is also a learner and the learner is also a teacher (Freire 1970, p. 61) where expertise and experience is shared and reflected on collectively with the understanding that I had much to offer but also much to learn. For a time, I was the conduit through which to facilitate their learning (within the constraints of the physical space, time and language differences).

As discussed in sections 4.4.2 and 4.4.3, regarding critical education, key to a Freirian, pedagogy is the development of critical consciousness, a mode of dialectical engagement with everyday life that disposes students to reflect upon their own historical experiences (Freire 2000, p. 35). This style of teaching was new to the students, who have only experienced rote learning within a very hierarchical, cultural structure. Through our discussions, both the students and I were able to see the reality

of our oppression[73] and the constraints on our agency, but also to realise our strengths, and identify possibilities for action.[74]

Figure 6-14 Activism Workshop, Group A, November 2013, Hmawbi.

Figure 6-15 Activism Workshop, Group B, November 2013, Hmawbi.

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[73] Obviously theirs is more nuanced than mine!

[74] The utilisation of foreign teachers is a key strength of NEED and this dialogic relationship is discussed in depth in Chapter Nine.

Art

During my time at NEED, I aimed at encouraging the students' differing abilities and talents. Actors within social movement organisations have differing abilities and talents, and contribute in myriad ways. Art is a form of human expression that can be used tactically in myriad forms of non-violent activism and art as protest, in the form of song writing, music, painting, banners, slogans, cartoons, poetry and so on (Marcuse 1979). It has a long history in political and cultural activism (Branagan 2003, p. 50-51). Art forms can encapsulate complex information, and communicate it in a simple way. Art is an effective form of communication that can influence pro-environmental behaviour (Curtis 20002, cited in Branagan 2003, p. 52). Art is underdeveloped in Myanmar and the concept of art for expression or protest was new to the majority of students at NEED. The students lacked resources for artistic expression. Most did not know how to use a camera, or had not seen one, and none of the students had been to an art gallery.

I introduced art into our Environmental Politics classes early on in relation to forms of protests: banners, slogans, logos, cartoons and so on. I provided large sheets of paper, coloured felt tip pens and space to draw. Many of the students were hesitant at first (they did not want to ruin the pens), but with reassurance and support from their peers most had a go. For those students who could not write in English I observed that drawing was liberating. Some were very talented, and realised that their work could be utilised in many ways. Examples of their work are shown in Figure 6-16 to 6-18 below.

Figure 6-16 Cartoon created by student
Activism Workshop, 12 November 2013, Hmawbi.

It was during a workshop held to discuss ways of promoting NEED that the students came up with the slogan 'Save the World with Organic Agriculture' – the inspiration for the title of this thesis.

Figure 6-17 Artwork and slogans for NEED's t-shirt (created by students, January 2014)

Figure 6-18 Students presenting permaculture designs (Graduation Ceremony, 28 March 2014)

Unfortunately, due to lack of funds, there was little opportunity for off-campus teaching opportunities.[75] One exception was a field trip in November 2014 to a local environmental park. We spent a day there. Students were split into four groups and asked to research a particular subject relating to the environment: flora, fauna, water or soil.

They were asked to present their findings in the form of a power-point presentation the following week. In this way, they were able to practically apply some of their lessons. The photo below shows us learning together, in the field.

Figure 6-19 Learning in the Field
(Hlawga Environment Park, November 2013)

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[75] I did take some students to the museum one day, in my own time. Also, at times, individuals or small groups of students became involved in extra-curricular activities. One important event was the inclusion of the female students in a consciousness-raising event about gender issues, *One Billion Rising,* coordinated by the female staff shown with me in the photo in 6-21.

Figure 6-20 The author and the two female staff members at NEED
(Hlawga Environment Park, November 2013)

6.5. Organic Agriculture – Permaculture at NEED

As noted previously, NEED's program is focused on sustainable, organic farming practices based on the concept of permaculture. Permaculture was discussed at length in section 3.4. Permaculture practices on the farm include design, soil conservation strategies, organic pest control, manual and biological weed control, composting and seed saving. Permaculture is an integrated, evolving farming system that involves conscious design that is contextually prescribed (Mollison and Holmgren 1978, p.6). This particular notion of integrated systems is new in Myanmar, so the students were required to set up experiments and projects to test theories, and to consider how this system could be successfully applied in their specific geographical and societal contexts.

Two permaculture teachers from Spain, who had worked intensively in India for two years establishing permaculture projects, held workshops over a week in January 2014, discussing design and 'best practice' for alternative development. Composting, and soil regeneration, is a key focus of permaculture processes at NEED. Also, NEED has developed a range of 'NEED SEEDS' – a variety of organic seeds that it sells and trades with farmers and other environmental groups. Some of the permaculture practices are shown in the following photos, and discussed in a field note.

Figure 6-21 Seed Saving

.

Figure 6-22 Zero-Hole Farming, February 2014

.

Field Notes: 13 February 2014 – Zero-Hole Farming

The students had done a workshop on ‘zero-hole farming’. A female student told me that this system was designed by Khaing Dhu Wan. It appears to be adapted from all he has read about permaculture. The prime objective is to improve the soil, also reduce pests and improve nutrition by planting in improved soil, save water. The students were put into groups of 5 – they designed their own basic shape and size. Then they chose their own plants. They are doing experiments to see if it supports the research. They were taught the system, dug and prepared the soil (with clippings from the field, manure and compost), soaking seeds for 6 hours before planting (and watering) in the cool of the day. Each group has chosen different plants, and seeds. They have made a tin plaque (recycled material), stating the type, and amounts of plants.

Figure 6-23 Group work on Zero-Hole Farming, February 2014

Students are also taught about alternative building practices, mudbrick in particular, renewable energy sources such as solar power and bio-gas, waste management, water strategies and alternative livelihoods, with a concentration on mushroom growing. Mushrooms have been chosen because they are quick and easy to grow, and do not require much space for high yield.

Figure 6-24 Mudbrick building

Students learn about growing produce not only for themselves but also creating a market. In addition to mushrooms, they are focusing on organic rice, in liaison with the local villagers. NEED has rented 10 acres and has had two harvests of organic rice. Other aspects of NEED's program are discussed below in a description of a typical day on the farm.

Figure 6-25 NEED's first organic rice crop, November 2014

6.6. A Typical Day on the Farm

The sun has risen over a misty, damp plain where, not long ago, wild elephants roamed. We have walked home through fallow paddy fields after a hot cup of tea at the little teahouse on the road to the monastery. It is the cool season and we can see our breath in the air of the kitchen as we eat our fried rice. Someone is singing a traditional song – it reminds them of home. Another shoos the ducklings out of the potato plants. A few people have been up since 4:30 AM to light the fire and cook breakfast. The dogs are wrestling in a pile of sand that has been dumped in anticipation of the new mudbrick building, and nearby a rooster crows. The morning watering has begun and the sun, getting higher now, is casting shadows. An old, dusty copy of *The Permaculture Handbook* sits on a desk. Soon it will be time to start classes.

Blog: http://www.localfutures.org/an-eco-farm-in-myanmar-burma-saving-the-world-with-organic-agriculture/

As noted above in the blog I wrote to promote the eco-farm on the Economics of Happiness website the day started early (at 4.30 am) for those on cooking roster. The remainder of us were woken up at 5.30 am by Khaing Dhu Wan for 'exercises'. This consisted of us running laps of the farm and calisthenics for 30 minutes[76]. Some of the students and I would then go for a walk down to the village. This was followed by breakfast and early morning chores until lessons began.

[76] A visiting Australian teacher, later commented to me that he thought Khaing Dhu Wan had arranged the exercises in certain areas in order to flatten down the dirt prior to building (S Baker 2014, pers. comm. 10 November).

Figure 6-26 Watering Plants
(Plants were hand watered every morning and sometimes again in the afternoon)

Figure 6-27 Students prepared the soil for planting

Figure 6-28 Many crops were planted on the farm (This day the students were planting watercress)

The students were divided into two groups for English – beginners and advanced (they were assessed at the beginning of the year by the Myanmar staff). Each group worked for 1.5 hours in the morning - the advanced group from 8.30 to 10.00 and the beginners from 10.00 till 11.30. The alternative lesson in the morning was farm work.

Figure 6-29 English class in the schoolroom, February 2014

The staff generally (but not always) cooked the lunch so students could work. Lunchbreak was for 1.5 hours in the heat and most of us slept during that time. Following lunch all the students joined me in the classroom for a 2 hour session. It was during this time that we focused on environmental politics, environmentalism, proposal writing, projects, research and other written aspects of the curriculum. The afternoon session was followed by more farm work – generally watering. The boys usually found time to play a rowdy game of *chinlon,* Myanmar football, and almost everyone would bathe in the wash area (girls first, followed by the male students, then farm staff) for dinner at 6pm.

Figure 6-30 Preparing the hay for mushroom growing

Figure 6-31 The students were kept busy making compost

Figure 6-32 Dinner Time

Figure 6-33 Students worked late into the night

6.7. Conclusion

This chapter has focused on the mobilisation of NEED and the establishment of its eco-farm in Nyaung Bin Thar Yar village, near Hmawbi town ship, in Myanmar. This chapter began with a discussion about the early days of NEED and its operation in Thailand, the motivating factors behind its mobilisation, its objectives and influences. Then followed a description of the NEED school, its EAE program, curriculum, and the variety of activities carried out on the farm in which I talked about my experience teaching at NEED.

NEED's project is motivated by personal experience of structural and ecological violence, and is explicitly political, aimed at addressing food insecurity issues in Myanmar through alternative development models embedded in organic agriculture. NEED has taken advantage of the political reforms in Myanmar that have created a new (safer) space for grassroots agency. On an impoverished patch of soil (and literally *from* the soil), NEED has created a temporal and spatial opportunity within which individuals can begin to shape new realities with regard to socio-ecological issues in their country. Through construction of their school, NEED has created a learning

community (see Sauve & Orellana 2004) and an important site and opportunity for generating new knowledge and skills, whilst raising ecological consciousness.

Local communities throughout Myanmar have suffered from failed state development policies, development-related human rights abuses, and institutionalised discrimination and marginalisation. This state of affairs has historically excluded local communities from participating in decision-making about the management and use of their natural resources (BEWG 2009, p. 3). NEED views 'the state' in Myanmar as not only ineffective, inaccessible, and disempowering but, due to constraints imposed by the state on political and economic activity, has historically regarded it with distrust and anger.[77] As noted, however, Khaing Dhu Wan does not want to work in parallel with the state and he is taking advantage of the new political space to create networks and relationships with state authorities at all levels. NEED is motivated by the opportunities for new forms of agency and praxis afforded to them by government reforms. In all respects the participants at NEED seek autonomy and the ability to contribute to the development of their emerging democracy in the way they know best – traditional, local livelihoods embedded in the land.

NEED's pedagogical program consciously aims to tackle issues of injustice and inequality, focuses on changes at the roots of the system, provides useful knowledge and skills, to develop a critical understanding of power and agency and to connect the local and the global. The students at NEED receive an education that includes a critical analysis of prevailing structures, systems, institutions and policies and is aimed at identifying, developing and implementing alternative ecologically sound processes and practices.

In the absence of formalised, institutionalised environmental education in Myanmar, this grassroots pedagogical program is serving to educate youth not only about the environment but about the structural issues underpinning environmental and food

[77] Interestingly, although Myanmar people in general and the NEED participants in particular, suffered through the long years of repression and brutality under the junta and view the generals and cronies with contempt they are not bitter. They do not seek (nor expect) retribution or recompense but are stoic and forward looking. It is worth noting here, however, that Arakan participants do not foresee government policies under the new parliament benefiting them in any great way. There is ongoing conflict between the Rakhine State government and the NLD and many of the Arakan participants are in support of a separate state.

security problems. It is an education for the environment that, so far, appears to be the only one of its kind in the country (La Min, pers. comm.). There are a number of well-established NGOs involved in grassroots initiatives. For example, Metta Foundation, http://www.metta-myanmar.org/about.htm and Eco-Dev, http://myanmaraffairs.com/?q=content/ecodev, with similar mission statements to NEED. NEED has connections to Metta Foundation, as noted briefly in 8.2.2. However, none of the other organisations has established a residential school like NEED's, nor do they offer such an extensive program. Also, although they are concerned with agro-ecology, they do not focus on permaculture. Further, it appears that they are embracing mechanisation and chemical inputs, as agricultural models mooted for the country are becoming increasingly industrialised.[78]

NEED has chosen to take this route, based on education, for addressing environmental, social, economic and political problems and issues in Myanmar. This is because, as noted by Khaing Dhu Wan in 6.1.1 and 6.1.4, education is highly valued in Myanmar culture and people are empowered through learning. Also, as discussed in section 1.1, political activism in Myanmar has been violently constrained and environmental protestors have historically been severely penalised. NEED is utilising education as a form of non-violent resistance to ecologically violent government policies and business practices, but, more importantly, for regeneration of traditional communities and to create resilience.

This thesis argues for grassroots EAE programs such as NEEDs, and seeks to understand the underlying motivating factors for the establishment of this particular initiative as well as the type of learning that is occurring throughout the program. This analysis, of motivation, transformative learning and the potential for broader collective social action, in line with agrarian grassroots social movements, is the focus of Chapter Nine. The next chapter, Chapter Seven, discusses the motivating factors underlying the students attending NEED, as well as what they hope to achieve with their education.

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[78] Khaing Dhu Wan is excited that so many people are contacting him and visiting the farm. He says "it is important for the international visitors – they can raise the international awareness and support" (pers. comm. 2015, May).

The chapter focuses on the experiences and aspirations of the initial cohort of 25 students who attended NEED in 2013 to 2014.

Chapter 7. Planting the Seed; Students – Motivation and Objectives

Figure 7-1 NEED student hugging a tree
(as an expression of his feelings for the environment, Hlawga Park, November 2013)

> We need to have a good education - it is the only way to build a peaceful society.
>
> (NEED student's group project proposal, February 2014.)

The previous chapter discussed the mobilisation and operation of NEED, the organisation at the centre of this thesis. This chapter discusses the 25 students that attended NEED's seminal program from 2013 to 2014. It analyses the motivating factors behind the participants' involvement in NEED. It also discusses how the students sought to apply the knowledge and skills gained at NEED. This chapter centres on the following two questions:

- What motivated the students to attend NEED's school?
- What are the students' objectives? How do they seek to apply their learning and new practical skills for environmental peacebuilding?

Responses to these questions were garnered through structured interviews, students' writing, workshops and informal interviews and discussions[79].

7.1. Students

As noted in section 6.2, NEED opened its school in Myanmar to the first cohort of students in June 2013. Not all of the students come from farming families. In fact, they form a very mixed demographic as shown in the following Table 7-1.

Table 7-1 Student Demographic Data
(* students stated mother's prime activity was housewife – many also had part-time jobs based in the home such as cigarette making for a company, sewing, growing small crops for the market)

Profession	Father	Mother	Siblings
Farmers	16	4	3
Housewife*	-	14	6
Natural Healers (Doctors), Nurses	2	1	3
Business/Shopkeeper/Trade	4	4	6
Local Government Administration	3	-	2
Teachers	-	2	7
Village Head (2 also farmers, 1 business)	3	-	-
Student	-	-	16

The majority ethnic group in Myanmar is the Bamar, comprising around 65 per cent of the population. The remaining population is divided into around 130 minority groups.

[79] Detailed demographic data pertaining to these students was supplied in the discussion in section 2.5.

The students (and staff) at NEED represent the five main minority groups: the Shan, Karen, Kachin, Rakhine and Chin. Some of the students commented that this was the first time that they had met people from other ethnic groups. Ethnic groups in Myanmar all have their own cultures and language or languages; the formal, national language is Burmese. Therefore at the NEED eco-farm a variety of local dialectics as well as Burmese are spoken. In 2013 to 2014 the majority of students spoke Arakanese. This situation led one of the students from Chin state to complain that he often felt excluded (2014, pers. comm). The students' ethnic diversity also results in a cross-cultural sharing of food and other cultural practices. For the students, ethnicity is a fundamental aspect of their cultural identity and sense of self. They are proud of their culture, whilst interested in and respectful of each other and are eager to share their cultural experiences.

All the students are immensely respectful of teachers and elders generally are extremely hardworking, very capable, have a wide range of practical skills, an inherent sense of duty and responsibility,[80] and display a great sense of humour. There is much laughter on the farm as they go about their work and they seem to find joy in the simplest of things. There were, of course, times when this was not so but, as a rule, the students are stoic, happy, warm and extremely generous like the vast majority of Myanmar people. The majority are also deeply spiritual or religious.

The students come from the six different locations shown on the map in Figure 7-2. Although the students come from differing geographical locations each with its own specific eco-system, landscape and biodiversity the students share many of the features of village life as well as many of the environmental, and associated social issues, identified by them in Chapter Five.

[80] As discussed by de Silva, and noted below, duty and responsibility are central to Buddhist cultural norms (2000, p. 69).

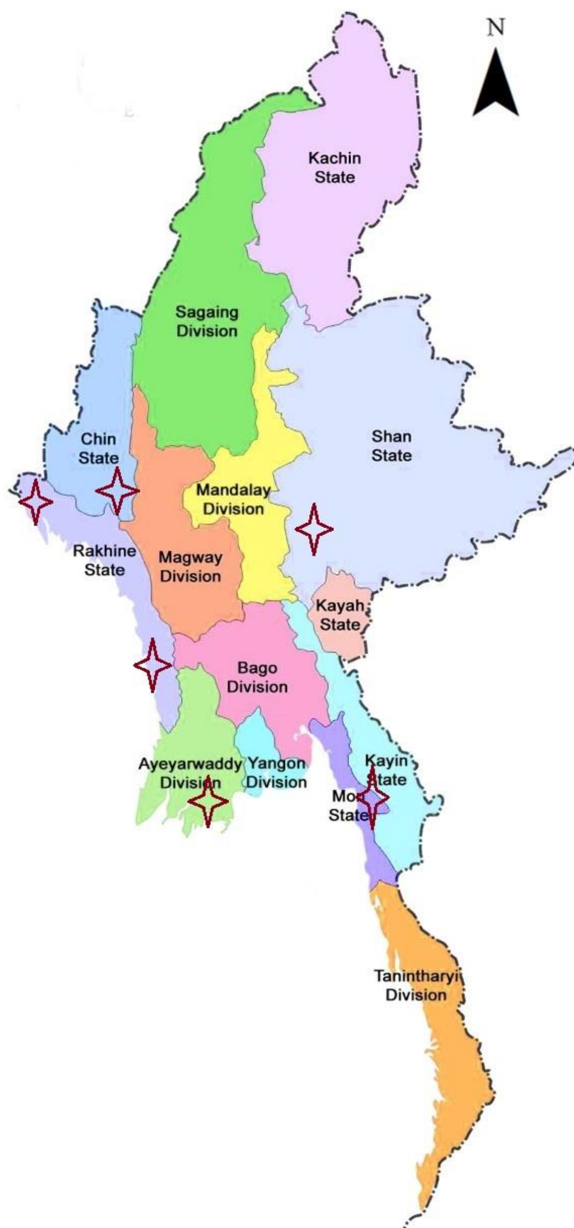

Figure 7-2 Map of Myanmar locating students' villages

Most of the students dress in traditional Myanmar style, although, increasingly young people are adopting jeans instead of *longyi* or *htamain* (even some of the girls, who have traditionally faced more pressure to dress conservatively). Costumes vary throughout Myanmar so there are many different 'styles'. During my time on the eco-farm in Myanmar, there were a number of occasions where the students dressed in traditional costume, and performed traditional songs, dance and music, as shown in the following photographs.

Figure 7-3 Some of the students in traditional costume (dancing at Graduation, March 2014)

Figure 7-4 Students at Graduation Ceremony, March 2014

Apart from one girl in the first cohort who finished school at 13, the students that come to NEED have completed Grade 10 or 11 of high school (ages 16-18). Six of the students were undertaking long-distance tertiary education which they continued during their time at the NEED school.[81] All of the students had worked in some way before coming to NEED, either in factories, shops or for their families, farming or in small family businesses.

One student told me that she had worked in a factory for 3 months in Yangon, sewing clothes. She earned 60,000 *kjat* (around AS$65) a month. She told me that she was very unhappy in the factory saying "every day I am crying" (S11, 2014, pers. comm.). Another had worked for 9 months ironing clothes. She started at 7am and worked 12 hours every day, even most Sundays. She only made 50,000 *kyat* (A$55 pm). One female student had worked as an assistant teacher in her local primary school.
Some students knew each other before coming to the school but, for most of them, leaving home and their close knit communities was a courageous move, and they were often homesick.

The majority of the students did not grow up with access to electricity (like the majority of people in Myanmar at the time) or, if they had electricity, they had an inadequate supply. Of the initial cohort of 25 students only a few had used a computer or the internet before attending NEED. Most had never travelled outside of their immediate village tract or township area. This, together with limited education and access to media, meant they had limited knowledge of the 'outside' world.[82]

Many of the students, however, are knowledgeable about local political and social issues, having been involved in civil society organisations and, as discussed later in this chapter, in general these students have a strong 'common sense' or 'folk' wisdom of their local environments.

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[81] Students are released from their lessons at NEED and given money to travel to attend university exams which are held in November.
[82] This limited experience changed with future cohorts as electricity supply, telecommunications and transport systems have so rapidly improved.

Of the initial cohort of students, the majority belonged to organisations before coming to the school. These organisations ranged in style from a focus on community development, to the environment, human rights or gender issues. The space for civil and political society in Myanmar has expanded dramatically since 2011 (Petrie & South 2014, p. 90). As in other Asian cultures (see CYDI 2016; Maria 2002, p. 201) young people in Myanmar are relatively active (and encouraged to be active) at the local and community level, and many organisations and agencies are involved in training youth in leadership skills. Some of the students had been sponsored in some (usually small material) way to attend the program at NEED. The assumption underlying this was that the students would return to their villages after completing the program to assist their communities.

To a large extent, these young people are the last generation to uphold their traditional ways to the extent that they do. Whilst in the villages I was told, with a sense of sadness, that the participants' younger siblings are losing their traditional ways. The girls are not interested in weaving any more. Apart from religious festivals they are not doing traditional dancing or remembering the old songs and boys are wearing jeans and listening to pop music.

This generation is experiencing rapid social change. They, like others before them in more developed South East Asian states, as discussed by Maria (2002, p. 171), embody "both their societies' vulnerability to political, social and economic turbulence, as well as their societies' strength that emanates from the bedrock of tradition". As Maria notes with regard to experiences of others in other South East Asian societies, they straddle dualities of old and new, and stability and change, and they have to deal actively with the demands from both sides of this duality (2002, p. 173). Furthermore, they share the environmental concerns, and the personal and structural difficulties in dealing with them, of many of their peers around the globe (these are discussed by Yencken 2000, p. 228).

Figure 7-5 Some staff and the students, February 2014
(Khaing Dhu Wan is on the left).

7.2. How did they come to NEED?

When asked the question "how did you hear about NEED and the program it is offering?" ten of the students from the initial cohort said that it was through their organisation, nine through relatives and six through friends. Many students had common friends or came from the same organisation. It appears that many of the students were chosen by NEED's director, Khaing Dhu Wan, because he either had a connection with them or they were recommended by someone he knew. In fact, this initial selection process in 2013 appears quite nepotistic as well as more lax than subsequent intakes.[83]

My understanding of this is that there had been limited time in which to source students, and that there is a strength to be found in the close connection between the initial students and staff, a strength that was required in order to develop this embryonic community.[84]

[83] Certainly, not all of the students met NEED's requirements for enrolment, specified in Chapter Six, 6.3.1, but were allowed in due to recommendations from organisations, and also due to close connections with Khaing Dhu Wan.
[84] Khaing Dhu Wan also related to me at a later stage that he was disappointed that many in this cohort did not share NEED's vision (2014, pers. comm, 15 November). This is discussed further in Chapter Eight,

7.3. Why did they come to the NEED School?

When asked the question "why have you come to the NEED school?" the students gave six reasons. These are, in order of significance:[85]

- to learn about organic agriculture
- to learn about the environment
- to learn computers
- to learn English
- to get skills for activism or to assist their local communities, and
- to gain general knowledge/education.

These findings are presented in Figure 7-6.

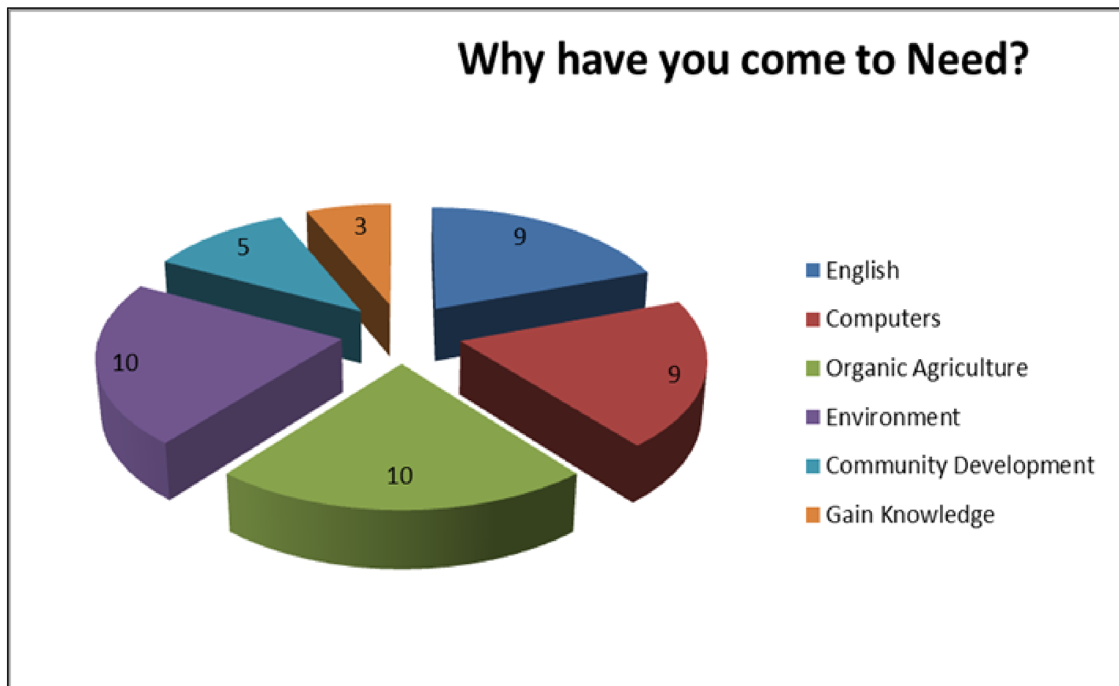

Figure 7-6 Why have you come to the NEED school?

The following are some examples of student responses to this question:

> Because of my interest in agriculture and the environment – my parents are farmers so I am interested in agriculture (S6).
>
> For computer and English - to learn. I haven't done farming before but I like it (S17).

[85] Some students gave more than one reason.

> Before I came to this school I had no knowledge. After I have come to this school I will have some knowledge and skills (S18).
>
> To maintain the environment - all subjects. Near my village there are 3 [problematic] pipelines, Total, MOGE and PTTEPI, which are 5 minutes' walk from my village (S20)[86].
>
> I am interested about agriculture, environment and leadership (S21).
>
> I want to get political (S7).

After analysing the answers to the question, why have you come to the NEED school?" four key instrumental, or practical, reasons emerged. It is noted that their responses cannot be easily simplified and that the analysis was based on a number of sources of data as well as personal observations. Data included their stories about their villages that I requested in order to give them an opportunity to articulate their motivations and concerns more fully than would be possible in an interview, due to language constraints, and to give me a deeper understanding of the issues that were important to them. Their reasons for attending NEED are presented in order of significance:

- personal development and the desire to acquire new skills and new competencies for employment
- community development
- environmental activism, and
- political activism

After analysing all their combined responses to this question, and from observing their behaviours and interactions over a period of four months, three key motivational factors emerged:

- Their positive significant lived experiences (SLEs) of growing up in traditional communities in rural environments, close to nature. These SLEs have resulted in strong 'ecological sensitivity' (discussed by Tanner 1980)

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[86] See ERI 2004.

and certain communitarian and spiritual values (discussed by Schwartz 1992 & 1994).

- Their negative significant lived experiences (SLEs) of structural and ecological violence. These SLEs are impacting on their significant places and traditional cultures and resulting in a sense of 'solastalgia' (discussed by Albrecht 2005).
- A desire to protect these places because of the ecological, social and economic impact on their communities, cultures, livelihoods and identities.

They are very aware of the need for practical skills, particularly computer, writing, the internet and public speaking as tools and conduits to any form of agency or activism on their part. Each of the three motivating factors is discussed below in order to reach an understanding of the motivation behind the students attending the EAE program at NEED as well as their environmental activism. First is a brief discussion about motivation.

7.4. Motivation

Motivation is defined as "an internal state that arouses us to action, pushes us in particular directions, and keeps us engaged in certain activities" (Ormrod 2008, p. 452). Motivation increases an individual's energy and activity level, directs an individual toward certain goals, promotes the initiation of certain activities and persistence in those activities, and affects the learning strategies and other cognitive processes an individual brings to bear on a task (Ormrod 2008, p. 453).

We are motivated 'intrinsically', "because we value an activity" (keeping our street clean by picking up rubbish for example) or 'extrinscially', "because there is strong external coercion" (we will incur a fine if we don't) (Ryan & Deci 2000, p. 69). The former, 'intrinsic' motivation, is a stronger driver and results in "enhanced performance, persistence and creativity" (Ryan & Deci 2000, p. 69). Intrinsic motivation is likened to the drive for meeting basic needs (identified by Maslow 1943), and has an evolutionary basis. The latter, 'extrinsic' motivation, contrasts with intrinsic motivation in that "it refers to the performance of an activity in order to attain some separable outcome" (Ryan & Deci 2000, p.71). Of course, not all extrinsic motivators are negative (we might be paid to pick up the rubbish).

Maslow (1943), in his *Theory of Human Motivation*, identified five sets of goals which he called ‘basic needs’. From this understanding he developed his ‘hierarchy of needs’ (shown below in Figure 7-7) to explain the strength of the various motivating factors. Physiological factors are the ‘pre-potent needs’ in that if we don’t meet our very basic, physical needs we will neither flourish, nor in fact, survive (Maslow 1943, p. 372). Maslow argued that humans were motivated to meet their very basic physiological and safety needs before they were able to pursue higher needs (1943, p. 380).

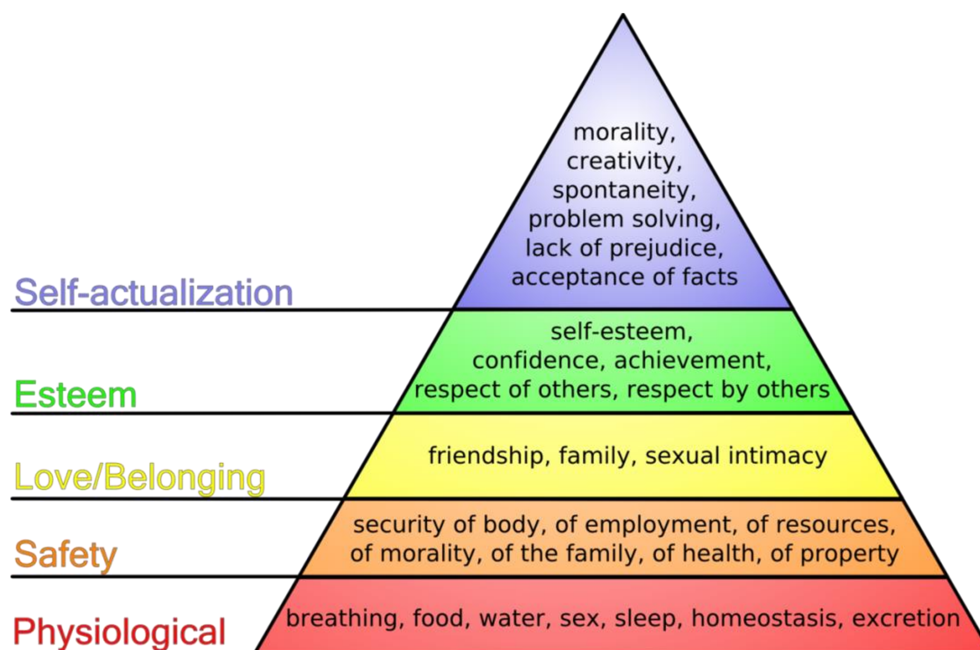

Figure 7-7 Maslow’s Hierarchy of Needs (1943)
(source: https://commons.wikimedia.org/wiki/File:Maslow%27s_hierarchy_of_needs.png).

As Smith reminds us, we are born into a world where nature provides, either directly or indirectly, the means for fulfilling our basic needs (1984, p. 36). Maslow felt that for those in highly developed, secure societies, basic needs are well provided for, thereby enabling individuals to fulfil higher goals quite easily. He tended to see the need for safety as “an active and dominant mobiliser” only in cases of emergency i.e. war or natural disasters (1943, p. 379). However, as environmental security and globalisation literature has shown, access to nature’s abundance is inequitably distributed, with access influenced by political, socio-economic and geographical factors (Dalby 2009; Guttal 2007; Jenkins 2005 for example). For those in oppressed and marginalised situations the majority of their time is spent meeting physiological and safety needs

(Ceaser 2015, for example). They are highly motivated to meet just their fundamental requirements.

Motivation underlying the participants' environmental activism and praxis in Myanmar is now assessed through the lenses identified above: their positive and negative significant lived experiences (SLEs), ensuing values and desire to protect their communities, cultures, livelihoods and identities.

7.5. Significant Lived Experiences (SLEs)

SLEs are defined here as "learning experiences that result in 'environmental sensitivity'" (Chawla 1998, p. 11; Tanner 1980, p.23). The notion of 'environmental sensitivity' originated from Hungerford and Volk's (1990) seminal study into 'responsible environmental citizenship'. It was discussed in section 4.1, but, to recap, it is defined as "an empathetic perspective toward the environment" (Hungerford & Volk 1990, p. 261). SLEs are important phenomenological moments that – like any moment of genuine empathic identification – may alter one's life trajectory toward environmental activism (Ceaser 2015; Chawla 1999; Tanner 1980). Localised and *closely personal* SLEs can be motivators and determinants of responsible, or pro, environmental action (Hungerford & Volk 1990, p. 261).

Tanner was the first to introduce the concept of SLEs as motivating factors for environmentalism (1980). In a 'modest' study, 45 American environmentalists were asked to identify the 'formative influences' underlying their activism (Tanner 1980, 21). Tanner's key finding was that people were primarily motivated by "positive experiences in relatively natural habitats, but also by a parent or teacher with an interest in nature study, and/or knowledge garnered through books" (1980, p. 23).

In their study into the social bases of environmental concern, Van Liere and Dunlap found that this concern connected more to local, personally experienced environmental issues (1980, p. 191). Chawla expanded on Tanner's study, integrating data from 56 environmentalists from the US and Norway who were asked to describe their 'life's path' to environmentalism (1999). In a similar vein to Tanner, she found that memory of a childhood spent in nature was the key formative factor (Chawla 1999, p. 17). This

was followed by family support/interest and membership of a neighbourhood group, local community organisation or youth group such as Scouts.

Chawla's participants also cited two paths into environmentalism: "concern for the environment in and of itself, and concern for social justice" - the rights of people to have healthy environments and to not be exploited by developers or polluters (Chawla 1999, p. 17). This led her to conclude that "social concerns", that is concerns about the impact on people of environmental degradation and the inequitable distribution of environmental 'bads' (e.g. pollution), can form a path of entry into environmental action" (1999, p. 24). Significantly Chawla also identified 'habitat alteration', that is seeing a negative change or loss of a valued environment, as a variable (1999, p. 19).

The students have significant lived experiences (SLEs) of growing up in traditional communities in rural environments close to nature and these experiences have resulted in certain values, beliefs and attitudes. These are discussed below.

7.6. Positive Significant Lived Experiences

We are all both products and part of nature (Brincat & Gerber 2015, p. 873; Capra 1996; Castree 2014, p. 4; Coole & Frost 2010, p. 1; Merchant 2008, p. 33), but our engagement with, and responses to our external nature (herein defined as 'the environment') are highly diverse, ambivalent and embedded in "the embodied material experiences" of daily life (Foster 2009, p.; 153; see *Marx & Engels on Ecology* 1977, in Merchant 2008, p. 44-46). As one student said "the environment is very important for everything" (S1). As can be seen from this slogan that was created by the students, the NEED students have a close connection with, and love for, their land.

Our land is our heart
Our forest is our soul
Our water is our blood
Thus, we hold in our future

(Slogan on NEED T-Shirt, designed by students, March 2014)

The students have an inherent understanding of interconnectedness. Epicurean materialism (the underlying ideology of Marx's ecology, and empiricism) states that

“knowledge of the world starts with the senses” (Foster 2009, p. 150; and see Uhl 2004, p.106-107). The students’ world is a sensuous world, shaped by the sensuous activity of a close connection to the materiality of their natural environments. They are born into a culture that is closely integrated with the natural surrounds. They are rocked in hammocks as babies in the cool breeze, they play in the dirt in the shade of their rattan houses and, when old enough, work in the fields or minding the animals. They feel the soil under their nails, it gets in their skin and when they come home at the end of a long day their bodies ache with the effort. They walk for hours along dusty paths, the hot sun on their faces or the rain on their backs, the pungent smells of Myanmar in their nostrils. They ride on motorbikes with the wind in their hair.

The participants in this study are closer to the rhythm of nature and its cycles than the majority of people in the West. They have a heightened awareness of a material other as substance and sight and sound. For our first, external nature is also a material reality – an ‘out there’ regardless of human interaction (Coole & Frost 2010, p.7). Those based on the land in Myanmar are more *au fait* with the materialist synthesis of our complex organic and inorganic world – this ‘materiality of nature’ (discussed by Castree 1995, p. 13; Coole & Frost 2010; Foster 2009, p. 159; Merchant 2008). They see beautiful landscapes, but they also know the dangers that lurk therein – elephants, tigers, snakes and scorpions. They know floods and landslide and terrible storms and they seek shelter in their little huts or ‘teak’ houses knowing that all they live with could, at any time, be swept away. They live with a broad range of environmental risks and relatively, and ever more, unknowable consequences as described by two students:

> Three years ago, the volcano exploded. The farm and trees were destroyed by the volcano, so the local people faced the livelihood problems (S7).
>
> Nowadays we are facing climate change, global warming and other environmental problem such as late rain, storming and flooding water. So the people cannot do their farm well (S12).

Human consciousness is anchored and expanded by embodiment and embeddedness (Spretnak 2011, p. 111) and these embodied sensual experiences shape a comprehension and understanding of the materiality of existence, as well as relationships and connections (see Salleh 2000, p. 30). The students have an inherent

understanding of interconnectedness, independent of Western thought, which is only just in the recent past starting to engage with these ideals.

Bruun and Kalland found that in the East attitudes to nature, whilst complex and varied, do appear more ontologically discrete as opposed to the absolutism of the West (Bruun & Kalland, p. 11). Communality, transpersonal identification and awareness that "things just are" stemming from a close connection to both internal *and* external natures results in an 'ecological consciousness' (see O'Sullivan & Taylor 2004, p. 13-15; Uhl 2003, p. 1). As Spretnak notes, communion with the natural world nourishes us and connects us with our matrix (2011, p. 110).

As a result of their close connection to land the NEED participants have an enhanced environmental sensitivity and high levels of environmental literacy (see Orr 1992 and Roth 1992 for a definition and as discussed in section 4.1.1). An example of environmental sensitivity is highlighted in the following response to a question I posed to one of the students. I asked what the word for 'environment' was in Bamar language, the formal language used in Myanmar[87]:

> The word is *Tha Ba Wa Pet Won Gin*. As you know local villagers are lack of education to define the academic meaning of environment. But, they generally see natural environment like mountains, ocean, forests, wild animals and other natural things around them. They exactly know that these all are significant for their livelihoods, culture, intellectual nutrients and the development for the local community. What I mean by is that most of their knowledge to be adept with their social environment, gets from nature by learning the things they see when they are working, relying on the nature. For example, some experienced fishermen know the time by looking at the tide up and down. They don't need the clocks and watches for them, they can guess just very near exact time. Previous years, they don't know about the globalisation and climate change, but they just simply know (very hot, very cold than usual), and from water scarcity, natural resources scarcity (S15).

Coming from land-based cultures, that is communities that primarily rely directly on the land for livelihoods, the students possess a technical knowledge of the environment (indigenous ecology, forestry, fisheries, medicine, cosmology) that is inseparable from

[87] I asked this question in an effort to understand more clearly their connection to the environment and what their working definition was as the environment as a term was referred to repeatedly within the EAE program at NEED.

their cultural knowledge (history, myth, ritual, spirituality), and a comprehension of economic livelihoods that is inseparable from cultural beliefs and practices (as discussed by Walter 2009, p. 518). For land-based communities, as opposed to urbanised or suburban communities, local knowledge is "integral to the fabric and rhythms of daily life" (as discussed by Walter 2009, p. 520). And as such, we have much to learn from land-based communities, contrary to the Western development narrative.

Of course, we all approach the world from situated perspectives, our positionality, our own interests and capacities, and by our own particular historical and geographical location in the world (Castree 1995, p. 15). Our experiences are culturally and socially mediated and our grasp of nature tends to be shaped through our daily social prctices (Macnaghten & Urry 1998, p. 2). Nature is, therefore, mediated through society and society through nature (Smith 1984, p.19). For those on the land, this is through the complex metabolic processes of industry, "the site at which society systematically engages with and transforms the natural world" (Castree 1995, p. 17). These producers are directly concerned with producing and maintaining food and life (Mies & Bennholdt-Thomsen 2000, p. 11). These activities and experiences are particularly pertinent for women, who labour in reproduction, and bear the majority of domestic duties on top of their livelihood efforts (see Salleh 2000, p. 33; Salleh 1997; Mies & Bennholdt-Thomsen 2000).

For many the land is culture, and culture is embedded in the land and this relationship is at the root of activities to preserve its value as a source of material existence and spiritual life (Clover 2001, p. 162). This is articulated in the following excerpts from the students' village stories:

> The population of my village is about 1,250 people. Usually, they make their livelihood from agriculture, fishing and shop. My village is surrounding by stream, mountains and we also have many beautiful beaches. The volcano is near the beach. It is a very beautiful beach. There is some pagoda on the mountain in my village. My village is very beautiful and has a special eco- system. I would like to live always in my village. There are many beautiful and pleasant places in my area (S7).

> The Inthar have also developed a singular form of aquaculture. A network of interwoven seaweed and hyacinths creates a thick layer of humus over the years, and this is attached to the bottom of the lake with bamboo poles,

> and then planted with tomatoes, cauliflower and flower. It is very beautiful. The Inle Lake is very beautiful and has a special eco system. I would like to always live in my village (S25).

In a discussion of youth in South East Asia, Maria tells us that "it is important to emphasise the nature of relationships that these young people learn to value as they grow up" (2002, p. 177). They have been socialised toward getting along with others. Whilst not all the students are practising Buddhists[88], the majority have been born into and socialised within a fiercely traditional Buddhist society (as noted in section 5.3). All the students have a strong sense of duty and responsibility, embedded in their cultural and spiritual values. On the whole, the participants have a sense of co-existence with nature, of gratitude and peace – instilled within Buddhist communities (de Silva 1998, p. 47). Helena-Norberg Hodge found a similar co-existence, culture and sensibility in the peoples of Ladakh in her book *Ancient Futures* - an exploration into the impacts of globalisation and development on traditional communities (2009).

7.6.1. Buddhism

In Buddhism, humans are asked to show reverence and respect for nature, and conservation of nature is emphasised in its teachings (Yencken 2000, p. 224). One would expect therefore that there would be a strong correlation between Buddhism and pro-environmental behaviour.

In an extended argument for a Buddhist environmental ethics, de Silva says that the normative behaviour embedded in the practice of Buddhism has potential because of Buddhist consequentialism which "accepts a more integrated notion of motive, intention, consequence and foresight" (1998 p. 68). These are articulated in Buddhist texts as "precepts, rules, reciprocal duties and obligations" that guide both religious and lay peoples in their daily lives, "facilitating the development of a morality and social harmony, duties and obligations" (de Silva 1998, p. 79). Buddhist ethics are exemplified in the Noble Eightfold Path (see de Silva 1998, p. 55-61)[89]. The integration of this path involves the blending of *karunā* (compassion) and *paňňā* (wisdom) (de Silva, 1998, p. 56) and these spiritual teachings can ground us in the present, therefore

[88] Parts of Chin and Kachin State are predominately Christian so students from these areas would not share this experience.
[89] This is discussed further in Chapter Nine.

shaping our behaviour (Spretnak 2011, p. 110). The practice of Buddhism, through mindful meditation aims at acceptance, integration and peace.

However, there are countervailing beliefs and practices within the Buddhist tradition and it has been found that its cultural beliefs on their own are insufficient in preventing deterioration of the environment (De Silva 1998, p. 224-225). Buddhism has failed to prevent massive and far reaching environmental destruction (Bruun & Kalland 2013, p. 11). The argument is that people's attitudes are particularist and pragmatic rather than governed by absolute principles and there is little evidence to suggest that Buddhism, per se, results in better environmental care (Bruun and Kalland (2013, p. 18).

On the other hand, whilst this thesis finds that Buddhist values and teachings *on their own* are not a prime motivating factor for the participants' environmentalism and praxis, Buddhist values and cultural aspects of Buddhism have shaped the participants' identities (even the Christian students to a certain extent) and instilled in most of them certain ethics and a sense of duty and responsibility.

As noted in 5.2, Buddhism is the predominant cultural, spiritual, and political institution in Myanmar, the sangha plays a significant educational role, and contemporary 'socially engaged' Buddhism emphasises "social justice, sustainable development, and peace as foundations for spiritual development" (Schober 2011, p. 132). Through my observations, living with, and sharing cultural events and long conversations with the participants, it is apparent that through their exposure to Buddhist teachings and cultural practices, they have imbued in themselves a sense of responsibility to both their communities, and the environment.

A number of the Inle Lake students are attached to an environmental group that is focusing on teaching deep (Buddhist) ecology framed in Buddhist values of caring for others (2015 pers. comm., S25, 17 March). Whilst in Inle Lake I visited two schools and a monastery where school students were learning Buddhist texts in *pali*. I was told by two of the NEED staff that they had learnt like this as children (2015, pers. comm., San Myint and La Min, 17 March) and this learning has informed their environmentalism. As Khaing Dhu Wan, NEED's Director, notes in 6.1.3, Buddhist values can, and should, be applied to agriculture.

7.6.2. Simplicity

One of the key cultural aspects of Buddhism is simple living[90], as discussed in depth by Schumacher (1993 & 1973). For Schumacher "the cultivation and expansion of needs (material wealth) is the antithesis of wisdom" (1973, p. 20). The participants live simply – as one of the students said, "we must respect the farmers because they are simple (meaning that they live simply)" (S2).

It could be argued, of course, that they live simply because they have no choice, lack access to material resources and incomes, but, for the vast majority, it appears to be more of a sensibility. They live a 'householders' life – "based on a sense of restraint, caring for others, non-injury, truthfulness and liberality" (defined by de Silva 1998, p. 39 & 169). Many, like the participants in this study, believe that this 'subsistence perspective', one that stands in opposition to a paradigm that tells us money is the source of life, is the path to a truly 'good life' (see Mies and Bennholdt-Thomsen 2000, p.5-17).

7.6.3. Values

The participants in this study have grown up in traditional societies with strong communitarian values. A value is "a guiding principle in the life of a person or other social entity" (Callenbach 2005, p. 46; Schwartz 1994, p. 21) and "an enduring belief that a specific mode of conduct or end state of existence is personally or socially preferable to another" (Rokeach 1973, p. 5). Schwartz found values, that are acquired through socialization as well as individuals' unique learning experiences, to be culturally universal (1994, p. 21). Values represent one of the many internal and external facets that can help to explain individual decision making, attitudes and behaviour (Schwartz et al. 2012, p. 664). Values (or the importance given to each value) guide action, but experience guides the import attributed to each value. It is the relative importance of one value or another value that drives the attitude, belief and/or behaviour.

In social psychology it is Schwartz who is credited for the in-depth classification of human values (1992 & 1994). He built on Rokeach's (1973) conceptualisation of

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[90] Introduced in section 3.5.

values, proposing a general classification of 56 values, and initially identified 10 motivational types of values from data collected in 44 countries, and plotted these in a two-dimensional space that comprises four separate value clusters: Openness to Change, Self-Transcendence, Conservation and Self-Enhancement (Schwartz 1994, p. 24).[91]

These values are likely to be universal because they are grounded in one or more of three universal requirements of human existence with which people must cope: needs of individuals as biological organisms, requisites of coordinated social interaction, and survival and welfare needs of groups. Each value is grounded in one or more of these three universal requirements of human existence (Schwartz et al. 2012, p. 664).

This aligns with Maslow's hierarchy of needs, where there is a connection between values and motivation. We are more motivated to strive for or protect that which we value. For Maslow (1943), we are more motivated to meet our basic needs because we value the benefits they bring – primarily life, health and wellbeing. Values can be utilised in predicting attitudes and behavioural intentions (de Groot & Steg 2008, p. 331; Rokeach 1973, p. 14). These values are shown below at Figure 7-8 in Schwartz's classic values diagram (1994, p. 24).

[91] Schwartz et al. (2012) subsequently extended these to nineteen motivational types defined and ordered on the continuum based on their compatible and conflicting motivations, expression of self-protection versus growth, and personal versus social focus. However, for the purposes of this thesis, the classic diagram with the ten basic values is sufficient in explaining their relationship to pro-environmental behaviour.

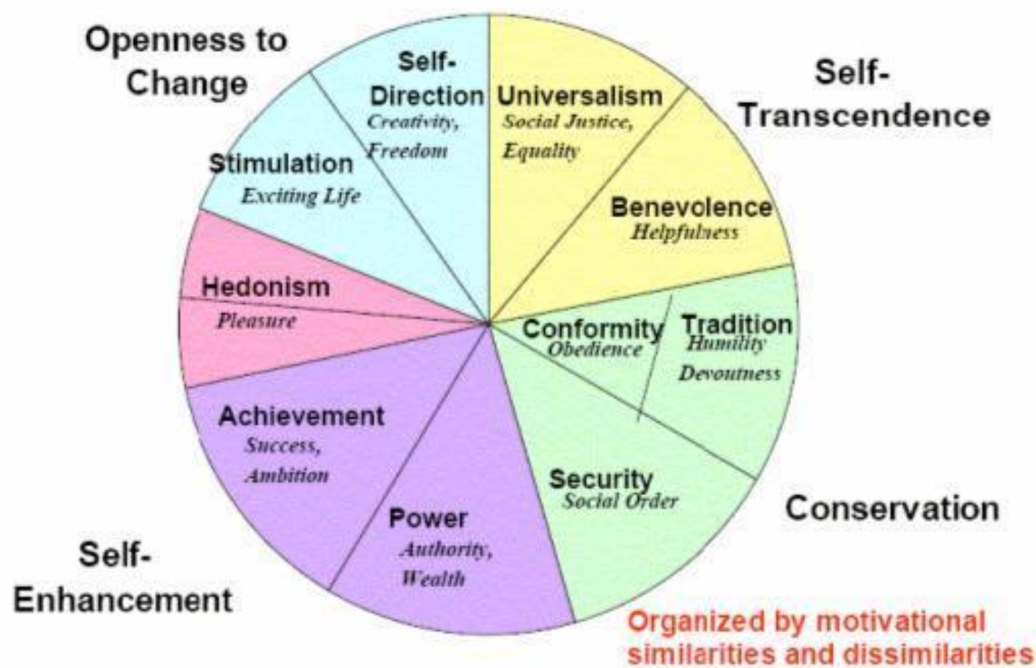

Figure 7-8 Schwartz's Values
(source: http://www.yourmorals.org/schwartz_process.php).

Competing value types emanate in opposing directions from the centre; adjacent values are compatible and opposite values are antagonistic. This is explained by Schwartz who says, "the location of tradition outside of conformity implies that these two value types share a single motivational goal-subordination of self in favour of socially imposed expectations" (1994, p. 24).[92]

The participants in this current study were not specifically tested for values; a values scale was not conducted as part of the data collection. However, from personal observation, and through analysis of the data, values have emerged as strong motivators for these participants.

Their prime values are conformity, security, tradition and benevolence. These four values are shown in more detail in Figure 7-9 and are explained by Schwartz (1994, p. 21-22)[93]:

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[92] See Schwartz et al. (2012, p. 681-684), for more information regarding the correlation between values.
[93] For an extended discussion see Schwartz et al. (2012, p. 667-668).

- Conformity - is derived from the prerequisite of smooth interaction and group survival.
- Security – from the desire for safety, harmony and stability of society, of relationships and self.
- Tradition - encompasses respect, commitment and acceptance of customs and traditional ideas.
- Benevolence - involves the preservation and enhancement of the welfare of people with whom one is in frequent personal contact.

Structural issues, noted in Chapter Five and throughout this thesis, are, of course, central to their lived experience but it is these values that shape their attitudes with regard to responsible citizenship and environmental advocacy. These values have been formed through socialisation into their very traditional, primarily Buddhist and/or ethnic communities. These values have been nurtured through their involvement with community organisations and/or influential teachers. They have a strong sense of duty – of doing the right thing. They exhibit strong altruism, with an entrenched sense of duty to family and kinship groups, as well as a strong sense of personal and community responsibility, underpinned by these traditional and benevolent values.

As can be seen in Schwartz's empirical structure in figure 7-9, these more altruistic and conservative values, tend to stand in opposition, or override, more self-indulgent considerations such as the desire for material wealth and social power.

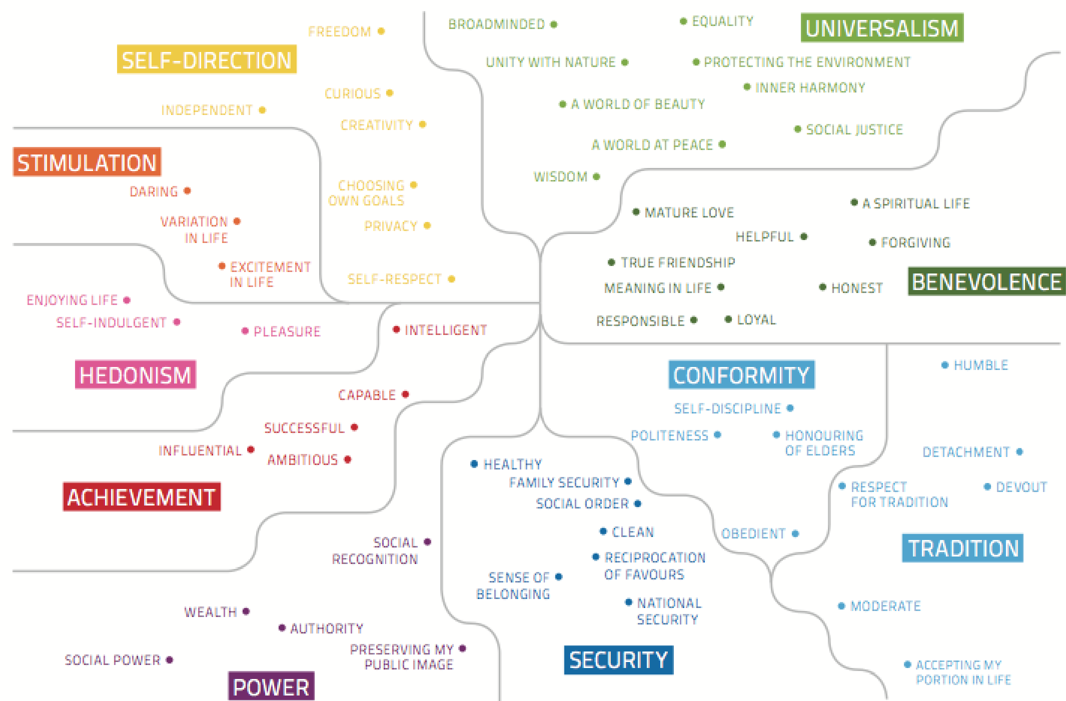

Figure 7-9 The empirical structure of human values
(based on Schwartz 1992, p. 24) (source: http://www.valuesandcapitalism.com/urban-decay-rots-community-values/).

The participants' values lie in the realm of self-transcendence and conservation. As noted above, values that lie next to each other are closely linked and, in this respect, conformity and benevolence values are compatible.[94] Values that lie in the self-transcendence realm (particularly universalism) have been found to correlate strongly with pro-environmental, or what Stern calls 'environmentally significant behaviour' (2000, p. 409). These are the type of values called for by environmental educators (Callenbach 2005 for example).

7.6.4. Values and Pro-Environmental Behaviour

Schwartz's Value Theory has spawned a myriad studies over the decades, including how the ten basic values or the four higher order values relate to pro-environmental behaviour (see Corraliza & Berenguer 2000; de Groot & Steg 2008; Dunlap & Van Liere 2008; Kollmus & Agyeman 2002; Stern 2000)[95]. Most environmental debates ultimately involve value conflicts (Callenbach 2005, p. 47). De Groot & Steg, for

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[94] When a spirituality region emerged, it was almost always adjacent to the Tradition and/or Benevolence regions (Schwartz 1994, p. 32).
[95] Factors underlying pro-environmental behaviour together with factors preventing pro-environmental behaviour were discussed at length in Chapter Four with regard to environmental education.

example, discuss ‘social dilemma’ research and its distinction between ‘pro-socials or co-operators’ and ‘pro-selves or non-co-operators’; “people with pro-social values focus on optimizing outcomes for others” (2008, p. 332). Pro-social values align with Schwartz’s ‘self-transcendence’ value orientation (De Groot & Steg 2008, p. 332).

Also de Groot and Steg developed a value instrument that distinguished between three value orientations: egoistic - self-interest; altruistic -unselfish concern for others, and biospheric - concern for intrinsic value of nature (2008, p. 348). They found that people with a social-altruistic value orientation will base their decision whether to behave pro-environmentally or not on perceived costs and benefits for other people (2008, p. 333). Further, environmental beliefs, intentions, and behaviour appear to be positively related to social-altruism (as is biospheric) Again, altruistic and biospheric values aligned with self-transcendence. This is in contrast to egoistic – which is aligned with self-enhancement (de Groot & Steg, 2008, p. 334).

As the participants’ values lie in the self-transcendence realm, it is assumed that they are more likely to exhibit environmentally significant behaviours. However, as discussed in section 4.1.1, regarding factors underlying pro-environmental behavior, and as Corraliza and Berenguer (2000 for one) found, many factors are implicated in behaviour change. This is discussed further in Chapters Eight and Nine.

7.7. Negative Significant Lived Experiences

In her SLE research, noted above, Chawla found that negative, as well as positive experiences, in particular the loss of a valued place, can be motivators for pro-environmental behavior (1999). Ceaser expands on the notion of negative SLEs in his research into marginalised peoples resisting negative environmental impacts (2015). Ceaser argues that consideration of SLEs must include ‘positionality’, in that different embodied social/environmental experiences produce different notions of the environment and environmentalism (2015, p. 206). As he notes, “social disadvantages and environmental disadvantages are often directly intertwined” (2015, p. 207). He concludes that “negative experiences can be greater motivators than positive” particularly for marginalised populations who “embrace their negative social and environmental experiences and ground their work in notions of social justice, community and empowerment” (2015, p. 214). Ceaser himself points out that his

research is US-centric, lacking a global focus, but it is still pertinent here in analysing the SLEs of agrarian communities in Myanmar. This is because, it is often the negative experiences, difficult emotions and sense of injustice that underlies activism for marginalised communities (Ceaser 2015, p. 215).

Loss or degradation of a valued place, as a motivator for environmentalism, is also articulated by Albrecht in his notion of 'solastalgia' (2005). Solastalgia is the lived experience of one's sense of comfort or solace (gained from that place) being undermined by forces (usually out of one's control). It is an intense desire for the place where one is a resident to be maintained in a state that continues to give comfort or solace. Solastalgia is an emerging concept that is rapidly gaining momentum, as a useful framework for understanding issues of ecological violence at a local level. When a place that one has grown to love is under attack one's sense of place is disturbed through both the erosion of the sense of belonging (identity) and a feeling of distress (psychological desolation) about its transformation (Albrecht 2005, p. 45). As articulated by one of the students:

> When I am thinking about my village, I feel to becoming the lack of happiness. I think that why I am not happy to live in my village. When I was a child, I liked to live happily with my community in my village. My village had many natural resources. Now, they are becoming less and less (S15).

Sense of place emerges through awareness of the history, geography and geology of an area, its flora and fauna, the legends of a place, and a growing sense of the land and its history after living there for a time. Memory and emotional experience is integral to sense of place. As Vanessa Bible states "these are the emotions and experiences we lay down and write upon the Earth" (2016, pers. comm., 22 September). As noted previously, ownership, protection and conservation of land is integral to food security in Myanmar, and the participants' ways of life (see Ramohan & Pritchard 2014, p. 597 for a discussion on food security in Myanmar). The most poignant moments of solastalgia occur when individuals directly experience the transformation of a loved environment; that is the impact is localised or particular to them (Albrecht 2005, p. 45).

7.8. Protecting What They Value

The participants have a meaningful existence in the 'embodied materialism' of co-joined labour (as discussed by Salleh 2004, p. 202). They are motivated by their concern for the environment as articulated by a student:

> We need to conserve our environment because it is degrading then rehabilitation. All of these problems are due to people. We should maintain our environment. If environmental problems happen all of us will face the same, so all of us have responsibility to maintain our environment (S12).

Mainly, however, they are motivated by the loss of places and space that they value, and the people and communities that they love, as articulated by another:

> I want to see my village (Inle Lake) very beautiful and very pleasant, I love my village, I will always live there (S22).
>
> My villagers ….. are living their lives happily with their traditional culture. So, I also like to live in my village (S6).

Despite their deep connection to their local environments it is not the environment per se that they are seeking to save (they are not seeking to save it for its intrinsic value). Their motivations are not ecocentric or biospheric in nature. Their motivation and concerns are embedded in the impact on their communities and are, therefore, leaning towards social-altruism or 'human welfare ecology' (defined by Eckersley 1992, p. 38).

Environmental insecurity factors are a cause of their socio-economic problems; loss of traditional livelihoods and high levels of migration. They see the need to address localised environmental problems in order to protect and regenerate their traditional ways of life and livelihoods. Like millions of others around the globe (see Shiva 2005, p. 2) they are resisting the destruction of their biological and cultural diversity, their lives and their livelihoods. It is in this respect that their motivation is not intrinsically eco-centric but more homocentric and anthropocentric in its concerns, linked to their need to protect the environment in order to protect *themselves.*[96] These notions are the

[96] It is important to note here that none of this explains *why* these students and not others are so strongly motivated and taking action. This is discussed further in Chapter Ten with regards to the need for further research. It could simply be that, as Bruun

focus of Chapter Nine, which contains a discussion of their activism and how it is contributing to environmental peacebuilding.

7.9. Objectives/Goals - How the Students Plan to Respond

When asked the question "what are you planning to do, or what do you think you will be able to achieve, with the skills and knowledge acquired whilst at NEED?" the students from the initial cohort responded with five different key goals:[97]

- to practice organic agriculture in their village
- to be involved in community development in their village
- to engage in further education
- to work with their local or another organisation, and
- to work with NEED.

These findings are depicted in Figure 7-10.

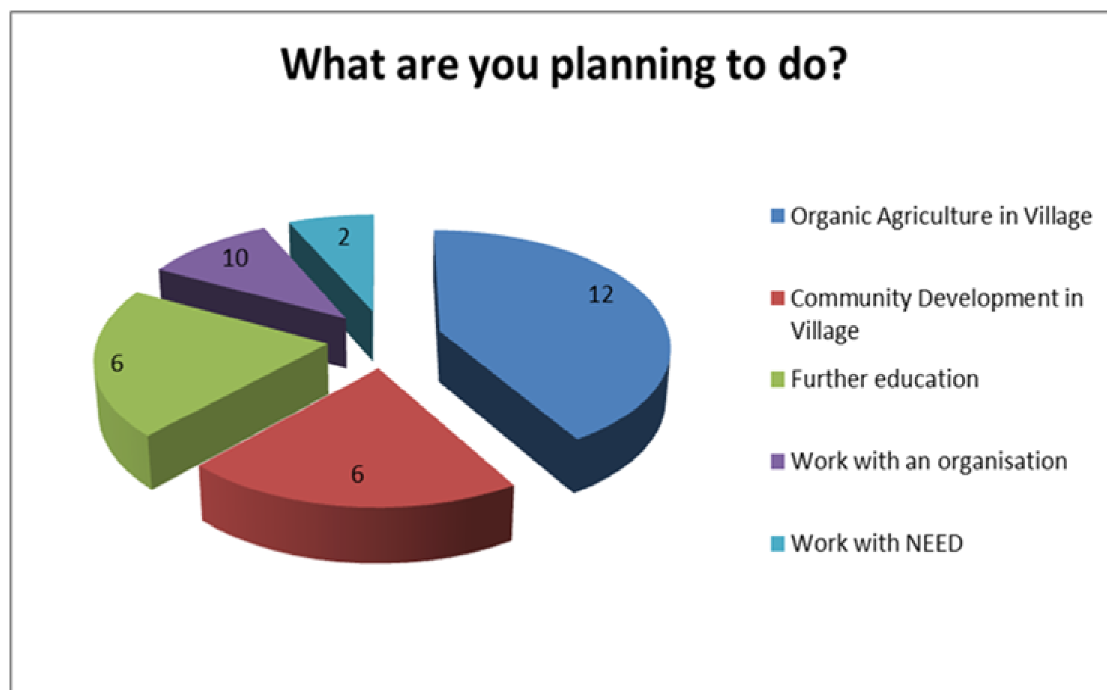

Figure 7-10 What are you planning to do?

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and Kalland (2013, p. 19) in their investigation into Eastern attitudes towards nature found "there will be groups of environmentalists that will arise with more concerns than others".

[97] Again, some students identified more than one goal.

After analysing the responses to this question one key theme emerged – the sharing of knowledge:

> I'll share my knowledge in my community. I think that I would help them by this way. I would like to see my village green and beautiful. So, I will maintain our environment (S16).
>
> When I have finished this school, I will share my knowledge with my community and others near my village. Now our environment is going to degrade, so I want to maintain our environment. I think I will solve our problems by sharing my knowledge. One solution is to rebuild the forests by replanting (S20).
>
> I want to share my knowledge with my villagers to empower them. I will set up training and a model organic farm and replant trees. So, I will give a gift to all generations by saving the environment (S6).

These goals are articulated further by these students:

> I will share knowledge and skills with my community through my organisation. The education from this school is really needed in my community (S25).
>
> I will go back to my village and set up an environmental organisation – teach people and do reforestation, teach the villagers (S9).
>
> I want to do community development – be a social mobiliser (S13).
>
> I will go to my home, I will do reforestation in mangrove forest – help with that (S15).
>
> I will go back to my village – continue Grade 11 in 2015. Share knowledge about organic agriculture (S7).
>
> I want to do a small project in my village. I think they will like it because they are using pesticides and chemicals and the soil is so bad (S4).
>
> I will make a model farm through friends and on my Grandfather's farm. Villagers are over-using chemicals – I think the people will follow me (S17).
>
> If I finish this school, I will be sharing all of my knowledge to my villagers. And then I will discuss with stakeholders. Now, my villagers are hoping to get help from me. So, I need to study more. Whatever I will hard working for my villagers and near villages (S19).

One student articulated this as a responsibility.

> We should give training about the environment and we should do reforestation and we should keep their livelihood. They (his villagers) are not educated person so they will need educated persons and other things to be developed around their communities (S8).

All of the students were able to articulate these goals as responses to the environmental and food insecurity issues discussed in Chapter Five.

> So, we have a lot of problems now because of water pollution. I want to help my community solve the problems. We must participate and unite to change before now or before water pollution. We need to learn about how to grow mushroom and we need to change from chemical farming to organic farming. After I have finished this school I'm thinking about going back to my village to share my knowledge with my villagers and others in (around) my area (S22).
>
> If I have finish this school, I thinking of going back to my village to share my knowledge with the villagers and others in around my area. I have learned a lot about deforestation. I plan do training, have some meetings, find some funding and do some replanting. I would like to see my village is very beautiful by forests (S7).
>
> We have to maintain and protect responsibility for our environment because we are living on the environment. So we need to maintain and protect those forests for the generation. We are learning about environment. When we get knowledge about the environment we need to share other people. So we will give training to the villagers and other people. In the training, we will give pamphlets and other information about the environment (S11).

This student saw the need for political activism:

> So this school presents knowledge, when I go back to my village I will share my knowledge with my villagers and work together with them. And then we will conserve the forest for next generations. We will look for many ways, information and communication to fight the state governments (S2).

Another cited the chance for empowerment:

> I want to share my knowledge with my villagers to empower them. I will set up training and a model organic farm and replant trees. So, I will give a gift to all generations by saving the environment (S6).

The answers provided above were from interviews but these ideas were expanded on in their group work and writing. One aspect of the program at NEED, as noted in section 6.3.2, is proposal writing. This involves students in the formation of small community development initiatives and in writing proposals for grant funding. In the final few months of the program, students, with assistance from staff, worked in small groups (the student from Chin state worked on his own) creating proposals for small, localised projects. Their proposals were formally presented by the students at the end of the year to other students and a panel of staff who judged the proposals and granted prizes to three. A précis of two of these projects is presented below in order to articulate the depth of purpose behind the students' objectives but also to highlight the sense of agency exhibited by the students; an understanding that they are social change agents capable of assisting their communities. Indeed, that they could well be an integral aspect.[98]

7.9.1. Student Proposals

Proposal One

Group:	Save Our Lives (two females)
Project Title:	Reforestation and Sustainable Livelihood – Irrawaddy Division
Project Précis : To be aware of the cause of deforestation to the local people To create a community mangrove forest To develop local community livelihood To be safe in natural disasters Target – youth Benefit Could create market for the nursery farm, an ecological forest to support livelihood Get knowledge about deforestation Reduce migrant labor for new generation Support education in the parts Direct benefit for youth and villagers, indirect benefit for new generation. **Conclusion**: We will continue to grow the mangrove trees with the villagers and youth every World Environment Day. If the government cut the mangrove trees again, we will make a peace demos trice. We will make rules to continues maintain about forest with the villagers	

[98] The remaining seven proposal precis are attached as Appendix D.

Proposal Two

Group:	Green Dream Group (two females/two males)
Project Title:	Healthy and Environmental Livelihoods for People (HELP)
Project Précis : To train about sustainable organic agriculture and new land law for the participants, farmers. To train about seed saving bank for the promoting verities of local seeds. To share pamphlets for local people to know about organic agriculture and new land law. Target - farmers **Conclusion**: This is we are trying to solve the problems of them such as over use chemical and land law, And then we hope to be peaceful society. We will do trainings at the undeveloped areas to be sustainable. We hope to cooperate with other organization and local people to participate at our work.	

7.10. Discussion Regarding Objectives

The EAE provided by NEED is contextually specific, aimed at nurturing progressive social change at the local level. The students are provided with the political awareness that enables them to expand on their traditional ecological knowledge (TEK) (see Walter 2009, p. 518-519 for a discussion of TEK). By understanding their contemporary reality, in a global context, they are enabled in creating ways to change it. As Eagleton says, "the more we can understand the more we can do, but much of this understanding comes through daily struggle" (2011, p. 143). The students' proposals have utilised their project development skills and exhibit a well thought-out mix of projects for 'places' as well as for people. Their project ideas incorporate their old proficiencies with new ones in the planning of proposals that promote livelihoods based on conservation and regeneration, rather than exploitation. People are empowered working with others to build community, creating 'alternative networks of power' for mutual change (Ceaser 2015, p. 214).

The students, as part of NEED's overarching ethos, have created locally-generated skilled activities, aimed at defending existing structures that accommodate their specific needs and capacities. Their projects, along with their broader aspirations of helping their communities and implementing organic agriculture, are rooted in their everyday experiences of deprivation and oppression within a concrete setting (from Nilsen & Cox 2013, p. 73). The students' ideas and theories are grounded in this life-world, emerging from experience and ritual (from Clover 2003, p. 11). The projects reflect their desire to benefit their local communities whilst ensuring that there is a) as little impact on the environment as possible or b) some form of environmental regeneration. They are partly defensive strategies against external threats of development, business and the state, but moreover they seek to empower locals. In this

way they are ‘re-describing themselves’. People’s epistemologies such as these are an irreplaceable resource in defining paths to peace (Kyrou 2007, p. 84).

Nilsen and Cox tell us that local rationalities, local forms of resistance and regeneration, are rooted in ‘good sense’ – “those aspects of subaltern consciousness that indicate that the social group in question may indeed have its own conception of the world” (Gramsci 1998, pp. 327-8, 333 cited 2013, p. 74-75). I was told by a worker at Pun Pun organic farm in Thailand that permaculture and organic gardening was grounded in ‘common sense’. This is the more common understanding but Nilsen and Cox argue that ‘common sense’ is rooted in notions of hegemony (2013, p. 74). Barring semantics, the students’ projects are based on *their* common sense understandings of *their* communities’ needs *and* capabilities. They are localised and field-specific. They are putting theory into practice, in the most practical ways. By providing skills and resources for their local social groups they are empowering them as a form of resistance to external forms of development, but also for future, community-led and participatory development.

One of the fundamental challenges for Myanmar as it develops is the issue of local people’s rights and political freedom to manage the natural resources on which their livelihoods are based (Tun Myint 2007, p. 203).

7.11. Graduation

All of the 25 students who undertook NEED’s initial program in Myanmar graduated ceremoniously on 29 March 2014. In attendance were family members, supporters of NEED, local villagers and foreign visitors. I was asked to officiate, along with Myanmar guests, at the ceremony, to make a speech and hand out some of the Graduation certificates. It was a very proud moment for everyone involved, and the dancing and singing (and drinking) went on long into the night.

Figure 7-11 Students having received their certificates (NEED Graduation Ceremony, 29 March 2014)

7.12. Further Data – Second Cohort of Students – 2014-2015

As discussed in Chapter Two, demographic data relating to the *second* cohort of NEED students, (n 26), was gathered during fieldwork conducted in November 2014 at the farm. They were also asked about how they had heard about NEED and why they had come. As with the first cohort, the majority of these students in 2014 (n. 12) had heard about NEED through their organisation, eight had heard about NEED through a friend and the others through friends or teachers. The vast majority (n. 20) said they had come to NEED to learn about organic (sustainable) agriculture. This is significantly more than in the first cohort and can be explained by the fact that NEED had begun to heavily promote its program with a focus on organic agriculture. The second cohort, like the previous cohort, gave a number of reasons for coming to NEED. These included learning English (n. 13), community development (n. 10), learning about the environment/conservation (n. 9) and computer skills (n. 8). Their reasons can be summed up by these students:

> I believe this school must be the window to look at the world for our future. So, I have decided to come here (S26/2).

> I have come to the NEED school because I don't know political, I don't know sustainable development in my local area and in my country (S1/2).
>
> I came to learn about English and how to protect the environment and economics. I want to learn English because I want to be a translator. I want to learn about the environment because I want to protect my surroundings. I will improve my country by cleaning up the rubbish. I want to be a good leader in my country (S8/2).
>
> I want to learn computer because it is very important [for] everybody and me in the world (S17/2).
>
> I came to the NEED school because I want to learn about sustainable agriculture, the environment, English, computer and community development. Among these subjects, I am most interested in sustainable agriculture because there are so many farms in my local area and so many farmers are using chemicals, and I want to stop them from using these toxic materials (S11/2).

7.13. Conclusion

This initial cohort of students that attended NEED's seminal EAE program, are motivated for a number of reasons, as are the staff at NEED. These are primarily related to their significant lived experiences of structural and ecological violence in their local areas and the impact that these are having on their valued communities and traditional livelihoods. Based on the land, the students' cultures are embedded in and shaped by the 'environmental commons' that provide the resources necessary for their survival. Their local environments provide, in most part, the direct means of life and the instruments of life activity. Their sensibilities and subjectivities have been moulded by exposure to their natural environments that are integral to their daily praxis of work and play. This has resulted in a strong value system and a sense of duty and responsibility.

They do aspire to some material wealth – they certainly love their mobile phones, and the ability to travel around the country. They want education and improved health outcomes and more job opportunities. But they do *not* want to live as people do in the North. They are determined to work at building infrastructures and livelihoods that are sustainable, and at maintaining the community bonds and traditions that have shaped them as people and which they know make them happy.

At the end of their 10 months they were a nascent, growing force for social change. However, from personal observations, there is a dissonance in the students' traditional values, NEED's vision and the students' more personal goals, of self-enhancement and personal development through this EAE program at NEED. The students appear to be quite highly motivated for personal gain and self-actualisation and, in some instances, this is creating a tension between their sense of duty and personal aspirations. The participants are intrinsically motivated by the value of the education, but also extrinsically motivated by the social rewards they will benefit from. This dissonance is discussed further in the following two chapters.

Finally, through their education the students have combined their existing environmental literacy with new knowledge and skills, in particular a consciousness of underlying political factors, organic agriculture and communication skills. These new skills, combined with their communitarian and ecological values, high environmental sensitivity, common sense knowledge and values has resulted in a sense of agency and empowerment. The next chapter discusses this further and highlights how this new sense of agency is being operationalised.

Chapter 8. Germination to Maturation; The First Year Post-Graduation

We are meeting NEED School and we have been happy.
One day we have to leave to our respective villages.
We never forgot forever.
Actually, our lives are not the same.
In my friends' lives, you can be happy forever.
Even if we are away, we never forgot each other and
we never forget very beautiful NEED school.
When we are away, please try your dream to be succeed.
Although you can have problems in going to your dream,
try to smile and keep going.

Song written in Myanmar language by two NEED students, and put to music by another (trans. by Saw Pyae Song, 2014).

This chapter discusses the outcomes of the seminal program at NEED and focuses on data gathered during my final field trip in which I was able to conduct interviews with 21 of the 25 students. I did this by travelling to various sites within Myanmar in a 3 week period (March-April 2015) during which I was able to visit some of the students' villages or meet with them at nearby townships.

These sites included the NEED farm at Hmawbi, various settings in the city of Yangon, the townships of Bago, Moulmein in Mon State, Nandshwe (Inle Lake) in Shan State, Sittwee and Mrauk U in northern Rakhine State, and Ngapali Beach and Thandwe in southern Rakhine State.

One of the NEED staff travelled with me part of the time and at other times I was supported by some of the students or NEED supporters. The students were thrilled to be able to show me their homes and introduce me to their families and organisation members and to share their experiences with me. For me it was an amazing opportunity for me to conduct observational research, to share the sights, sounds, smells and tastes of their localised realities, albeit as an outsider.

This chapter focuses on data collected on the efficacy of the program provided by NEED in relation to its stated aims[99]

8.1. Introduction

As noted in section 6.1.4, NEED has a number of objectives, primarily assisting local communities regain control over their livelihoods (NEED 2013, online). NEED feels that this can be achieved through educating young adults in order for them to become social change-makers at the grassroots level. The premise is that upon graduation students return to their villages and conduct training programs and/or workshops for villagers in sustainable agriculture and livelihoods, local resource management, land laws and community development practices, and/or establish permaculture/organic farming projects. However, on conducting my follow-up interviews, I found that many of the students had taken a different trajectory.

This is evident in Table 8-1, which is a precis of the activities and occupations undertaken by the students in the first year after graduation. The majority of students went on to further study and/or joined or re-joined organisations and these were primarily focused on community development.

Only seven of the students indicated farming as their prime occupation and only five were directly involved in providing workshops or training for farmers for NEED. Some of these activities overlap; a student may be working for an organisation and undertaking distance university or involved in family farming whilst studying to matriculate from high-school.

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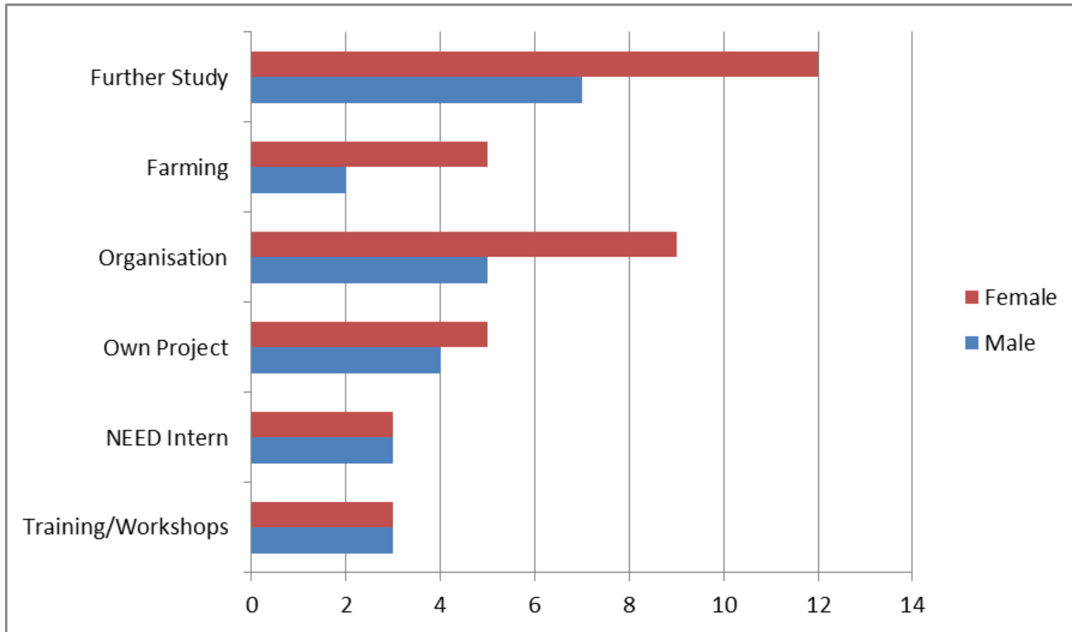
[99] The graduates were asked a series of questions relating to how they had put the NEED training into practice, their employment or activity status and their hopes for the future, as well as how they felt about their experience at NEED including their interactions with foreign teachers.

Table 8-1 Occupations/Activities of NEED Students first year after Graduation



Six of the students went on to undertake NEED's LLET training in Chiang Mai, Thailand (discussed in section 6.1.2). Other students continued with their distance university education and/or engaged in training from other organisations. As can be seen from the chart a large proportion were involved with an organisation in some way. Their activities focus on community development and environmental issues. The students who worked for NEED in some capacity assisted with office and domestic duties and were able to study part-time with the next cohort of students. They were also involved in delivering a number of Farmers Workshops for NEED. This involved travelling and conducting one or two day training sessions for farmers in villages.

Some students had initiated a small project or were involved in a project not connected with NEED. The student from Chin state is very interested in his state's history and politics and had been travelling throughout the state researching and documenting oral histories amongst other things. The others were involved in small business; one was working in a hotel and was attempting to influence management to adopt more sustainable practices. The majority had returned to their villages or townships, some were back in their villages helping their families. The majority of the students kept in touch with each other and NEED via social media, networking, forums, NEED alumni events and training opportunities. Overall, during this first year, they tended to work, live or train together in some capacity.

As noted in section 6.3.2, NEED's EAE program is embedded in a considerably formal curriculum albeit presented in a non-formal setting. This is because NEED has set an intention, which is primarily technical, embedded in the processes and practices of permaculture and organic agriculture. It is also political in that NEED is focusing on training social change agents for empowering local communities in order to resist top-down, damaging development and government prescriptions. To create alternative practices and systems NEED has created a learning space in which varied types and levels of learning have occurred for the students. The outcome of this learning at NEED has two sides: personal development for the students, and practical application.

Of key interest for this thesis is how the students are practically applying their learning, in particular, if it has instilled in them a sense of agency and whether they are actively engaging in environmental peacebuilding activities. These activities may include having a conversation about environmental issues, modelling pro-environmental behaviour, conducting training or giving public presentations, practising organic agriculture, networking with social movement organisations and politically active individuals, working in a paid position or as a volunteer for an organisation actively engaged in environmental peacebuilding or working for NEED in some way.

Education is transformative when it has radically altered both thinking and practice. The success of the program, with regard to environmental peacebuilding, can, therefore, be analysed as to the pro-environmental behaviours the students are exhibiting and how this is manifesting in social action.

After analysing the participants' responses to the questions outlined above, together with numerous conversations and personal observation, a number of themes relating to their exposure to NEED's training emerged. These relate to the learning occurring at NEED and how they are applying this learning. These themes are:

Personal transformation

- Self-determination
- Cross-cultural awareness
- Environmentalism/increased ecological literacy

Practical Application

- Sharing Knowledge
- Seeking More Knowledge
- Engaged in organisations and community-led activities
- Practising Organic Agriculture

It is not within the scope of this chapter to document in depth the activities and feedback of all 21 students. So this chapter takes inspiration from Lum's (2014) use of case studies in her follow up research into Peace Education graduates in Hawaii. A representative sample in the form of mini case studies is utilised to elucidate each of the themes. They also highlight the richness of the learning that has occurred for these students. Each of the case studies is not a definitive example of each theme, because all have crossovers, but they aim to provide a deeper understanding of each situation.

The chapter then proceeds with a comparison of the objectives outlined by NEED and the students in Chapters Six and Seven with the actualities described in this chapter. The transformation occurring for the students is then viewed through the lens of Freire's critical consciousness. The implications of these findings are the basis for the argument in Chapter Nine.

8.2. Personal Transformation

As articulated in the song that opens this chapter the majority of students were very sad to leave NEED. They had been on the eco-farm for 10 months, a long time for young adults far from home and exposed to so many new ideas. Overall the experience at NEED has been radically transformative for these students personally and overall they stated that they were very happy with the outcomes with comments such as these:

> This school is very good for us and the grassroots because we don't need to give money to attend the school and get money to use. That is why this school stands for the grassroots people (S4).
>
> NEED is very good for networking and teaching us how to think. If I had not gone to NEED I would be back in my village working in business. Now I am working as a trainer for a small NGO in Rakhine State, teaching English to students aged 13-20 years and helping in my village (S13).

> NEED is good because I got many knowledge and community with different people and ethnics, learnt computers and about politics and rights. All this was new (S24).

8.2.1. Self-determination

The key aspect that is noted is the increase in confidence and sense of agency for the students. Self-determination to refer to a characteristic of a person that leads them to make choices and decisions based on their own preferences and interests, to monitor and regulate their own actions and to be goal-oriented and self-directing (see Ryan & Deci 2000). This is articulated by the student who said "now I believe in myself, I see more clearly (S2)". Other students said:

> I got much knowledge and learnt how to study for myself for the future – analytic thinking. NEED gave me confidence to help people using my knowledge (S14).

> NEED changed my behaviour and sometimes people say I am 'crazy' (S3).

The following case study is an example of self-determination.

Case Study - Teamwork on Inle Lake (S21)

Student 21 is a female, Buddhist, now aged 21. She is from the Intha (meaning 'sons of the lake') indigenous people and her home is a village on the south west banks of Inle Lake in Shan State. As discussed in Chapter Five, 5.5.4, Inle Lake has significant problems with regard to water pollution. Before coming to NEED she was working with a local community organisation, *Buddhist Youth Inle Watershed Development Project* (BYIWDP), had travelled locally, could use a computer, was in her first year of university and farmed with her family. She identified as a farmer and said that she felt she had a duty to share her knowledge from NEED with her village. She told me:

> This has been new knowledge. I don't know about organic or environmental agriculture before here just traditional not the alternative way. I don't know organic fertiliser.[100]

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[100] This is interesting because it goes against NEED's understanding that traditional farming is organic - she does not correlate organic with traditional. This could be because the Intha have been using chemicals for an extended period of time and it is all she knows.

She is one of the students who undertook NEED's LLET training in June to September 2014. She said that during her time there she struggled with English at first but the other students supported her and she was very happy meeting new students and working together with them, getting new ideas. On her return to Myanmar she worked with a number of organisations but later in the year joined Community Oriented Myanmar (COM) (http://commyanmar.org/home/). COM is a national youth-led civil society organization with a focus on empowering young people and women and promoting democratic culture and socio-economic development.[101]

During the year she travelled around Kayah State and Shan State conducting workshops and raising awareness about the environment of the Inle Lake region. On reflecting on this experience, she told me:

> My facilitator is very impressed with my skills and knowledge gained from NEED. I am ahead of many of the others that I work with. I don't think that I am powerful but other people feel that I am. Because of my skills I am able to help others. My goal is to be a leader. I now feel confident personally but not confident yet professionally. I think that I am successful because of my hard work at NEED.

I had certainly found her to be a very capable student who applied herself and was an integral part of the student culture. She felt that having contact with foreign teachers was very good particularly for learning English which "is important for jobs". She told me that she had not seen this opportunity offered by any other organisations. She also commented on the constraints for women in Myanmar.

> Women are getting afraid of anything. Their families don't like them to go away, so women can't study and get knowledge. Men are less supportive for women to develop, to study, share knowledge and network. Women need to develop and be powerful for work – not sexy – the modern image is not powerful.[102]

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[101] She has continued working for COM, as a Junior Program Officer, training, networking and travelling. At the time of writing (2016) she had recently returned from a trip to Vietnam.

[102] The interview was being conducted in a shopping mall in Yangon and three young women had just walked by in very short skirts – conduct that was extremely rare until quite recently in the country.

At the time of our meeting she was focusing on Women's Empowerment Training, funded by COM. This training is aimed at young women aged between 17-19 but includes men. She said that overall:

> I work for the environment with my students, picking up rubbish and talking about environmental issues and waste management. We go camping and sometimes take foreigners. I like the teamwork. I think young people are interested in the environment but not the local people (farmers) because of the need to maintain their livelihoods.

She later told me:

> I really like my projects because the purpose is to promote social awareness of youth and adult and empower them in various sectors for peaceful development society. To develop friendship, sharing skills and understanding. We are helping environmental protection. For now, we are learning by doing.

8.2.2. Cross-cultural awareness

The involvement of foreign teachers at NEED facilitates a cross-cultural exchange. The teachers that are involved with NEED bring a range of skills and attitudes with them and the forging of links between environmental adult educators and community groups and movements helps create workable strategies due to the range of experience, as well as facilitiating mutual goals (Clover 2003, p. 13). The linking of education and activism, through the involvement of educators involved in a variety of social movements and activism, creates a symbiotic educational opportunity for both educators and learners (as noted by Clover 2003, p. 13; Freire 1999 [1970], p. 53). This is important with regard to not only addressing local issues, but in translating the learning to broader issues and larger arena which is NEED's intention. The feedback from the students regarding foreign teachers was generally positive[103] with comments such as:

> Foreign teachers are good because we get lots of knowledge and get to share knowledge (S12).
>
> Foreign teachers are good for the students because we get to practice our English and get more knowledge (S16).

---

[103] It is worth noting here that there is inherent bias in these statements, as the students are being asked by a foreign teacher what they think of foreign teachers.

> Foreign teachers are good because they can learn about Myanmar (S9).
>
> Good to learn English and to understand about politics from another country (S5).
>
> Foreign teachers give us much knowledge, especially about public speaking and networking with each other (S14).
>
> You were my first teacher to open my mind into the real world (S15).

The benefits of cross-cultural exchanges in environmental peacebuilding are noted in the following case study.

Case Study - Irrawaddy Dreaming (S6)

Student 6, female, now 20, is a Catholic Karen from Irawaddy Division. The Irrawaddy basin comprises the central plains and the vast southern delta area where the Irrawaddy river flows out into the Bay of Bengal. It is the site of the most important croplands in the country but is severely threatened due to population growth and changes in land-use (Kattelus, Rahaman & Varis 2014, p. 87). She is from a farming family and attended NEED because of her interest in the environment and agriculture. She studied biology at high school and is very knowledgable about local issues.[104] Whilst at NEED she told me:

> I am very interested in politics. My father is very political. Every morning he listens to the radio. Now, when I leave NEED I will be able to talk with him about politics. I want to get political – get the knowledge to go to university.

She also said that:

> Before attending NEED I have not met people from other ethnic groups, not met foreigners and could not speak English - which is so important in the world. NEED is very good for me. I get experience in front of the other people, talking. Before I came I had no knowledge of that. Also learning other cultures, food and about other villages. Good the way other people come together here.

[104] Whilst living with her on the farm we would go on long walks and she would talk to me about the local flora, medicines and importance to villagers.

After graduation she went back to her village of around 600 residents, and worked with her family, farming. Her family did not want her to join a social organisation because they felt that, if she did, she would not be able to continue her education. They were concerned that she had studied for so long at NEED but did not have much to show for it. However she felt:

> NEED was good for me. It taught me many different things: critical thinking, how to study, how to think, more awareness and ideas. I am more creative and inquiring. Now I want to know about everything (laughs).

She told me that she had completed the first year of university. She was practicing her English by reading books on politics and the environment. Through the university she had become involved with an environmental organization. She told me that she has tried to talk to the villagers about environmental issues:

> When I see the people throwing rubbish I say please don't throw but the people argue. The snack seller gives us plastic, and the people say that you can throw plastic anywhere. I pick up the rubbish and the people see me doing it so they say if we throw it she will pick it up so it's OK. It makes me sad.

When I caught up with her she was with two of the other students at a residential training centre that had been established by the *Metta Development Foundation* (www.mettamyanmar.org) an NGO established in 1998 with the aim of addressing ethnic conflict through small self-help community initiatives. She was wearing a *World Vision* tee shirt, passionate and eager to talk, saying:

> I am the youngest here. My knowledge level is low and this is high but my trainer said I am really improving. After this I will go back to give training. Another student from NEED will work with me. There will be conflict in my area. They don't know what human rights are. It is a different culture in my area. We are just sharing knowledge; raising awareness. I am worried about the local peoples' questions.

When considering the future she said:

> I want to do something to change for the people; share knowledge and training. Young people want to work at the factory, have mobiles etc., but I think that they don't think about the future. Maybe I will be a politician but I need to study law. I am not able to study law at university and it is

better to get from an outside organisation but that is a big job. We need to know law due to the many problems caused by the government.[105]

8.2.3. Environmentalism

Many of the students commented on personal behaviour change with regards to the environment (although most of it seemed to centre round waste management).

> I try not to throw rubbish and recycle plastic. I tried to build a water filter for my house with sand. I asked my parents to please not throw rubbish so my father made a basket for rubbish (S24).
>
> Before NEED I never took care but now I share this knowledge with my friends and I tell them we have to recycle the plastic. (S4).
>
> I think about the rubbish and talk to my friends. My mother cares but not other people. They are very poor and have many problems (S9).

Many of the students commented on lack of awareness or concern from other people.

> I have changed because I don't throw rubbish anymore. But I don't talk to the people about it. People don't care (S13).
>
> At a school celebration I spoke about rubbish and they listened but mostly the people don't care – they throw plastic into the water (lake) (S24).

Some *were* trying hard to impress others regarding behaviour change

> Before NEED training I never took care of the environment but after I am trying to care. Back in my village I speak to the villagers especially about plastic rubbish. People just throw it away but I say "we have to pick it up and clean up, it is good for the environment". I try and share my knowledge. I think the young people are getting interested. People are just starting to think (S16).

Sensitivity to the environment was demonstrated by this statement:

> Now I love the natural environment – not before. Now I am a model about the environment, reducing use of plastic, talking about energy sources and bottled water. I think one in three people are becoming aware, but not the government, they are just building roads (S14).

---

[105] I was interested to know if she had been able to reach any of her goals so emailed her in September 2016. She is now working for a small domestic NGO, based in Pathien township, far from her village, as a paralegal advising farmers about land law and land rights. She said the government is supporting them. She feels that the situation for farmers is slowly improving.

And a sense of empowerment articulated by this student, albeit it with a caveat:

> Because of my influence my family has stopped using chemicals on their vegetables but they are still using them on their rice crops. It will be hard to convince them to grow organic (S10).

The following case study highlights how environmental considerations are affecting behaviour.

Case Study - Livelihoods for the Lake (S23)

Student 23, is a Buddhist, Shan from a farming family near Inle Lake. She too had worked for BYIDP before NEED; they had facilitated her attending NEED. She expressed a comprehensive understanding of the structural issues affecting her community and her “beloved” Inle Lake. She told me then:

> I want to share how to make sustainable livelihoods, handicraft training and how to solve unemployment problems. I want to share about agriculture systems with farmers, because most of the people are using a lot of chemicals everywhere. I also want to share about reforestation, because most of the people cut down trees for fire wood within my community. I hope I can protect the environment of Inle if I have a lot of knowledge about these subjects.

She is another student who travelled to Chiang Mai for the LLET program, from which she said she “learnt a lot”. After completing this training she had gone back to her village near Inle Lake to re-try Year 11. When I met up with her she was living with her teacher and a number of students preparing for her exam. She is a confident and articulate student. She told me that:

> NEED gave me more skills and knowledge, especially public speaking and presentation. From foreign teachers I got more culture and knowledge. It was very good – a chance that others don’t get.

Earlier that year she had undertaken a one month leadership training in Kayin State with BYIDP and worked with a local group training about law, land and earth rights. She said

> My behaviour has changed towards the environment, I am more clear and aware. I have done workshops with local young people about the environment and social issues. In Inle Lake twenty percent of the people

> make their livelihood from loom weaving. They produce clothes, trousers, bags and caps. Loom weavers are making traditional clothes and dye color they get from the garden. We need more livelihoods because of the pollution in the lake. Now, we have economic, social and cultural problems. Local people are more confident after training about sustainable livelihoods.

With the regard to the future she said

> I want to work for an organisation and do chemistry at university. One person had skin cancer so I did a workshop on chemical free. We can make shampoo from local resources. This could be a business. Also, we are going to have a fight here about the lake. Most of the people here now are outsiders, many Chinese are making business but they are not following sustainable and we need to enforce.

8.3. Practical Application

The examples provided above demonstrate the transformative nature of the learning at NEED. This section explores the practical application of this learning through training, involvement in organisations and/or community-led initiatives and farming.

8.3.1. Sharing Knowledge

A desire to share knowledge was the key goal identified by the students in section 7.6. They stated that they would share their knowledge with their community members, in order to assist them with local resource management in the belief that sharing knowledge is a solution to their problems by empowering them. They said that they would share knowledge primarily through training, modelling solutions, through their organisations and providing training. Their concerns were educating for re-forestation and addressing chemical use.

The students have been sharing their knowledge in a myriad ways and not just about the environment but also about social and political issues. One student told me:

> After graduation I worked as a journalist for 4 months on a Rakhine newspaper. My parents made me stop because they did not like me travelling alone and I got worried too – it is a difficult situation for women in Rakhine. I wrote news stories about crime, about the future, globalisation and agriculture (S4).

Whilst many of the students are involved in non-formal training, public speaking and workshops, as noted above in the discussion about environmentalism, most of them are sharing knowledge by talking with their friends, villagers and their peers. The following case study is a good example of how they are sharing knowledge.

Case Study - Back in the Village (S12)

Student 12, female, is Buddhist from Rakhine State. At NEED she told me that her village (of around 700 people) is very undeveloped, very weak in education, so she wanted to attend the school to improve her education. Before attending NEED she farmed with her family on their eight acres of land. She told me that she had noticed local environmental degradation over the past five or so years and attributed this to chemical fertilisers, noting:

> The farmers were working successfully in their farms, they grow seasonal crops like tomatoes, potatoes and chilli, and other plants. Their families were happy. Their education and health was not difficult and had work all the time. Now, their cultivation is not successful because they lose land and soil. Their land hasn't a green environment. The farmers use chemical fertilizer and this makes the money difficult for people. The farmers are poorer and poorer.

She was one of the students involved in the Farmers Workshops. She conducted training in a village in northern Rakhine State and described it to me:

> This village was far from my home. I talked about land confiscation, how to protect from insects, environmental disaster and how to maintain. The villagers liked this knowledge and liked the training.

After the training she returned to her village. She told me that, due to her influence, her family has stopped using chemicals on their vegetables but they are still using them on their rice crops. She said it will be hard to convince them to grow organic rice. Meanwhile, she picks up rubbish and hopes to do more workshops. At the time of our meeting she had returned to high school to complete Grade Eleven. She was hoping to find a job, probably in business because there are no government jobs in her area. She said all the young people are migrating. She said that NEED had been such a good opportunity for all the students because otherwise they too would probably have to leave.

8.3.2. Seeking More Knowledge

Many of the students had gone on to further training, university or back to high school to finish their matriculation (in order to apply for university in most cases). As noted previously, education is highly valued in Myanmar, and a university degree is a pre-requisite for a government job. Some were keen to improve their English but told me that it would mean paying for lessons and these were expensive. Many of them expressed their desire for education, and their aspirations can be summed up by this student:

> I need to continue at university because I will get a special degree and that will get me a job – probably for an NGO (S14).

There was also an understanding that they might need more knowledge as articulated by this student who told me: "now, my villagers are hoping to get help from me. So, I need to study more" (S19).

One student, the subject of the following case study, has focused on education as a means of achieving his dream of contributing to the development of his country.

Case Study - Social Justice and Community Development (S15)

Student 15, male, now 20, is the youngest of the cohort. He is Buddhist, Arakanese from a village in northern Rakhine State. He had worked in a factory in Yangon before coming to NEED for three months of which he had unpleasant memories.

After graduation he stayed at NEED as an intern for ten months, working in the office and studying with, and supporting, the new cohort of students. He spent some time in his village assisting the villagers with mangrove replanting and the rice harvest, conducting a Farmers Workshop and assisting Khaing Dhu Wan's son with his organic farm. He told me:

> I could share my knowledge effectively to the people from six villages in Rakhine State for three days by giving training about organic agriculture and environmental conservations concepts. It was my first experience conducting training to the community. But I could possibly learn how to improve and find some helpful ways further to upgrade my skills and knowledge from my experience based on weaknesses and strengths that I noticed myself in that period.

Upon reflecting on environmental issues he said:

> Some of the villagers are using cow manure but some are still are using chemicals. The elders in the village are very respectful of me but it is hard to talk to them about the environment. It is hard to follow personal behaviour about the environment – mainly I am just conscious about the plastic.

His main concern is migration. He told me that many of the young people from his village are working in China or Thailand and sending money home, explaining:

> One of the major cause for migration is the natural resources mismanagement. In this case, the local people need to be educated to protect their resources and to come out a good system of resource management in order to have transparency, justice and wise responsibility. There are lots of diverse ethnicities and respected different religions living rely on their valuable natural resources. These have the potential to help the development of our country and our citizens. I believe that our natural resources can change the future course of our country and citizens.

Of NEED he commented:

> NEED gave me a great opportunity to meet with lots of ethnic friends with diverse background from different states and divisions. On the other hand, there were not only foreign teachers but teachers as well from many states within Myanmar. I learned many new ideological concepts from that school about how to deal, in a flexible way, with those people from different religions

As for the future, he said:

> I would like to study more about environmental sciences in order to integrate with the local people and the people who are lack in education. On the other hand, I will advocate the government to be more transparency, justice and sense of ownership of civilian in decision making and in democratic country, to get public participation.

In 2014 he attended the *Kant Kaw School* in Yangon in 2014 and undertook the year long Community Leadership and Social Studies (CLASS). The school is part of the *Thabyay Education Foundation* (www.thabyay.org), a Burmese organization supported by an International board, which was founded in 1996 in order to assist in community development with a goal to promote peace and reconciliation in Myanmar. This course

prepares qualified students of diverse ethnic backgrounds throughout Myanmar for a leadership role in their community and university study abroad. At the time of writing, he was applying for scholarships for universities in Thailand to study International Development.

8.3.3. Engaged in organisations and/or community-led activities

Most of the education the students are receiving is non-formal, gained from involvement in community groups or NGOs. As one student noted, "there is much training on offer in community development, public speaking and women's issues" (S16). They are also exposed to much informal and incidental learning as an aspect of this training. The student in this case study is heavily involved in training programs.

Case Study - Project Management Inle Lake (S25)

Student 25 is a male, now 23, is also Intha, Buddhist, lives on Inle Lake and has worked with student 21 at BYIWDP. He had worked in small business for nearly three years before attending NEED, but he couldn't use a computer. At NEED he told me that the education from the school was needed in his community so he had wanted to come to learn about agriculture and community development. After graduation he worked again as a volunteer for BYIWDP as well as a Norwegian INGO called *Inle Speaks* (www.pfchange.org/about/pfc-projects/inle-speaks/), sharing his knowledge with locals about what he had learnt at NEED. At the time of our meeting, he had been given a paid role of Project Coordinator for three years.

During the year he had been involved in many community activities and campaigns. These include waste management around the lake, cleaning the lake of plastic and clearing the lake of water hyacinth. He told me:

> My first priority is the environment and agriculture and my second priority is social justice. I have adjusted my ethics and personal behavior after being at NEED. I take my cloth bag everywhere for shopping. When I chew betel I used to throw the bag away, now I keep it. I also use a bamboo stick all the time instead of plastic.[106]

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[106] He is proficient at making tools and utensils out of bamboo.

He reflected on his raised awareness, telling me:

> I was not interested in the environment before 2010 but then I realized the effect and impact of the chemicals used for growing tomatoes in the floating gardens[107]. Now I am applying the lessons about sustainable livelihoods and how that relates to agriculture. The education at NEED has given me confidence, public speaking and networking skills. The knowledge from foreign teachers is valuable, especially English. Even university students don't get such a chance. I can see small changes happening in the country.[108] Local people are interacting with local government more. But the old ways still persist, especially the expectation that children will support the family in old age.

He is a very active member of the community, has many connections with environmental groups and is involved in multiple environmental and community development projects such as picking up rubbish in pagoda. He is based in a community resource centre, in Nandshwe, Inle Lake hosted by *Inle Speaks* and, during my visit, he introduced me to a number of environmental activists. As I was leaving, he told me that he is very interested in pursuing more education into human rights, how to manage local, natural resources and deal with local problems.[109]

8.3.4. Practising Organic Agriculture

Most of the students had said that their prime reason for attending NEED was to learn about organic agriculture, and, as stated, before it is the key focus of the NEED program. A few are very active in farming and attempting to apply their new skills and knowledge as articulated by this case study. It is noted that much of the farming is not focused on permaculture principles, primarily only for those farming at NEED still or for one of their outreach programs.

Case Study – Organic Farming in Mon State (S20)

Student 20 is a male, now 21, is a Baptist Karen[110] from Mon State. He was very active in his local Christian community before attending NEED and whilst at the school was

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[107] The farmers make floating beds from weeds gathered from the bottom of the lake. The gardens rise and fall with the water level and are very fertile from the nutrients in the lake.
[108] This was before the NLD came to power
[109] At the time of writing (2016) he is continuing in this role and fulfilling some of these aspirations. In June 2016 he joined 500 other participants, representing 40 groups, for World Environment Day.
[110] See Malseed (2008, p.491-492).

one of the most active members of the student body. He is a leader who would often take the class if needed or set up homework sessions in the evening, and who organized many social and educational events. Whilst at NEED he told me that he would go back to his village or district, his primary objective being to maintain the environment. He said that the villagers love him so he thought that they would participate. He told me:

> Having foreign teachers is good but it is hard because I could not always understand the lessons. I also feel NEED should provide more detailed information, resources and workshops to the students.

He also went to Chiang Mai after graduation to undertake the LLET program. He told me that it was very different to the NEED school and that he had expanded his learning and repertoire, particularly proposal writing. After LLET he undertook another 3 month training course in sustainable agriculture with an organisation based in Thailand near the Myanmar/Thailand border (no name supplied).[111] One of the female students from Mon state also attended this training and at the time of our interview they were working together for a small local community organisation on a 2 acre farm, raising livestock, practising organic agriculture and conducting workshops for local people.[112] In our interview he said:

> Before NEED I was not aware about environmental problems. Now I know a little, from the internet and books. Now it is so hot in the world and we have to conserve. I share and talk to local people about global warming and different weather patterns but local people don't listen. They don't care. They keep clearing the forest – they have to for their livelihoods. They want to change but they have no opportunities.

His village is located near the Yadana pipeline[113]. He said:

> Another pipeline project is coming but that is bad for the local people. It is not the sort of development they need. In future I want to develop projects for the local people. Young people are farming and doing agriculture and not migrating. The ethnic (Karen) army is offering some

[111] There is a plethora of training opportunities for young people in Myanmar at the current time, primarily supported by INGOs and NGOs. It was not within the scope of this field trip to attempt to unravel these or to understand the connections between them. In some instances, therefore, names of organisations are not supplied.
[112] At the time of writing (2016) both these students are continuing in this role.
[113] One of the world's most controversial natural gas development projects, built to transport gas from Myanmar's Andaman Sea to Thailand. The project is operated by Total (France), Chevron (US), PTTEP (Thailand), and the Myanmar Oil and Gas Enterprise (MOGE) (ERI 2015, online) – see ERI (2004).

> free land so some people are moving there and some go to Thailand but the young people from the local area don't want to go.

8.4. Discussion - Outcomes of NEED Training

8.4.1. Were expectations met?

Upon graduation there are certain expectations placed on the students from NEED – that they will continue NEED's work in some way, particularly through organic agriculture. However, this has not occurred for this group and Khaing Dhu Wan (2015, pers. comm. 14 March) told me in early 2015 that he was disappointed that more had not gone on to organic farming, that they did not share, and were not operating within the parameters of NEED's vision.

This is partly NEED's fault. On graduating from NEED, the majority of students were keen to share their new knowledge with their communities and with others. NEED was keen for them to apply their learning on the ground through Farmers Workshops or conducting organic agriculture programs in their villages. Unfortunately, not one of the students' proposals mentioned as a key aspect of the EAE program in section 7.6.1 were supported by NEED because they did not specifically meet NEED's prime objective of addressing food security (Khaing Dhu Wan 2015, pers. comm., 9 May).

It is noted that NEED did support two full-time and four part-time intern positions, fund some workshops and training, and offered some alumni support. This included supporting two students in reforesting areas near their village in northern Rakhine State. However, to a large extent, the students were self-reliant after leaving the farm. On the whole, the students remained closely connected with each other, either via social media or shared activities. Some were engaged with activities emanating from the farm, and this often involved visits to the farm.

In section 7.3, it was noted that the students had given a number of key reasons for attending NEED, and the primary reason that emerged was personal development and the desire to acquire new skills and new competencies for employment. This was followed by community development, environmental and political activism. These aspirations were not particularly in line with how they felt they would apply their education because practicing organic agriculture and being involved in community

development at the village level was at the top of their list. This was closely followed by the desire to engage in further education. But, overall their key goal was to share knowledge and they are certainly doing this, in a variety of ways.

From the examples provided above in this chapter it appears, on the whole, many of the students' aspirations for attending the NEED program have been fulfilled although some did note disappointment at not receiving accredited qualifications and they voiced their dissatisfaction at not being able to find a job, despite feeling relatively skilled, with one stating:

> I have tried for many jobs using the skills from NEED but cannot get in an NGO. I need to improve my English so sometimes I pay a monk to teach me (S2).

8.4.2. Efficacy - with Regard to Environmental Peacebuilding

It is important to assess the efficacy of this program with regard to its stated aims of addressing food security at the local level, and the further aims of contributing to environmental peacebuilding in the country, taking into consideration the dissonance in aspirations between NEED and the students. The literature on EAE and learning in social movements assists in the assessment of the outcomes. As Lum (2014) notes there is little information regarding analysis of outcomes of EAE programs but, if we want to replicate and facilitate programs, it is vital that we do so.

Budd Hall offers us a framework for thinking about all forms of transformative EAE with his list of principles (2004, p. 176), as discussed in section 4.4.1. These can all be applied in this analysis of the EAE provided at NEED, in particular the importance of educating for a reconnection with the rest of nature, awakening 'sleepy knowledge', and acting and resisting through building alliances and relationships. All these are a focus and a strength of NEED's program. NEED's EAE also meets the criteria of a successful program set by Clover, Jayme, Hall and Follen (2013, pp. 2-54). However, central to pro-environmental behaviour is an elevated level of ecological consciousness, and the key to greater political behaviour is raised critical consciousness.

Critical Consciousness

As noted in section 4.6.2, Freirean popular education is concerned with "the attainment of political literacy" (Mayo 1999, p. 72), and a key aspect of this learning is critical

consciousness (CC). The three core elements of CC are critical reflection, critical motivation, and critical action (also discussed in section 4.6.2). It is noted that these key aspects of critical consciousness align with three types of indicators of social environmental learning highlighted by Clover (2002b): indicators of transformation, of involvement, and of community-building.

In this study, core elements of critical consciousness, with regard to food security in Myanmar, might refer to:

a) critical reflection - awareness of the impacts of structural and ecological violence.

b) critical motivation - the agency to take action. As Freire (1999[1970], p. 13) said "I work and, in working, I transform the world".

c) critical action - personally initiating a project or joining an organization to resist environmentally damaging practices or to implement environmentally sound practices.

In contrast, a less critically conscious student might ignore or downplay these implications, feel powerless to act and/or avoid talking about or acknowledging the problem (Diemer et al. 2015, p. 810), Also, we should expect "varied levels of awareness, agency, and action within a given individual, such that a student may be very aware of inequity but feel little agency for addressing it" (Diemer et al. 2015, p. 810). Further, the student might feel a sense of agency but be structurally constrained in some way.

Here, the learning that has occurred for the students and that has resulted in raised critical and ecological consciousness is analysed utilising Freire's notion of 'conscientization' and Diemer et al's (2015) assessment of critical consciousness. This is important, because, it will be argued in the following chapter, this has implications for broader social action and the type of pro-environmental behaviour that is required for environmental peacebuilding. With regard to the type of consciousness that is needed for environmental peacebuilding we should be aiming at a permanent process involving a shift in environmental consciousness, "where individuals not only gain awareness of their environment but also the skills, commitment, and determination that will enable them to act to protect it" (Finger 1989 cited in Bush-Gibson & Renfret

2010, p. 72). This goes further than merely educating about the environment and the assimilation of facts, data and basic content knowledge acquisition (Bush-Gibson & Renfret 2010, p. 73).

Critical Reflection

The NEED students have developed an environmental or eco-literacy (discussed by Goleman, Bennett & Barlow 2012; Orr 1992; St. Clair 2003). They have also achieved ‘critical literacy’, an emancipatory process that can be likened to C Wright Mills’ ‘sociological imagination’. (Mayo 1999, p. 37). Critical literacy enables a clearer perception of structures, agency and power relations. We can assess their critical and environmental literacy as high due to their commentary on their structural and cultural issues illustrated in Chapter Five and noted in table 8.2 below, and from comments such as, “I believe in myself” (S2), and “I am more creative and enquiring” (S6).

Critical Motivation

Critical literacy, as a form of cultural citizenship and politics, provides the conditions for subordinate groups “to learn the knowledge and skills necessary for self and social empowerment” (Giroux 1993, p. 367, cited in Mayo 1999, p. 38). Praxis lies at the heart of critical literacy (Mayo 1999, p. 48). The students’ critical motivation can be assessed through responses such as these:

> I have learnt how to study for myself for the future. NEED gave me confidence to help people using my knowledge (S14).
>
> I want to share knowledge and organize training about human rights. Now only politicians know, but human rights are for everyone so it is my duty to share. Also about indigenous rights (S3).
>
> Another simply said, “we are just sharing knowledge – raising awareness” (S6).

Critical Action

The ultimate aim of any environmental education is citizens who are adequately prepared vocationally “to work responsibility and productively within their society, problem solving and creating more ecologically sound solutions” (Robottom and Hart (1993, p. 20). The students are, on the whole, striving for, or already involved in critical action, some of which has been illustrated in the case studies provided in this chapter.

Students discussed the variety of ways that they are practically applying their learning. For example, one study said:

> I am writing an article about the conflict between the Muslim Bangladeshis (Rohingya) and the Buddhists in my local area and I will give a presentation about it to other young community workers. I want to do something to change for the people by sharing knowledge and training (S7).

Another student's key concern is livelihoods for women in her village near Inle Lake. She told me that she was training women in handicrafts for alternative livelihoods (S18). "Training others makes me happy", she said.

A male student from Chin State has been particularly active in his community in a range of ways and we spoke at length about issues facing his community. He said:

> I want to talk to the people about the history of Chin State. There are no records of our history. I have been travelling in northern Chin State with a friend and we are gathering stories from the elders in the village about when the British were here. Our state is very poor but the people don't know why. I want to write about this history and talk to the people about democracy and the government. Also, we need to do reforesting and the government needs to help with this (S8).

Following Lum (2014, p. 155) the key features of the different states of critical consciousness: critical reflection, critical motivation and critical agency, taken from the students narratives and from personal observation, are documented in Table 8-2 below.

Table 8-2 Critical Consciousness as an aspect of NEED EAE Program

Critical Reflection	**Structural and Ecological Violence** Deforestation Water Pollution Soil Degradation Global Warming/Climate Change Land loss/land grabs Land and Human Rights Economic Inequities Loss of Livelihoods Migration Corruption Lack of state regulations Gender Issues **Underlying Causal Factors – Local** Agri-business, Mining, Industrialisation, Lack of state infrastructure, rules and regulations surrounding resource management, poor local resource management **Underlying Causal Factors – Global** Non-democratic institutions – policies, laws and legislation INGOs – community development frameworks Globalising capital
Critical Motivation	**Values** **Sense of Agency** New skills New knowledge and literacies **Sense of Responsibility** Citizenship – local and global Duty as part of traditional culture Towards the environment
Critical Action	**Farmers Workshops** **Community Development projects** Re-forestation Waste management campaigns Alternative Livelihoods **Education and Training** Environment Youth Issues Gender Issues **Networking** Forums Inter-group training Social Media Social Movements

This discussion highlights the high level of ecological and critical consciousness raised by the NEED program. However, this is not enough on its own for collective social action to effectively manifest and there are a number of issues surrounding the NEED program that are affecting or constraining further praxis.

8.4.3. Limitations of the NEED Program

When asked about what they had enjoyed the most at NEED, the vast majority of the students said learning about organic agriculture, computers and English. One student noted, however, that there was not *enough* content pertaining to organic agriculture and, despite their interest they are not utilizing this learning on the whole. This is a key concern with regard to the outcome of the seminal program at NEED that can mainly be explained by the lack of infrastructure for farming in the first year, as well as an under-developed curriculum at the time. The initial cohort of students joined NEED when the infrastructure was barely in place, and the EAE program was being developed. As noted in section 6.2.1, the farm was relatively uninhabitable until November 2013, when the students moved onto the farm from the schoolhouse in town. Many months were spent designing the layout of the farm and preparing the ground for planting. Much of the work was done by the students. They undertook many lessons in composting and mushroom growing, as well as permaculture design and practices. The main outcome of this program with regard to organic agriculture was, therefore, lack of support post-graduation.

With regard to employment and further education, it is important that the students are highly literate and *au fait* with computers and social media, and have highly developed communication skills. In this first year, NEED was severely under-resourced, and access to computers (partly due to lack of electricity), literature and the internet was very limited. So, whilst the students enjoyed computer training they were also frustrated by the lack of access and now many of them are frustrated because they cannot afford a computer or a mobile phone. Issues regarding resources have subsequently been addressed by NEED and are not so much an issue for subsequent cohorts but are an issue for students after leaving NEED (this is discussed further in Chapter Nine).

Whilst the majority of students sought to learn English and signified that they enjoyed English very much, many also said that it had not been particularly beneficial. NEED feels that it *is* important, particularly for writing proposals and conversational skills, enabling cross-cultural exchanges and assisting in research. A number of students noted that NEED is rare in offering English; that other organisations do not offer English. NEED is continuing to focus on English as an aspect of the curriculum and the role of English is discussed further in section 9.2 with regard to networking.

A serious issue for the students, is that NEED does not yet provide an accredited qualification.[114] The students (particularly those without family support) require an income of some sort, and, as they told me, employment is hard without qualifications. Those that lack family support or need to support their families are forced to work in factories or jobs that really are not utilizing this education. This has been particularly difficult for one female student who shared her experience of menial labour:

> I am working in a factory in Yangon, working 12 hours a day, 6 days a week for little money. I am not happy but I have to help provide for my family. Now I am not using my skills but I pick up rubbish and I try and raise awareness (S11).

NEED has been trying to address this issue of accreditation by registering as a training organization. Khaing Dhu Wan has advised in the past that the process is complex and until now they have not been successful.

Also, one student commented that he felt the focus on youth may be wrong because the students are too young. During my fieldwork in Myanmar I was asked by a number of NGO agents why NEED was taking the students so young. I was told that most education programs take them after a few years of proven service, with basic computer skills and, preferably some English (2015 pers. comm.). Again, NEED is responding to this by raising the enrolment age and requesting that students have a year or two experience with an organization prior to attending NEED. Subsequent cohorts *have* been slightly older on average.

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[114] NEED, as an organisation, is highly respected by many civil society organisations, farmers groups and village heads, as is Khaing Dhu Wan personally but this is not sufficient for entry into paid employment in many instances.

There are also gender issues at NEED. From my observations, there is a gender divide at the school – girls and boys interact but girls do most of the domestic/menial work and men socialize and do the organising. The female staff I worked with were given menial tasks with little ongoing training and often expressed frustration at the lack of opportunities for them to participate in the management team (they have both subsequently left). At the schoolhouse where we first lived, and later on the farm, the men would often sit up late into the night and talk. They drank alcohol, ate together and were waited on by the younger males, and by the female staff and students. While it is not surprising that the culture at the school mimics the hierarchical, patriarchal structure of the broader Myanmar culture within which it is embedded it has implications with regard to sexism as the country opens up and the participants need to interact with more foreigners and cultural expectations.

Furthermore, after graduation a number of the female students, after going back to their villages felt that they had limited prospects for employment. One female student told me that she was very sad because she had not been able to get an NGO position, and was living at home, sewing with her mother and sister and, having no transport to the local town, felt that her prospects were very limited. She said she wants to be a writer and become involved in local environmental issues.

In broader society there are many constraints for women. Khaing Dhu Wan believes that the gender issue is mainly that women can't get access to education as they have "so many home duties and are expected to look after the children" (Khaing Dhu Wan 2013, pers. comm. 24 October). I was told this repeatedly as I travelled around the country. The female student who had been working as a journalist said to me:

> My parents made me stop because they did not like me travelling alone and I got worried too – it is a difficult situation for women in Rakhine (S4).

NEED does address gender issues as part of its program, being highly cognizant that it is a cultural issue but does not seem to address it seriously enough itself. It needs to provide *more* support for female students if it is to create a culture of equality in its program.

Finally, in order for NEED to meet its objectives of training social change agents who can assist in changing behaviours in the farmers and villagers relating to organic practices it needs to develop a better mentoring and support system for all alumni as well as supplying funding for outreach programs. One female student said, "NEED gives no support and without support I cannot use these skills". If NEED was to provide a support/mentoring system or job opportunities for these students, I have no doubt that many of them would work for NEED. Again, I understand that it is addressing this and this is noted in Chapter Six. It did just not happen for this cohort.

8.4.4. Overall Outcome: Positive Steps Toward Environmental Peace

Overall, the program at NEED has been positive for the majority of the students. Rather than serving as a conduit for NEED's training and aspirations, it has served as a foundation course for these students, primarily as a springboard for further training and development and involvement in community-led initiatives. This is not surprising given the fact that the students are relatively young, and for most this was their first adult training course. However, their improved confidence, knowledge and skills is resulting in some wonderful initiatives, just not those expected by NEED.

The students have capitalised on a number of aspects of the training provided by NEED; primarily networking opportunities (they are great networkers), public speaking, training and computers and, more generally, just how to learn. Remember they are used to the 'rote' or 'parrot' learning style of their hugely impoverished school system. It is the instrumental learning, the practical skills, that has been cited by the students as most beneficial, particularly with regard to employment, but also in their ability to effectively share their new knowledge and skills. Ultimately, the students have a greater sense of agency and this is vital, as has been discussed in the learning in social movement literature with regard to broader collective social action (Holst 1992, pp. 87-88).

Given the broad-ranging curriculum provided by NEED, it is not surprising that the students have a raised critical consciousness. This is a key positive aspect of the program. It is integral to further activism and needs to be nurtured (this is discussed further in the final chapter). Through this education the students now have a sense of

the local/global dialectic. In their experiences and activism, they are part of a broader grassroots collective, and can align themselves with people from around the world with shared values and objectives. The most effective education of adults occurs when the global and local are linked (Hill 2006, p. 267 cited in Bush-Gibson & Renfret 2010).

The education that they have received at NEED is, therefore, "an important source of agency" (see Mayo 1999, p. 63). The students are utilizing their practical, vocational skills acquired at NEED but, more importantly, they are engaging in dialogue with the villagers and others they come across. Dialogue is "indispensable to the act of cognition which unveils reality and does not separate itself from action" (Freire 1999[1970], p. 56-65). Time spent in dialogue is invaluable in assisting people to emerge from their state of immersion (Freire 1994b, p. xiii).

The students are assisting their communities in many ways with their new knowledge about land laws, human rights, proposal writing, budgeting, negotiating with government and corporations and with sustainable livelihood initiatives. Connected as they are to small community organisations, many are working as voluntary teachers at the local primary schools, or they are working on family farms discussing alternative practices and trying out small examples of what they have learnt. They are able to act as facilitators and work with the elders, especially the village heads, as entry points to the community for any development agents or businesses. Some are already working regionally. At the time of this field trip one girl was working in a paid position for a small NGO travelling around Rakhine State installing lavatories in the villages. She said that she was enjoying this job because it is about the environment - it is healthy (S9).

As for the students' future aspirations? The majority wanted to pursue further formal or non-formal education with the focus of gaining employment with an NGO.

> I want to work for the government. But if not, for an NGO. They are not here now but they are coming (S5).

Although one said he preferred the government because

> If you have a job with the government you get life security. You get a salary (and these are rising) and a house and a pension. You don't get health and no paid holiday. No maternity leave either (S8).

A few wanted to start businesses which, said one student, "are supportive of the people not against them" (S24). One female student was keen to initiate projects for women making handicrafts and another said that she wanted to be a successful business person and support her family and villagers through business (S2). Few indicated a particular intention to continue with NEED although I understand that, as NEED as improved its alumni network, many are continuing to be involved with NEED projects.

8.5. Conclusion

As articulated in the song that opens this chapter the majority of students were very sad to leave NEED. They had been on the eco-farm for ten months, a long time for young adults far from home and exposed to so many new ideas. On the whole, this EAE program has been radically transformative for the students, which is not surprising when considering the length of the program and the amount of time the students spent on the eco-farm, being exposed to a transformative curriculum and cross-cultural exchanges between students and foreigners. The initial cohort of students that completed the NEED program reported a greater sense of ecological awareness and sense of responsibility towards the environment; greater awareness of political, economic and social structures and institutions; a greater sense of agency; new practical skills and confidence. They have a voice and a sense of self-determination and the understanding that reality is mutable and changeable.

This education at NEED has resulted in instrumental learning and multiple new skill sets for the students. It has resulted in communicative learning, through interactions with staff, NEED supporters, other students, and foreign teachers and critical, emancipatory learning through reflection on their lived realities. Students leave the NEED eco-farm armed with practical skills aimed at putting theory into practice. Post-NEED projects include farmers' workshops, short training courses, advocacy training, networking and the development of forums with like-minded individuals and organisations. There were also seed saving networks, small organic farming projects, engaging with government departments, cultural activities and networking with international groups and tertiary institutions. They have been given a toolkit for environmental peacebuilding, and they are learning how to use it. As noted at the end of the last chapter, after their ten months these students have become a small, but growing, force for social change.

The students themselves are now (or have the potential to be) 'transformative agents' as they take on new roles and identities as empowered citizens and community leaders, environmentalists, community developers, organic farmers, stakeholders, peacebuilders, team members and trainers. The students are new actors in the local arena, joining a plethora of grassroots community activists, and contributing to discourses that are emerging following their country's recent political reforms. The students have become educators in their own right, able to implement their praxis in formal and non-formal settings within their communities or together with other young people with shared issues (see Mayo 1999, p. 68-69).[115] This shows that a key goal of this EAE program is being achieved.

The learning that has occurred for the students is liberating to a certain extent but they are just at the beginning of their educative journey. As will be discussed in Chapter Nine, their new ideas are being met with varying degrees of resistance. There are structural and cultural constraints on their behaviour, and they lack resources for further mobilisation. However, they have begun a deep-seated intellectual transformation and are initiating ideas, an integral starting point for action. In some cases, these ideas are coming to fruition. Whether this will result in widespread change is uncertain, but all social movements have to begin somewhere. In the words of Henry David Thoreau, "I have great faith in a seed. Convince me that you have a seed there, and I am prepared to expect wonders". The implications of these findings, regarding NEED's EAE program is positively contributing to environmental peacebuilding in Myanmar, and its implications for broader social action as part of an emergent grassroots social movement, are discussed in the next chapter.

[115] The import of this is enlarged upon in Chapter Nine.

Chapter 9. Cross-Fertilisation; Finding a Voice in a Culture of Silence

> All of these environmental problems are due to people. We eat the environment, we sleep on the environment and we wear the environment, so we should maintain our environment. If environmental problems happen all of we will face the same. If you want to live peacefully you should care your environment because not only war but also environment would hurt you.
>
> Student 13, Rakhine State, 2014

> Another world is not only possible, she is on her way.
> On a quiet day, I can hear her breathing.
>
> Arundhati Roy, *War Talk,* 2003

The Network for Environment and Economic Development - NEED in Myanmar is contributing to environmental peacebuilding through the creation of a space for new ecological voices and perspectives, as well as developing, and enabling, alternative, localised, community-led development models that focus on food security. It is achieving this through its EAE program and eco-farm, through modelling examples of permaculture and integrated organic agriculture practices, and through its outreach programs.

The praxis emerging from NEED, together with similar organisations in Myanmar, indicates the emergence of a new environmental social movement in this nascent democracy. Actors involved in environmental peacebuilding in Myanmar are taking advantage of the political space opened to them due to the political reforms, and are organising at the grassroots level. They are finding a voice in a culture of silence.

There are a number of aspects to NEED's success, primarily its focus on youth as change agents, education as a tool for empowerment, permaculture as an ideology and the local as a sphere of influence. But the key to its influence and potential for changing social norms and practices, is its horizontal style of networking, a style that enables and encourages cross-cultural awareness, and

acknowledges and consolidates grassroots concerns. The activism emerging from NEED has potential for wide-ranging social change because it is rooted in a deep connection to the land, and communitarian values.

This chapter discusses NEED's strengths with regard to environmental peacebuilding, the challenges facing the participants of this study, and NEED's potential for broader collective action and social change.

9.1. NEED's Operation and Its Strengths

9.1.1. Youth[116]

As we have seen throughout this study, the young adults that attend NEED are highly motivated, with a strong set of values and sense of duty and responsibility. They are acting based on their significant lived experiences (SLE) of structural and ecological violence, and a desire to assist their local communities in addressing environmental and associated social problems. The majority of the students are, and have been, active within civil society through their involvement with organisations or community-led initiatives. On the whole, they are eager to share their new knowledge and skills, gained through NEED's emancipatory education, with their peers and communities, in an effort to assist them in addressing food security issues, regenerate degraded environments and create new, more sustainable livelihoods - particularly for women.

The students at NEED are similar to other young people in the Asian and Pacific region who, not only have an awareness of environmental issues but believe that environmental protection is one of the most important, if not *the* most important, issues facing their country (see Yencken 2000a, p. 237). As commented on previously, the students have primarily become aware of local environmental issues due to the impact on their livelihoods and, ergo, their communities, as stated by a student who told me that he wasn't interested in the environment until he realised the effect of the chemicals they (the villagers) were using on their tomato crops (S25, 2014, pers. comm). This

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[116]The United Nations (UN) defines youth as anyone between the ages of 15 and 24 (2016). In Myanmar the Child Law (1993) defines youth as those between 16-18 years; however, no definition of youth is applied consistently. Those over 18 are considered to be young adults, with the associated duties and responsibilities.

understanding has been expanded through the education provided by NEED. On the whole, as illustrated throughout Chapter Eight, the participants in this study identify as environmentalists, have become more conscious of their personal behaviours regarding the environment, and have a deep understanding of the underlying causes of their local issues.

While youth have previously been overlooked in peacebuilding processes, they are viewed by many as essential actors in finding solutions to the issue faced by young people in the world today, and as a potentially powerful force for change (Berents & McEvoy-Levy 2015, p. 116; UN 2016, p. 84). Youth comprise a quarter of the Earth's population. In the global South, this figure rises to between 60 and 70% (resulting in a 'youth bulge') (UN 2016, p. 82). Globally, 87% of young people aged 15-24 live in a developing context, and face issues surrounding environmental and food insecurity, poverty, war, internal conflict and high levels of unemployment[117].

In Myanmar, youths are quite active in civil society and community-led initiatives. In fact, youth civic participation is higher than the global average (2016, online). Historically, young people have been central to past political activism, particularly the student protests of 1988 (Fink 2011, p. 355). Young adults have been, and, as illustrated in this current study, are being utilised for community-led development in Myanmar (Ware 2013 & 2011 for example).

Youth have been an integral aspect of the new environmental movements (NEMs) and the counterculture movements of the 1960s and 1970s (see Bible 2011 & 2016; Doyle 2005, p. 145; Marwick 1998). Young people are more likely to be environmentally active than older generations, as they are less likely to feel threatened by changes to the social order (changes in norms, beliefs and attitudes that are necessary for pro-environmental change) than their elders (Van Liere & Dunlap 1980, p. 189). They are also more likely to adopt new technologies.

[117] There is a global youth unemployment rate of 13.1%, up from 12.9% in 2012. Youth employment is a key concern with regard to global development, with agencies arguing that an estimated 600 million jobs will need to be created over the next decade to absorb these young people (UN 2016, p. 12). Youth are a focus of the SDGs (UN 2015) and, in line with this, Myanmar is currently developing a national youth policy with the assistance of a number of INGOs (Youth Policy 2016).

Globally, marginalised youth are becoming more politically active, involved in peacebuilding and environmental issues. Young people have been the driving force behind the Arab uprisings, Occupy Wall Street and its satellite demonstrations, the anti-corruption rallies in India, the demonstrations for political rights in Hong Kong Special Administrative Region, and the protests for economic justice in Brazil, Chile, Spain, Greece and Israel (UN 2016, pp. 82-84). In Indonesia, in a transition that has been likened to Myanmar's, the student movement was pivotal in the downfall of the authoritarian Suharto regime (Lim 2002, p. 391).

Recent youth protests around the globe and transnational social movement activity mark youth out as a group drawn together by shared anxieties and shared aspirations. Much of their activism reflects a new geography of discontent, one that cuts across old divides of rich and poor countries, of North and South, where youth are the contesting actors (UN 2016, p. 84). Now, in Myanmar, youth from various ethnic groups, bio-regions, religions and socio-economic groups have the one, shared experience, of a rapidly changing society and I was told that young people are beginning to be interested in the environment and politics, with one student saying, "I think the young people are getting interested. People are just starting to think" (S16). Another told me that "the young people are worried about politics" (S13).

No-one has given the youth in Myanmar a frame of reference for critiquing their country's situation before (Fink 2001, p. 103). During my time in Myanmar I was introduced to many young political and environmental activists, as well as university students, and noted their enthusiasm and dedication to social justice issues, as well as their desire for new knowledge and eagerness for collaboration.[118] I was invited to join the monthly meeting of a small environmental group in Mon State, in which we noted shared concerns and problems regarding business, the state and resource extraction, particularly lack of consultation with locals and inability to negotiate outcomes. This group had formulated some excellent projects aimed at awareness raising and garnering support for their activism against rubber plantations but lack resources to enable them to operationalise their ideas. I noticed that this was a common theme. There is a

[118] In 2015 I met with students engaged in protests against the state's recent education bill. Despite possible retribution, these students were wearing armbands declaring their allegiance – a brave example of symbolism that they would not have dared a few years previously.

plethora of local and regional youth groups forming, with networking facilitated by social media, easier access to the internet and mobile phone services but a lack of material resources. The students from NEED, as political and environmental activists, are members of this youth fraternity.

In late July, 2016, around 600 young people, representing 26 ethnic groups from within Myanmar, gathered in Panglong, Shan State for the country's first *National Ethnic Youth Conference*. Two of the NEED alumni attended the conference with the Head Trainer, La Min. Panglong is famous in recent Burmese history as the seat of negotiations held in 1947 between Burman and ethnic leaders in preparation for independence from Great Britain[119]. The students who organised the youth conference chose this site due to its historical significance, but also because the government's peace talks - the *21st Century Panglong Conference* - chaired by State Counsellor, Aung San Suu Kyi, hosting 750 delegates from ethnic groups, were to be held there in August.[120]

Both the youth and the state's conference agendas included talks on peace-building and federalism, with a focus on developing national unity between many, previously adversarial groups. A number of ethnic sociocultural identities are still not recognised by the state, and they have been relatively ignored when it comes to socio-economic development (Walton 2013). Despite the Ceasefire Agreement of 2014, there is ongoing ethnic conflict in the border regions as well as the entrenched conflict between locals and the Rohingya in Rakhine State. The youth conference was aimed at developing a collective youth voice, in order to influence and support policy development aimed at addressing pressing issues in the ethnic areas. The environment was not a key agenda item but was included in the program partly due to the efforts of NEED staff member, La Min, who spoke at the conference. Two of the NEED alumni attended the conference with La Min.

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[119] This event was hosted by General Aung San, Aung San Suu Kyi's father.

[120] Interestingly, the Shan State government tried to shut down the youth conference at the last hour, fearing that the conference would undermine the state conference to be held the following month. It failed to do so because the conference organisers had met all the requirements for holding a meeting, and the bureaucrats could not find a loophole.

La Min is involved in many organisations and a number of committees and his activism is based on his belief that youth and farmers are the most powerful resources to save the earth and the world (2015 pers. comm, 03 April). The feedback that I received after the event was that, the conference had been an important opportunity for networking, and effective for building unity among the different ethnic groups of Myanmar. However, I was also told that there is a multiplicity of issues facing youth in Myanmar, and that the environment is not a priority as an issue (La Min 2016, email 8 September).

A number of committees have been formed as an outcome of the conference, and NEED is involved in this networking; La Min and a male student from Rakhine State in particular. These new coalitions open up opportunities for NEED staff and alumni to begin a conversation with other individuals and groups about the importance of the environment, structural and cultural issues underlying environmental and food insecurity, and how environmental issues can be used as tools for peacebuilding.

As is shown from these examples, the rapidly-changing society in Myanmar is creating positive opportunities for networking and the development of new ideas. However, it is also creating a dissonance between societal expectations and personal aspirations, and inter-generational tensions are coming to the surface. Many of the students told me that, despite their personal goals and desires, their first responsibility is to their family. There is a traditional expectation that youth will support elders financially, physically and emotionally (Knodel 2014, p. 12 & 15) and this continues.

The high levels of migration are attributed to the need for young people to support families. I was given conflicting narratives regarding migration. Some of the students told me that young people are happy to migrate and/or work in factories and plantations because they seek material goods, other students told me that young people prefer to remain in their villages and continue generations of agriculture and that some, who had moved to the cities and urban areas, are now returning to their villages for a “simpler life”. The general feeling that I got from the students and the villagers that I met is that

they would prefer that family members didn't have to leave the country (2015, pers. comm).[121] The students certainly don't want to.

One student noted that landlessness correlates with higher levels of migration. "Young people are migrating", she told me, "because their family has no land, so they cannot farm" (S9, 2014, pers. comm). Youth unemployment is a key societal issue and one that foreign investors and the state are well aware of. Decreasing the high rates of migration, and increasing employment and social opportunities within the country does require some form of development. This can be achieved through wealth distribution and land reform whilst resisting a growth-based ideology. Unfortunately, as discussed in section 5.4, the development project in Myanmar is commercial and industrial. Youth, on the whole, are viewed as a cheap labour force, their value relative to their production value in the factories, and as consumers in a growing market place. They are in danger of disappearing into the maw of the machinations of capital that are playing out in the country.

While NEED is focusing its pedagogical program on agrarian youth in general, Khaing Dhu Wan told me that he had more confidence in women as leaders for the future; that they show more potential (2013, pers. comm. 24 October). I later asked him to elaborate on this statement, and he responded:

> Our young girls care more for the organic agriculture in rural areas than men. This is because of, most of our girls have been doing households things, growing vegetable garden at home, taking care of child and providing and preparing food for their families. Therefore, my perspectives is the girls are smarter than men for the leader in the village community and national level such as environment, community development and business development in the different levels. I have seen now at the school, mostly girls are smarter than the boy students with regard to learning and sharing. They work very hard and always try to think peacefully (Khaing Du Wan 2016, email 19 January).

Young people are certainly more mobile and may be open to change. However, their 'positionality', the socioeconomic and political environment in which they live, shapes their agency (UN 2016, p. 12) and, as will be shown in 9.2.1, the students graduating

[121] Much of this information was provided by older people who I spoke with in the villages. Also, during my last visit in 2015, I attended a funeral in a village, of a young girl who had died abroad and spoke with her family.

from NEED are experiencing some resistance for their new ideas. Whilst NEED is correct to focus on youth as social change agents and leaders there are structural and cultural constraints on their behaviour. As previously commented on, in order for women to realise their potential, they are going to need *more* support in order for them to operate effectively in this hierarchical and patriarchal culture.

9.1.2. Education

As of March 2016, 220 students have graduated from the various courses offered by NEED since its establishment in 2006. Three cohorts have completed the NEED EAE program in Myanmar, with 88 students graduating. The table 9-1 below describes the activities of these Myanmar students post-graduation.[122]

Table 9-1 Alumni Activities after Graduation
(source: Than Shwe 12 September 2016)

Working at an organisation related to agriculture and the environment	27
Initiating organic farming with family	25
Working at an organisation related to farmers' issues	1
Running own project	4
Continuing education	22
Other (government office staff, teachers etc.)	9
	88

The importance of education, EAE in particular, for environmental peacebuilding, has been discussed at length throughout this thesis, which has shown how effective this particular EAE program in Myanmar has been in raising ecological awareness and capacity building for the students. This section reiterates why education was chosen as a tool by NEED, and discusses its potential for instigating social change.

NEED chose education due to its understanding of the lack of knowledge at the village level surrounding politics, human rights, land rights and gender issues. NEED also chose education in order to address poor local resource management and environmentally harmful practices. This is not to deny traditional ecological knowledge (TEK) or local common sense, but the feeling from the participants is that inter-

[122] This information was supplied by NEED in an email 18 September 2016. It is noted that these findings do not correlate entirely with my findings regarding the initial cohort.

generational knowledge and practices have been subverted in many cases by the impost of chemical companies and prescriptive models from the state and agri-business.

Also, there are increasing pressures over land use and diminishing natural resources that are impacting on local resource management (discussed in Chapter Five). Like other countries in SE Asia (see Bruun & Kalland 2013, p. 3; Yencken 2000, p. 223), in Myanmar pro-environmental cultural attitudes rooted in Buddhism and animism, have been insufficient in preventing environmental degradation in the face of growing population pressures, mismanagement of resources and poverty. In this respect, the students see their education as vital in assisting their communities to adopt more sustainable practices.

The key reason identified by the students for attending NEED was the need for education and the sharing of knowledge as stated by this student:

> We should give training about the environment. The villagers are not educated person so they will need educated persons and other things to be developed around their communities (S8).

The 'other things' that he refers to are infrastructure in the form of schools and health clinics, some roads or water wells, and opportunities for participation by the community in developing and adopting resource management models such as reforestation programs. For NEED graduates, these resource management processes are informed by permaculture design and processes, and organic agriculture (as discussed next in 9.1.3).

As noted in section 1.1, education in Myanmar has been used as a tool by the state to subjugate its citizens. Lack of government investment in teacher training and provision of material resources is resulting in a society that is keen to access a broader knowledge base but that is unable to do so. Education and training are sought after, and the young adults in this study are ahead of many of their peers due to the critical education that they have received at NEED.

Another reason that NEED is utilising critical education for empowering the grassroots, is that, as previously discussed in section 1.1, political activism has not been tolerated

in this authoritarian and repressive nation-state and, although there is slightly more tolerance by the state and authorities for criticism and opposition, there are still few avenues for political activism and very little tolerance for protests.[123] Education is therefore seen by activists as a powerful tool for change.

There is power in education that can be used to instigate changes in village norms and economic and social practices. Any, and all, types of learning can be additive or transformative (Schugurensky 2000, p. 6) and the training being offered by NEED at the village level has potential for change and reconstruction. This is because NEED's training programs are participatory and involve critical reflection by the villagers on their current preoccupations, doubts, hopes and fears – what Freire called 'generative themes' (1999[1970], p. 68). Again, citizens in Myanmar have not had the chance to critique their situation before, let alone act to change it. The students' raised consciousness has occurred through both critical self-reflection and critical discourse with other learners (here I posit instructors as co-learners), and they take this new awareness to the local level. They have become educators in their own right.

The challenge for NEED and the students, in their efforts at environmental peacebuilding, is facilitating a level of learning for the villagers where they not only gain awareness of their environment, but also the skills, commitment, and determination that will enable them to act to protect it (see Finger1989, cited in Bush-Gibson & Renfret 2010, p. 72). Also, it is important that learning processes continue, by involving the villagers and forming a strong conceptual structure for the understanding of environmental problems, and the nature of the solutions required for those problems (see Yencken 2000, p. 249).

Finally, with regard to education as a means for social change, a pivotal feature of the NEED program is learning English and the cross-cultural experiences with foreign teachers and visitors who work with the students. There are, however, differing thoughts on English as an aspect of this program (this was commented on in section 8.4.3). One student believes that English is vital "because it enables us to speak to the

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[123] The Peaceful Assembly and Procession Law, amended in 2014, is currently being reviewed by the NLD government. As it currently stands protestors need to obtain permits and punishment is relatively severe for unlawful protests. Section 18 of the current peaceful assembly law remains as the most frequently utilised to arrest and imprison political activists.

world" (S13). It certainly enables a cross-cultural exchange and is essential if NEED and the students want to engage at an international level. Some students did note that English wasn't a pre-requisite for employment with NGOs, but involvement by international development agents and agencies is going to increase. The Burmese language is complex and difficult to grasp for the majority of foreigners and there is the difficulty of a multiplicity of ethnic languages. In Myanmar, English is, in most instances, the *lingua franca* of the development process. The students need English to engage with the myriad key players involved in capacity building, community development and environmental activism. English is also key to engagement with other permaculture practitioners, activists and academics.

9.1.3. Permaculture

As noted in section 3.4.1, permaculture was developed as a community-led approach to (more) sustainable development (Mollison & Holmgren 1987, pp. 13-25). Permaculture's processes are adaptable to the differing geographical locations and agricultural practices of small-holder farmers in Myanmar, and this is why it has been embraced by NEED in addressing local food security. Permaculture is regarded by advocates, such as Khaing Dhu Wan, as a vital response to the global environmental crisis (Holmgren 2013, 6). Khaing Dhu Wan's *modus operandi* is heavily influenced by the *Pun Pun* permaculture eco-village in Thailand (discussed in section 6.1.5). Pun Pun is a well-established permaculture farm and training facility that attracts much attention and many visitors, and Khaing Dhu Wan felt that he could emulate this successfully in Myanmar and utilise permaculture because of its growing popularity, as well as its applicability in addressing local food security.

Some of the key strengths of a permaculture education are:

- The development of eco-literacy
- Critical and systemic thinking and problem solving
- That it is practical and action-oriented
- It is transformative - it encourages a shift to ecological paradigm thinking
- It is values-oriented
- It is future-oriented
- It is locally-relevant and accessible
- It is inclusive, participatory and collaborative
- It is learner-centred, creative, dynamic and flexible

- It facilitates connection and reconnection between individuals, nature and community, between urban, rural and natural environments, and with oneself (Morag Gamble (2011, p. 314).

Permaculture serves as a guiding ideology for NEED. In a country where political activism has been repressed and penalised, the practice of permaculture and organic agriculture, as a means for developing food sovereignty and grassroots autonomy, is a political act. Khaing Dhu Wan created his EAE program in order to protect the livelihood, interests, and human rights of the Myanmar people by empowering them by utilising their key strengths; their land and food. A healthy, empowered grassroots citizenry has the potential to become a powerful political force, and a focus on food has the potential to unite social movement actors and organisations across borders, thus resulting in creative collaborations. This is in line with the ideology and activism of La Via Campesina.

One of the most subversive aspects of permaculture is seed saving, a key aspect of permaculture practices at NEED, and discussed in section 6.5. Seed saving is seen as a powerful response to the commercial enclosure of the world's seeds (see Desmarais 2007, p. 197; McMichael 2000, p. 27). Cultivating diversity, which is vital for environmental peace, through seed saving is both a survival imperative (Shiva 2005, p. 94) and a political act. Seed saving, composting, crop diversity and the use of organic fertilisers, together with co-operative manual labour and traditional practices, all promoted by NEED, are powerful tools for resisting chemical companies and agri-business.

As noted in section 8.4.1, the first cohort of NEED students, on the whole, have not utilised the permaculture education provided to them by NEED. However, permaculture has become more embedded into the NEED framework since that time. Subsequent training has focused on permaculture design and permaculture projects, mainly due to the efforts of the latest foreign teacher from Australia who has a Permaculture Design Certificate (PDC). Permaculture remains central to NEED"s praxis and is a growing aspect of its program.

9.1.4. The Local

NEED was founded with the intention of assisting local communities restore their agriculture-based livelihoods, but also to diversify and re-establish new, sustainable, socio-economic opportunities, to enable them to regain control over their livelihoods (NEED 2013, online). A key strength of the NEED program lies in its deep understanding of the local context and its engagement with local cultural practices. The alternative development practices mooted by NEED, and being embraced by the students, more accurately reflect the needs, goals, and aspirations of local actors, and thus increases the legitimacy and potentiality of peacebuilding processes. It is a program that is being developed by local people for local people.

Myanmar is facing a triple transition as it moves towards market democracy: political, administrative and economic (Jones 2014, p. 154). The intersection is the local political economy, as shown in Figure 9-1. It is in this local, public sphere that NEED is working at addressing or supporting these transitional issues in a more holistic and ecologically sound way.

Figure 9-1 The Local Political Economy

Remembering the Administrative Structure supplied in section 5.2.2 and shown again below in Figure 9-2, it is primarily at the bottom two levels that NEED operates, and it is here that NEED, its supporters, and the students currently have the most influence in Myanmar.

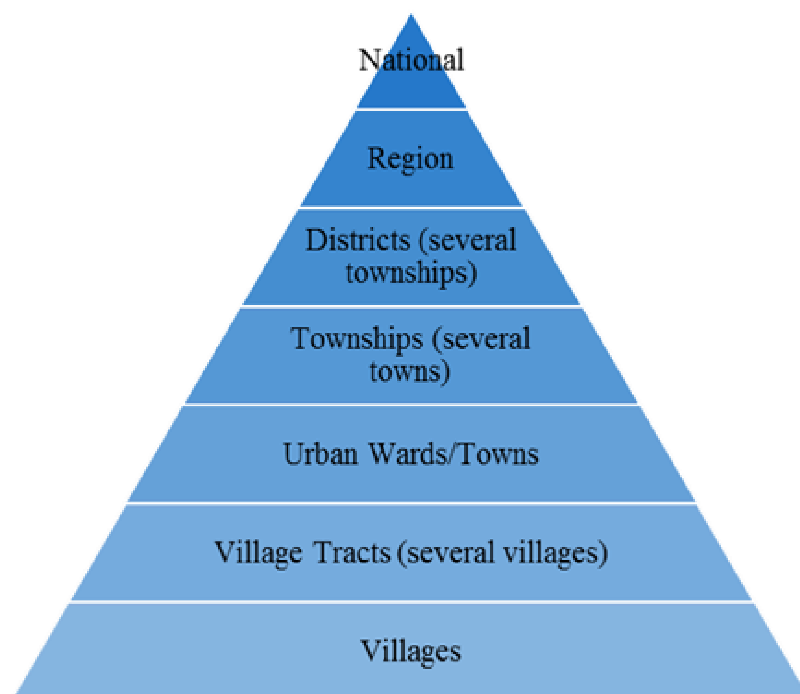

Figure 9-2 Administrative Structure, Myanmar

The 'local turn' in community development and peacebuilding is facing many obstacles (MacGinty & Richmond 2013, p. 764) but many believe that localism is the future of peace infrastructure – environmental peacebuilding in particular (Richmond & Mitchell 2011, p. 339). Participatory, grass roots involvement in the development of local, ecologically sound infrastructure is vital for enduring peace, a peace that is embedded in positive relationships with the natural environment. Environmental peacebuilding involves putting the necessary qualities for a local peace first, rather than making them secondary to the state and the international system. Peacebuilding exists at three levels: personal, local/regional and planetary/global (O'Sullivan 1999, p. 168). Initiatives need to begin with individual behaviour change and filter up.

Environmental peacebuilding needs to be pragmatic, embedded in social structures, in the means and modes of production, and in the embodied practices of everyday life. Whilst working at the local level, NEED is encouraging localisation, based on subsistence and local economies. NEED is also engaging with, and encouraging, diverse, often silenced or invisible epistemologies and ontologies.

9.1.5. Horizontal Networking

Time spent in dialogue is never wasted.

(Freire 1994, p. 122)

As previously noted, around 70 per cent of the Myanmar population rely on agriculture in some form for their livelihoods. This relates to some 40 million people primarily living at the local level, so NEED and its supporters have a vast sphere of influence. NEED's strength, therefore, lies in its horizontal networking, collaboration and cooperation with other grassroots movements and organisations. NEED is following the Campesino to Campesino (CAC) model of sharing and influence, discussed by Rosset et. al (2011, p. 169) and outlined in the following Figure 9-3.

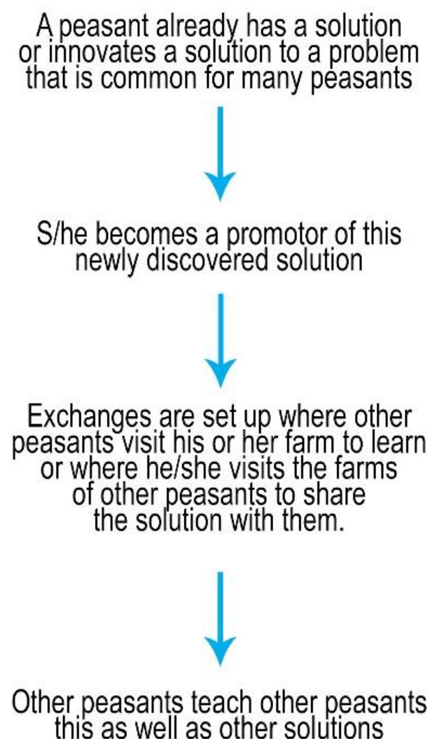

Figure 9-3 Campesino-to-Campesino (CAC) Model of Influence (taken from Rosset et. al 2011, p. 169).

This model is a Freirian horizontal communication, or social process methodology, which utilises a popular education methodology.[124] CAC is deemed to be influential because a farmer is very likely to emulate another who s/he sees successfully using a given alternative (Rosset et. al 2011, p. 169). It is a peasant pedagogy that has been integral to the spread of agroecology in Cuba, where it has become a national movement (Rosset et. al 2011, pp. 171-177).

NEED has established its eco-farm as a model farm, its school as a research and educative centre and its alumni as educators. NEED is following the CAC model by inviting people to the farm, conducting workshops, training sessions and forums and then taking its farmers workshops out to the people. Again, the students have stated that sharing knowledge is the main objective as we are reminded by these students:

> If I finish this school, I will be sharing all of my knowledge to my villagers. And then I will discuss with stakeholders. Whatever I will be hard working for my villagers and near villages (S19).

It is common that movements of poor and marginalised people have as their first goal to recover their dignity and status as citizens and even as human beings (Martinez-Torres & Rosset 2010, p. 155). This process will take time as Myanmar citizens start to trust the transition process. The internet and a more open media is facilitating this horizontal networking and is also enabling organisations, like NEED, to engage with a broader audience, particularly through the social media site Facebook. As Kilgore notes, the greatest source of new members is existing members' social networks (1999, p. 195).

NEED is Part of a Growing Civil Society

It has been assumed that civil society was relatively non-existent in Myanmar due to the totalitarian nature of the regime (Steinberg, 1999 for example) but this is not so. A traditional civil society comprising mostly informal apolitical, groups such as religious

[124] Campesino-to-Campesino emerged in the 1970s in Central-America/Mexico (Borras Jr, Edelman & Kay 2008, p.173).

and ethnic organisations, is quite strong in Myanmar (Lorch 2007; Petrie & South 2014; South 2004).[125]

While the government has been shoring up its wealth and strengthening alliances and allegiances, the 'people' (the majority of the populace) of Myanmar have been struggling to survive. Civil society actors in Myanmar have been providing valuable makeshift solutions to specific local problems – primarily health and education - for some time (Jones 2014, p. 152; Lorch 2007, p. 170). This has included a form of "activist environmental governance of projects and policies" by non-state actors, primarily in the border regions or the diaspora residing in neighbouring countries (Simpson 2013 & 2015, p. 154). In the borderlands a veritable 'aid industry' has developed over the past twenty years assisting political and ethnic refugees (Petrie & South 2014, p. 91) and following the devastating Cyclone Nargis in 2008, it was a myriad local communities and organisations, not the government that mobilised to respond to the unprecedented humanitarian crisis (Petrie & South 2014, p. 89). [126][127]

Many believe that civil society organisations – both old and new – are growing in their ability to influence a variety of development issues (Ware 2013, p. 134; WWF 2015, p. 2). One of the students voiced this optimism for the future in an email to me just after the November 2015 state elections, telling me:

> I think that if the NLD get seats and more power in Parliament, they will listen to the voice of the people and they will do sustainable development for Myanmar. The voices of voiceless people will go into the parliament. I believe that they will prioritise the voice of people and if the investment comes to Myanmar they will revive the demands of the people. One thing I worry about is the military. They will create conflicts if they do not follow the citizens' decision. I expect that affected people in mining areas, areas where they are being removed and problem areas will get more chances to talk about the problems facing them (S15).

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[125] A multitude of contemporary definitions of 'civil society' abound (Steinberg 1999, p. 1) but this study takes from Lorch who tells us that, "civil society commonly embraces a diversity of spaces, actors and formal and non-formal institutional forms, varying in their degree of formality, autonomy and power (2007, p. 153).

[126] In July 2015 NEED, with funding from Child's Dream, and utilising its local knowledge, was heavily engaged in providing flood relief to villagers in northern Rakhine State.

[127] Disasters are often catalysts for environmental co-operation (Amster 2015, p. 8).

As noted in section 6.1.5, NEED has been part of the transnational diaspora (discussed by Simpson 2013, p. 193 & 2009; section 3.3). With the consolidation of civil society there has been increased activity by environmental groups and NGOs since the political reforms (Simpson 2013, p. 183). Simpson seeks hope in the increasingly vocal domestic civil society in Myanmar with regard to environmental governance (2015, p. 154). However, as will be shown in 9.3.2, at the moment, the state is looking to the private sector for assistance with environmental management.

Central to successful activism in the past has been the collaboration between external individuals and agencies and domestic agents, and assistance with resources (see Simpson 2013, p. 200). Awareness raising and training have resulted in some highly skilled grassroots environmental activists and agents in stark contrast to a uniformed bureaucracy and state apparatus that has not had access to the internet, a free press and resources. These activists from the diaspora, such as those who have gone through NEED's programs, stand in good stead as leaders and policy advisors because they have experience, international networks and colleagues and a wealth of knowledge about political issues.

In October 2016, NEED's Project Officer, Than Shwe, travelled to Cambodia for a farmers' conference and to visit farms there. Previously that year, NEED hosted a delegation of farmers from the Agriculture and Farmers Federation of Myanmar (AFFM), members of the Asian Farmers Association (AFA) (http://asianfarmers.org/). The AFA was established in 2011, to improve the living and working conditions of farmers. The AFFM is a key player in agricultural development in Myanmar and, like NEED is focusing on training, particularly legal awareness and protection. The AFFM is developing organisations at village, township and district levels so that they will have the strength to represent themselves within the community.

9.2. NEED – Three Years On

The NEED farm has developed rapidly since it was established in 2013 and since I was last there in 2015. As discussed in 8.4.3, they have been reflexively responding to challenges and issues, growing structurally and improving in management style and outreach. Two other foreign teachers have lived and worked at NEED, both from Australia. Also, in 2016, NEED was registered as an organic organisation. The Project

Officer explained to me that this now means NEED can trade organic products as a company. However, this does not mean that NEED is recognised as an NGO. According to him, the NGO registration has a long process and more requirements (Than Shwe 2016, email, 15 June). This means that NEED is still not a registered training or educational organisation. However, NEED, as noted in Chapters Eight and Nine, is expanding its operations and networking both as a training centre and organic company or entity.

In 2016 NEED established two Training, Educating and Consulting Centres (TECC), shown in the photographs below in Figures 9-4 to 9-6; one in Dawei- Tanin Thari Region, Mon State, and the other in Mrauk-U, Rakhine State. These centres are run by alumni and funded by Child's Dream. The aim of these centres is to:

- Raise awareness of the benefit of organic agriculture and negative impact of chemical input.
- Develop systematic small scale organic farming for household economy development in the rural areas.
- Promote the income of the local farmers by creating farmer cooperative market in local.
- Establish the strong farmer network that can promote farmers' co operational practice.
- Raise the role of women in the agriculture by creating and developing small scale farming method and the farmers' livelihood in the rural areas.

Figure 9-4 NEED TECC, Dawei- Tanin Thari Region
(source: NEED, 12 September 2016)

Figure 9-5 NEED TECC, Dawei- Tanin Thari Region Training
(source: NEED, 12 September 2016).

Figure 9-6 NEED TECC, Mrauk-U, Rakhine State (source: NEED, 12 September 2016).

A number of training sessions have been provided by NEED alumni as outlined below. These workshops have been attended by around 150 farmers in total.

2014
Farmer Voice Workshop (Tharbaung, Irrawaddy Region)
Farmer Voice Workshop (Innlay, Shan State)
Farmer Voice Workshop (Rathedaung, Rakhine)

2015

Farmer Environment Training (Chin state)
Farmer Environment Training (Kyauk Taw, Rakhine)
Farmer Environment Training (Dawei Taninthari Region)

NEED has been reviewing its pedagogical program and has adjusted it slightly. As of 2017 NEED is offering a six month *Eco-village Farm Project* that will replace the current ten month EAE program. NEED will also re-commence its three month LLET Program in 2018 and put more efforts into its community outreach programs. NEED's ultimate aim is to have *Demonstration Model Farm and Educating Centres* established in all the different states in Myanmar. As part of this, in 2016, NEED built a rice mill on the farm, partly for milling the organic rice growing on the villagers' land next to

the farm, but also an example of a traditional practice that could be retained as an aspect of more sustainable farming. The organic rice crops have been a great success, the villagers won over by the high yield and good taste.

Whilst NEED itself is growing, the Head Trainer, La Min, decided to leave in late 2015, to establish his own model eco-farm and training centre under the banner of 'Green Community'. This farm is also located in Hmawbi Township, in the same district as the NEED eco-farm. Green Community has been formed as a co-operative with 25 shareholders and La Min is employing seven NEED graduates to assist in building infrastructure, establishing crops and with training. Green Community is focusing on organic mushrooms for its income and is planning a retail outlet for its organic produce (La Min 2016, email, 18 August). This creative initiative of La Min's has great potential due to his extensive network of farmers, business people, academics and alumni.

9.3. Challenges Facing NEED

We have seen, from the preceding discussion, that NEED is growing as an organisation and that its influence is spreading. NEED has many strengths, and it is building its capacity as a model and training centre for sustainable ecological development. Its horizontal networking is increasing capacity and collaboration at the local level. There are, however, many challenges facing NEED, the students and its supporters and these are now discussed.

In 2013 Khaing Dhu Wan told me that a strong civil society is vital in order to ensure that any investment and development in Myanmar is sustainable, equitable and benefits those who need it most (pers. comm., 2 November). He was concerned at the focus on industrialised and mechanised agriculture as a means for economic growth, as well as the heavy use of chemicals on the land. Since that time, the 'social movements from above' (see Nilsen & Cox 2013), in the form of agri-businesses, trans-national corporations (TNCs) and chemical companies, supported by international funding agencies are strengthening.

There are two key challenges currently facing NEED with regard to influencing social change. The first is resistance to NEED's ideas by villagers at the local level and the

second is the top-down, prescriptive development programs emanating from the state. The implications of these challenges with regard to the growth of this nascent social movement, are discussed further in 9.4.

9.3.1. Resistance at the local level

When I visited with the students a year after they had graduation many of them noted that they were facing resistance from villagers for their ideas. Villagers said that their thinking was 'crazy' or different. Much of their new awareness, understanding and behaviour surrounding the environment contrasts with current, local practices.

The negative or disparaging responses from the villagers to the students' suggestion are not surprising, however. The presence of new objects, methods or different ways of acting frequently produces mistrust or rejection (Freire 1994, p. 106) and people with no experience of dialogue or participation are often unsure of themselves in adopting new practices (Freire 1994, p. 120). Furthermore, as Guha and Atelier suggest in their discussion of the 'environmentalism of the poor', activism is neither universal nor pre-given (1997, p. 18). Some villagers, like the students, may be well aware of the root causes of their environmental and associated socio-economic problems, but disinclined, or unsure of how to act. As this student commented, "the villagers are very poor and have many problems (S9)". However, some students, like this one from Mon State, believe that "the villagers want to change but they have no opportunities" (S20).

Agricultural production in Myanmar has been controlled through state directives telling people what to plant and grow (Simpson 2015, p. 154). The state has traditionally provided the markets and set the prices. Permaculture and organic agriculture, on the other hand, are based on applying principles in ways that depend on local realities, and this means that the local knowledge and ingenuity of farmers must necessarily take a front seat; it requires agency from the farmers themselves (Rosset et. al 2011). Further, encouraging and establishing localised economies and a return to more subsistence economies will require small-holders to create new structures and institutions.

Some of the students commented that the farmers were simply too busy to adopt new practices. For the vast majority of people at the grassroots, meeting basic needs takes precedence over solving environmental problems, at least in the near term (Hla Hla

Win 2001, p. 100; Jones 2014, p. 166). More concerning for environmental peace, than the resistance from below, at the moment, is the powerful pressure from above by the state, agri-business, development agencies, transnational corporations and global funding institutions primarily the World Bank Group and the World Economic Forum. For these key players, Myanmar is a new commercial playing field that holds the potential for vast wealth acquisition.

9.3.2. Strengthening of Social Movements from Above[128]

When I first met him, Khaing Dhu Wan said that he believed the government in Myanmar was keen to support and/or promote organic agriculture and would, therefore, be supportive of the NEED program. To this end, he told me that "he needs to start interacting with departments so that the government and civil society are not running parallel to each other, and not meeting" (2013, pers. comm., 25 December). Khaing Dhu Wan felt that the participants in this study have the ability to influence policy and attract funding.

I emailed him three years later to ask him if he still felt the same way and he responded by return telling me:

> Yes, we still feel the same and are committed, and working hard to influence organic agriculture. I have been involved in conferences about agriculture in Nay Pyai Taw and Yangon and there we were told more that there was more focusing on organic agriculture for small holders farmers in Myanmar. So, the new government has developed the agricultural law, pesticide law and seed law to make some changes possible.
>
> I would say that the government is not enough interested in organic agriculture yet. But they are starting to control the chemical import (like all chemical products have to be registered and all label must be in Myanmar language and also include picture for easy understanding). The government doesn't have any department or research on organic agriculture.
>
> Some government ministry came to our graduation and there are many comments in my mind. They would like to support in the future but not yet. Actually, small holders have faced their many challenges - farm

[128] At the time of writing there is conflict amongst the world's leading chemical companies as they battle for supremacy through a host of mergers (see http://fortune.com/2016/09/09/dow-chemical-dupont-merger/). If successful, ChemChina, Bayer and Dow Chemical/Dupont will rule the worlds' agriculture industry.

> investments, seeds and fertilizers costs. Generally, the new government has been trying to find ways to support the farmers but they have been busy with peace process and ethnic affair – these are more important (2016, email 22 September).

As noted by Khaing Dhu Wan, the government has developed a range of new laws and legislation relating to agriculture. The most pertinent are shown below in Table 9-2.

Table 9-2 Environmental Governance Legal Framework (informed by Kattelus, Rahaman & Varis 2014)

Law	Role
The Land Acquisition Act (1894)	Gives the government the right to take over any land, but with compensation to original owners.
Micro-finance Business Law (2011)	Aimed at reducing poverty, raising social, education, health and economic status of the grassroots, job opportunities and savings.
Foreign Investment Law (2012)	Allows foreign investors to lease private land, initially for 30 years.
Farmland Law (2012)	Secures land tenure through a land use certificate and registration system operated by the Farmland Administration Body.
Vacant, Fallow, Virgin Lands Management Law (2012)	Enables individuals, private sector, government entities and NGOs to lease land.
The Environmental Law (2012)	Defines the rights and responsibilities of the Ministry of Environmental Conservation and Forestry, environmental standards and conservation, rules and regulations surrounding impacts on the environment.
Special Economic Zone Law (2014)	Allows companies to lease land in the zones for an initial 50 years, with the possibility for a 25 year extension.
National Land Use Policy (2016)	To promote sustainable land use, security of tenure, people-centre development and inform a new National Land Law (The Republic of Myanmar 2016).
The Environmental Impact Assessment (EIA) Procedure (2016)	Helps identify possible consequences of projects on socioeconomic development, and minimise their impact on the environment.

Some, like Simpson, who has been observing the situation in Myanmar for a decade, believe that this new environmental legislation, particularly the instigation of the Environmental Law in 2012, indicates a slow improvement in environmental management (2015, pp. 159-160). However, it is very obvious that the new land laws are designed for the agricultural sector to shift towards an export-led, large-scale agro-industrial sector in which land-use rights are allocated to domestic and foreign agribusiness (Kattelus, Rahaman & Varis 2014, p. 91; Woods 2013). According to the Asian Human Rights Commission, the Farmland Law enables “an epidemic of land

grabbing (Jones 2014, p. 160). These laws are implemented by the state ministries, shown in table 9-3.

Table 9-3 Environmental Governance – Administration (informed by Kattelus, Rahaman & Varis 2014)

Ministry	Role
Agriculture and Irrigation	Policy issues – land tenure/use
Farmland Administration Body	Implementing new land laws
National Planning & Economic Development	Executing agricultural reforms
Environmental Conservation and Forestry (MOECAF)	Management of forests
National Land Resource Management Central Committee (2016)	Monitors usage rights, grants large-scale land and resource concessions to private sector
The National Commission for Environmental Affairs (NCEA)	Environmental legislation, policy. Coordinates between government agencies.

Small-scale farmers, meanwhile, are being drawn into farming contracts with buyers, contracts that tend to be linked to fertiliser and pesticide companies (as shown in the case study of AWBA Group below). It is argued that enhancing the productivity and incomes of small holder family farmers is a major part of the solution for achieving food security and sustainable rural development (FAO 2015, p. 31).

Meanwhile people's participation in Environmental Impact Assessments (EIAs) and Social Impact Assessments (SIAs) is embryonic and limited (Simpson 2015, p. 152) and despite burgeoning civil society there are still no formalised processes for the public consultation of community or civil society concerns related to large-scale development projects (Kattelus, Rahaman & Varis 2014, p. 93). The state has previously not had the will, and (despite the new government) currently does not have the expertise, to address the myriad local socio-ecological issues in Myanmar (Holliday 2011, p.179; Petrie & South 2014). The state now believes that the involvement of the private sector provides opportunities for improved environmental management (Kattelus, Rahaman & Varis 2014, p. 91). A business friendly agricultural protection

policy is resulting in financial support for corporate modern food production and the NGO industrial complex is backing it up (Woods 2013, p. 12).

There has been much speculation as to Myanmar's future (see Graves & Ytzen for example). Myanmar, in its transition to democracy and modernisation, could have gone down either of two paths. It could have adopted an eco-socialist model by capitalising on the assets and capacities of the grassroots, sharing the income from its extensive natural resources, encouraging decentralisation, co-operatives and participatory development and decision making. It could have funded this model by seeking restitution from the military, and the return of the tens of billions of dollars gained by the military and crony businessmen and women. With millions of its citizens based on the land, with small-holding infrastructure in place, this would have made socio-economic sense and offered the best outcome for the environment.

However, the state, under the new NLD government, has not only continued with the previous government's neo-liberal model of development, it has elevated it (Prasse-Freeman 2016, online). Myanmar, is Asia's so-called last corporate market frontier, where farmers and villagers, "with their specific geographies made through particular racialized political histories, have suddenly been thrown onto the international stage of global finance capital and institutions" (Woods 2013, p. 12). Myanmar is on track for full-on industrialised development[129].

The situation for the grassroots and for the environment, deteriorated with the announcement on 8 October 2016 that the US, under pressure from Aung San Suu Kyi, has terminated an emergency order that deemed the policies of the former military government a threat to US national security (Kyaw Phyo Tha 2016). The lifting of economic sanctions on military officials and military-based businesses, cronies and their families is aimed at encouraging and facilitating FDI, deemed vital by the state for the country's transition to democracy. The lifting of sanctions has opened the floodgates for investment that has been waiting for a secure political environment. Until now the slowness of the peace process in Myanmar has delayed FDI, as investment and development relies on an established system. This delay has given

[129] Remember Obama's comments noted in section 1.1, about Myanmar being the engine room of growth for the world?

organisations like NEED and NGOs some time to consolidate. However, that time is now over.

Development in Myanmar was briefly discussed in section 5.4 as an underlying factor for environmental degradation. As noted then, the situation is vastly complex but I offer below a small case study as an example of the processes of capital beginning to play out in Myanmar. This case study focuses on a Myanmar domestic agro-chemical company, AWBA Group.

Case Study – AWBA Group

Myanmar AWBA Group (www.awba-group.com), established 1995, is one of the largest group of companies in Myanmar focused on agriculture. It commands a footprint that extends across the country with the capacity to reach millions of farmers. AWBA Group is owned by U Thadoe Hein, the Chairman and Group CEO who believes that agriculture in his country is traditional and 'primitive'. He is also Chairman of the Myanmar Fertilizer, Seeds and Agrochemical Entrepreneur Association.

AWBA's goal is developing the most suitable farming solutions for increased yield and nutritional value. AWBA believes that harnessing the potential smallholder agriculture is one of the strongest drivers in transforming rural communities and accelerating economic and social improvement in Myanmar.

AWBA Group does business with ChemChina, a state-owned chemical company, with a large agro-chemical division, and the most dynamic globaliser among China's state enterprises. ChemChina is, at the time of writing, negotiating to purchase, Syngenta, the large Swiss seed and chemical company for US$43 billion. As of 2014 Syngenta was the world's largest crop chemical producer. If the merger succeeds it will be the biggest Chinese foreign acquisition yet. ChemChina also owns the Italian tyre company, Pirelli. Myanmar is a new playing field for ChemChina. AWBA Group also does business with Eurochem, owned by a Russian billionaire

In September 2016 the World Bank Group's, International Finance Corporation (IFC), in an effort to support local agribusiness in Myanmar, supplied AWBA Group with a US$10 million convertible loan. (IFC's agribusiness portfolio as of June 2016 stood at US$5.6 billion.) With these funds, AWBA will build the Hmawbi Agricultural Input Complex, a formulation plant for crop protection products, located 30 kilometres north of Yangon. Basically, the country's largest chemical pesticide and fertiliser plant in the country.

AWBA is linked with NGOs to implement contracts at the grassroots level. One of these is MercyCorps, (www.mercycorps.org), and INGO that has been operating within Myanmar since 2008 with a focus on small scale agriculture. MercyCorps has been involved in contract farming since 2011. It has been engaged with organic pesticide use in the past, but found it to be ineffective, so is taking a chemical route.

AWBA Group's business is operating within an overarching framework for agricultural development, one that appears to have been taken over by the World Economic Forum (WEF). In 2013, the WEF established GrowAsia; a multi-stakeholder partnership platform for inclusive and sustainable agricultural development in South East Asia, in partnership with the ASEAN secretariat (GrowAsia 2015). Framed in the belief that the

key to ending world hunger is increased food production, GrowAsia's aim is to generate $30 billion in agricultural output in Myanmar by 2030, with a particular emphasis on smallholder farmers. A key member of GrowAsia is the Myanmar Agriculture Network (MAN), another multi-stakeholder partnership which comes under the leadership of the Ministry of Agriculture and Irrigation.[130]

Members of GrowAsia's Business Council include IFC, Nestle, Bayer, DuPont, Syngenta and Wal-Mart. The NGO MercyCorps is represented on its Civil Society Council. NGOs are being utilised by these umbrella organisations as conduits to the villages, utilising their already well established networks, of which young adults are an integral aspect. GrowAsia's intentions can be summed up in this statement by David Pettinari, the Country Manager of Nestle Myanmar, co-chair of MAN:

> As co-chair of MAN I have seen a genuine appetite from multinationals, local companies, donor agencies and NGOs to invest in agriculture value chains and work together. And we are galvanized by the belief that investment in this sector will positively impact rural and economic development." (Grow Asia Myanmar 2016, p. 3).

One example, of this investment is a project being undertaken by Yoma Holdings[131], in partnership with FMI and other foreign investors. They are investing in vegetable processing for the European market, commercial vehicle leasing, cold storage, and logistics, including upgrading Mandalay's airport to enable the exporting of fruits and vegetables. The aim is to include smallholder farmers in these efforts (Grow Asia Myanmar 2016, p. 5).

Whilst this mainstream agricultural development model is couched in 'sustainability' rhetoric it appears from its web of partnerships, the focus is on chemicals and GMO crops. Further, despite its claim that it is helping smallholder farmers improve their productivity, profitability and environmental sustainability, the larger gains will be to the companies, who will aim for more control, power and influence to the long-term detriment of the majority of Myanmar's populace. NEED's approach to agricultural

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[130] Another key player in these fora is the Livelihoods and Food Security Trust Fund (LIFT) (www.lift-fund.org/), yet another multi-partnership, established in 2009 to improve the lives and prospects of small-holder farmers. So far LIFT has reached more than 3.5 million people around the country.
[131] Yoma Holdings is owned by the Burmese billionaire businessman, Serge Pun of Serge Pun Association (SPA). Mr. Serge Pun, who returned from his Hong Kong hideout post reforms to set up shop in Yangon (Woods 2013, p. 16).

development in Myanmar is compared to this mainstream development model in the following table.

Table 9-4 Problems Surrounding Agriculture in Myanmar

Problem	NEED	Agri-business
Low Yields	Soil degradation due to high chemical inputs Land loss/land grabs High costs to farmers	Lack of chemical inputs Primitive traditional methods
Poor Quality	High use of chemical fertiliser	Lack of chemical inputs Quality of Seed
Solutions		
	Traditional skills, manual labour, alternative energy and technology, organic and permaculture, bio-diversity, seed saving.	Mechanisation, industrialisation, modernisation, mono-cropping, hybrid and GMO seeds.
Funding	Small donor funding, local markets for organic produce	The state, The World Bank Group, World Economic Forum, Asia Development Bank, INGOs, International Aid

9.4. Discussion – NEED's role in Environmental Peacebuilding

The existence of the proletariat thus gives living witness to the fact that the truth has not been realised.

(Marcuse 1968, p. 261)

Environmental peace requires durable and far-reaching ecological sustainability, and initiatives that promote conditions for sustainable ecological development, and alternative ways of being, *not* economically sustainable development (Amster 2015, p. 7; Kyrou 2007, p. 77; Lederach 1997, p. 75). Environmental peace requires a restructuring of the means and modes of production, and attempting to heal the 'metabolic rift' that has occurred between humans and the rest of nature due to modernity and globalised free-market capitalism (see Foster 2009; Marcuse 1995, p. 137; Salleh 2010). Environmental peace requires the transformation of human/nature as well as human/human relationships (Amster 2015; Bookchin 1990 & 1971; Kyrou 2007; Spretnak, 2011). Environmental peace is requisite on the provision of people's needs within ecological limits, and this entails a cultural revolution (Holmgren 2007, p. 7).

NEED is attempting such a revolution in Myanmar by focusing on the regeneration of traditional agricultural practices, establishing permaculture as a practice for addressing food security, and raising ecological and political awareness, and knowledge about land, and human rights. Through its actions, NEED stands in direct opposition to the dominant social and economic paradigm of free-market capitalism, mechanised and chemical agriculture, materialism and high levels of production and consumption for economic growth and development. NEED's critical pedagogy highlights inequitable power relations, structural and ecological violence, thereby challenging entrenched, dominant norms, values and beliefs.

This case study of NEED in Myanmar has provided an opportunity to analyse the mobilisation of a nascent, grassroots social movement as it engages with the powerful social movements from above; in this example, the wealthy and powerful agri-businesses and agrochemical companies operating within an overarching neo-liberal paradigm for shaping food production. The following analysis takes from Cox and Nilsen's Marxist theory of social movements (2014). A Marxist theory is particularly valid in the analysis of a social movement organization whose objectives are explicitly embedded in the means and modes of agriculture and food production. A Marxist analysis is used to explicate this social movement's contributions to the social world, and what its confrontations with ruling relations bring into view (see Choudry 2015, p. 47). An analysis of the agribusiness sector in Myanmar provides a viewing window into the politics and power of business in the country (Woods 2013, p. 31).

From a Marxist viewpoint, social movements can be equated with social emancipation, de-alienation and cultural-political praxis, and, therefore, "as articulations of human potential, a way to re-generate civil society and the voice of the 'people'" (Pakulski 1991, xix). This notion may be viewed as romantic or utopian by many (see Levitas 1990). However, the fact that millions of individuals around the globe, particularly those from the meta-industrial class, are mobilising, is an indication that this view of social movements is valid.

The action of land-based social movements emanating from the global South occurs within the context of inequitable power relations and can be identified, therefore, as an aspect, or reflection, of a class struggle (see Salleh 2004). Movements from above and

below are currently in a historical class struggle, as they battle over the direction and form of the development of the social organisation of human needs and capacities in late modernity (see Nilsen & Cox 2013, p. 79: Salleh 2004 & 2000). As subsistence needs are threatened, it is more likely that peasantry will respond (Scott 1977, p. 33). In the main, subaltern and grassroots activity is opposing centralised control and a centralised power system that, through a capitalist meta-narrative posits one 'truth' and way of being.

NEED as a movement has particularist group-concerns (see Pakulski 1991, p. 195), in that its prime focus is changing behaviours and attitudes surrounding the use of chemicals in agriculture. In this respect, its actions are particularly focused on food security and sovereignty. However, NEED also has universalistic concerns – of structural and ecological violence, land and human rights, social and environmental justice, ecological sustainability and climate change. It is, therefore, a hybrid social movement, combining universalistic and particularistic group-specific concerns (see Pakulski 1991, p. 195).

As posited previously, NEED is part of the global silent revolution that is attempting to establish more environmentally peaceful ways of being (see Hawken 2007). However, while mass social movements (MSMs) in the North and more wealthy parts of the global South, that share NEED's ideology, tend to mobilise the middle class (see Doyle 2005; Pakulski 1991, p. 211), NEED is mobilising the peasantry class. As a movement, NEED can be more likened to La Via Campesina and the food sovereignty movements (see Desmarais 2014 & 2007 for example).

NEED, like other subaltern groups, is organising a range of locally-generated skilled activities around a rationality that seeks to defend aspects of an existing, negotiated structure which accommodates their specific needs and capacities (see Nilson & Cox 2013, p. 73). Defending spaces and places and people against social movements from above requires the articulation of local rationalities – i.e. networking and collaboration amongst groups with shared problems and values (Nilson & Cox 2013, p. 75). As we have seen, NEED is creating this network of collaboration – expanding its field and establishing a network of small social movement organisations in its form – it is replicating itself. Like other social movement organisations NEED is bringing to the

fore general values and moral issues (see Pakulski 1991, p. 211) and is articulating its concerns through its networking, publicity campaigns, social media, conferences, forums and educational resources.

NEED can be viewed as a social movement organisation because, through its mission statement, it has articulated an abstract 'local rationality' that can be recognised and adopted by potential allies (see Nilsen & Cox 2013, p. 66). NEED's praxis is counter-hegemonic because it is focused on individual empowerment and consciousness raising, aimed at action against the dominant paradigm. NEED is assisting the grassroots in their local struggles by utilising EAE as a consciousness raising tool as well as for practical application in solving day to day problems.

NEED has mobilised and developed its EAE program in response to specific needs, problems and places. NEED is being clever in utilising EAE because, as discussed previously, it is a powerful tool for instigating social change. As Nilsen and Cox point out, "when the social mechanisms at work are exposed, efforts are better directed and goals more efficiently fulfilled" (2013, p. 73). Through the processes of promoting critical reflection, EAE enables the critical analysis of these social mechanisms, and through the processes of critical action, enables the creation of practical solutions.

NEED's actions are a response to strain and power struggles but are embedded in a strong value system. The notion of values within social movement theory is more often than not equated with Inglehart's (1990) notion of post-materialist values as driving forces behind NSMs, environmental movements in particular (Pakulski 1991, p. 19). But, here I am referring to the values held by the participants in this study and identified in section 7.5.3; the self-transcendent values of conformity, security, tradition and benevolence. The agents in this struggle are not post-materialists but traditionalists and tend to place emancipation of their communities ahead of personal self-realisation. As noted in section 7.5.3, their activism is more embedded in altruism and can be likened to a 'human welfare ecology' (see Eckersley 1992, p. 38).

The participants' activism is primarily a response to the values of the dominant social paradigm. As Offe points out, "the cognitive awareness of clashes and contradictions within the universe of modern values, may lead to a selective emphasis upon some of

these values" (1985, pp. 849-850). Environmentalists tend to place more emphasis on non-materialism, but also collectivism, localisation, community, de-centralisation and the acknowledgement of alternative epistemologies as frameworks for social behaviour. The participants' values are embedded in community.

The participants' values have developed through their embodied sensual experiences of their natural environment and socialisation into fiercely traditional, primarily Buddhist communities. As discussed in Chapters Six and Seven, NEED is promulgating the practices of simplicity and these are embedded in the Buddhist edict of *Right Livelihood*. In his first sermon after his enlightenment, the Buddha explained that the way to peace, wisdom, and nirvana is the *Noble Eightfold Path*.

One of the requirements is *Right Livelihood* - a way to earn a living without causing harm to others and being aware of the consequences, far and near, of the way one earns a living. These values, of simplicity and right-living, are entrenched in the traditional communities in Myanmar. Participants exhibit a sense of collective solidarity that can be likened to the endogenous African philosophy of '*ubuntu*', and that is characterised by love, caring, tolerance, respect, empathy, accountability and responsibility.

Values viewed as desirable in one culture may be viewed as goals to be rejected in another (Schwartz 1994, p. 26), but it is these values, of simplicity and right-living, that are shared by eco-cultures and grassroots movements, values that go against, and seek to override the values of individualism and materialism. It is this shared value system that is connecting the disparate social movements and environmental and social justice groups around the globe. As shown above, in 9.3.2, there are conflicting values at play in Myanmar. The global battle for food sovereignty, which involves ownership of the means and modes of agricultural production, the right to autonomy, and abundant, healthy food, is now playing out in Myanmar.

NEED's local rationality, creates the potential for conflict with other groups within the social formation of Myanmar (particularly in the rural areas) who may adopt the values and meanings of that group. In fact, considering the spread and influence of the INGOs and NGOs, the international partnerships and the state in Myanmar, we can assume millions, if not tens of millions of farmers are going to be affected by mainstream

practices and processes. NEED and the students have only reported local, primarily individual, resistance to their ideas at the moment. Khaing Dhu Wan has noted a lack of interest from state institutions but not resistance. In fact, his ideas have been recognised through the registration of NEED as an organic company and NEED is able to operate freely within the country. NEED, is therefore, not in any open or direct form of conflict with any particular group.

NEED’s focus on organic agriculture is a vital aspect of environmental peacebuilding. This is primarily because of its focus on banning chemicals. As Barry Commoner says, “if you don’t put something into the environment, it isn’t there” (1992, p. 43). But also, going organic and aiming at eco-sufficiency is, as the co-creator of permaculture, Bill Mollison said, a subversive act (2005). The violence of the Green Revolution is well documented (see Shiva 1991), yet the development project continues, now under the guise of the ‘green economy’. Despite all the ‘expertise’, collective knowledge and alternatives, the same destructive and violence choices are being made by those in power. The focus on organic agriculture for alternative development enables a counter-hegemonic project.

Rosset et. al, in their exploration into agroecology in Cuba, note that in most countries most of the time, there are abundant and productive ecological farming practices ‘on offer’, but low adoption of them is the norm, because what is lacking is a methodology to create a social dynamic of widespread adoption (2011, p. 168). Myanmar society is endowed with ideas and capacities, like those of NEED. What has been lacking is political freedom, and political and financial support, for citizens to exercise their rights and creativity (Tun Myint 2007, p. 14).

Marcuse believed that individuals and groups who challenge the development project, quite often exhibit powerlessness in the beginning but this (apparent) weakness is “a sign of their authenticity and desire to break out or resist the all-embracing system of domination” (1992, p. 37). Up to now in Myanmar it has been the transnational environment movement occupying Myanmar's borderlands that has provided the most fertile and important outlet for environmental activism (Simpson 2013, p. 183) and NEED has been a part of this activism. NEED is also aligned with the agrarian concerns identified by Malseed (2008) and Woods (2013) and shares networks. The

challenge now for NEED is to expand its sphere of influence and enable people to become actively involved. For people to become involved in social movements they must see that action is not only necessary but possible (Foley 1998, p. 143). NEED has planted a seed (organic of course) of an idea in Myanmar. Whether it grows and cross-fertilises depends on NEED's range of influence and resources. NEED, and particularly the students and young adults involved in its operations, require material resources, mentoring and support.

It is unlikely that the level of mass social movement required for the level of structural and social change necessary to overturn the world order is going to emerge from the from the global North or wealthier parts of the global South. This is because of the one-dimensionality of modern experience (Marcuse 1964, p. 22), and the indoctrination and manipulation of those social movements from above. It is more likely that change will come from the global South, from the grassroots and land-based social movements, with critical mass, a common set of values, and a shared focus – food.

The social movements discussed in this thesis are 'movements of possibilities'. Their mobilisation, like NEED's, can be facilitated by support from other activists and by listening to these emerging ecological voices from the global South who refuse to give their consent to be ruled over. We are in an era of crisis, but crisis offers opportunities, not only for solutions aimed at immediate problems, but also to establish 'deeper' ways of being in the world (Amster 2015, p. 7).

9.5. Conclusion

This chapter has highlighted how NEED is contributing to environmental peace. NEED has created a learning space in which it is educating and empowering highly motivated young adults from different ethnic groups from rural communities around the country through the critical pedagogy of EAE. This education is enabling them to take advantage of the new political space and opportunities emerging in this nascent democracy and share their new knowledge and skills with their peers and local communities. As a result, they have planted the seeds for new ideas and possibilities embedded in the ideologies of permaculture, localisation and alternative development.

Since those early days in 2013 when I first joined NEED, the organisation, with ongoing support from Child's Dream, has gone from strength to strength in consolidating itself as a key social movement organisation in the promotion of organic agriculture in Myanmar. The fact that it has endured indicates not only the tenacity of the participants, but also the support and interest in it as an entity. However, structural issues such as lack of resources, mentoring and fiscal support are constraining practical application of this learning and this needs to be addressed for this nascent social movement to grow and be more effective. Further, there are many challenges facing the participants in this study. These include some resistance at the local level, and a state-led development project embedded in neo-liberal ideology and capitalism.

The participants in this study are facing the challenge of trying to reconcile two different worlds – their traditional world colliding with the modern world – in a rapidly changing social (and ecological) environment. The students are in a prime position – with their baseline data and lived experience of their complex natural environments and socio-economic issues to lead their country into a more sustainable and ecologically sound future.

NEED's strengths lie in its focus on youth as social change agents, education and its horizontal networking at the local, grassroots level. The social action emanating from NEED has both material and normative or ideological aspects. In claiming their land and resources, they are also asking what nature is for. The students have become environmentalists, albeit it in small ways for some of them.

Our society is facing a crisis of ecological sustainability and the solution requires nothing less than a revolution. It requires a revolution of the spirit but also of the material means of production – an embodied revolution. EAE can spread the word that we can be happy, even much happier, by living more simply, by reconnecting with both our internal and external natures, that small really is beautiful, that traditional cultures and local epistemologies matter and that we are all complicit if we don't join the fight against powerful, self-interested elites and ineffective and corrupt governance that threatens to rent our very existence apart. We will succeed if we work together.

Figure 9-7 The author and NEED Project Officer, Ko Than Shwe (NEED Eco-farm 2014)

Chapter 10. Conclusion

This thesis has examined how grassroots environmental adult education (EAE) is contributing to environmental peace in the nascent democracy of Myanmar. It has focused on the grassroots initiative, the Network for Environment and Economic Development (NEED), as an example of grassroots activism emerging from agrarian communities in the global South. It is a unique contribution to the research into informal, critical adult education for social action, and for environmental peacebuilding, having provided new knowledge into EAE being utilized for environmental peacebuilding in the global South. It has also provided new knowledge into a nascent grassroots social movement, one that is emerging as a response to the structural and ecological violence emanating from the state in Myanmar and powerful social movements from above.

This chapter is a review and summary of the research carried out in this study. The chapter reiterates the research problem, identifies the main research methods utilized, and discusses the implications of the findings. The chapter also discusses the limitations of the study and offers suggestions for further research.

10.1. Research Problem

This thesis is based on the belief that, in light of the global systemic crisis of inequality, environmental insecurity (including climate change) and injustice, broad-ranging social change is required. This study supports the argument that we need a radical transformation of the global and national neo-liberal political and economic structures, institutions and systems, together with many of the associated social and cultural practices. Providing for people’s needs within ecological limits, and addressing environmental insecurity and injustice, requires a cultural revolution and this thesis argues that central to this revolution is critical education, EAE in particular. This is because EAE provides critical skills regarding structural, social and cultural constructs and constraints and practical skills for developing peaceful solutions. It raises ecological awareness, resulting in increased ecological consciousness. Most importantly, it encourages collective action.

This conception of the need for informed rejection of globalisation from above, is shared by a growing number of Myanmar nationals from agrarian populations who have significant lived experience (SLE) of the negative impacts of structural and ecological violence. Environmental degradation, lack of public infrastructure, land grabs, food insecurity, a lack of food sovereignty and loss of livelihoods are resulting in the breakdown of their traditional, long-established agrarian communities. The situation is being exacerbated by a 'green' development project instigated by the state, a state that has entered into a number of partnerships with powerful trans-national companies, agri-businesses and non-democratic global funding institutions.

Myanmar is a beautiful country geographically, rich in biodiversity and natural resources, populated by a proud, resilient and traditional people with a history of brutal elites and ethnic conflict, but a colourful culture. The vast majority of the population in Myanmar has suffered for decades at the hands of the military junta, the *tatmadaw*. By maintaining a centralised and hierarchical style of governance, mimicking their dynastic history, the generals adopted the role of kings and this has not boded well for those under their reign. Inequitable social power relations created and maintained by an authoritarian regime have allowed corruption to run rampant and greed has triumphed over need.

The conflict over land and natural resources has resulted in serious human rights abuses, and environmental and food insecurity for the large agrarian population. An antiquated and poorly-funded education system has been used to control the population and any dissent has been brutally squashed. Despite decades of repression, the people in Myanmar have maintained a sense of agency and autonomy through their traditional cultures, strong sense of community, Buddhism and a vibrant civil society.

The future of the country is uncertain after the installation of a new government in April 2016, led by the previous opposition, the National League for Democracy, and serious structural, cultural and ecological violence continues. However, as the country embraces democracy, new political, social and economic opportunities are emerging. This is creating new spaces for new actors and new voices in what has long been a culture of silence.

The environmental social movement organisation chosen for this study, NEED, has mobilised with a particular focus on food security and has developed an EAE program as a tool for addressing serious food security issues facing rural communities. The objective of this research was to see how this EAE was being utilised as a response to structural and ecological violence, and thereby contributing to environmental peacebuilding in this nascent democracy. This has been achieved by gaining an understanding of the motivations behind the organisation, and its staff and students (the participants of this study), how NEED has mobilised, what the participants' objectives are and how the participants are attempting to meet their goals.

The main research question was, therefore, **how is environmental adult education (EAE), as practised by NEED, contributing to environmental peacebuilding in the nascent democracy of Myanmar?**

To expand understanding, the following questions were also asked:

- Why and how has NEED mobilised;
  - What motivated the organisation and the students who attend its school, and what are their objectives?

- Why have they chosen to take this education based route in addressing their environmental, social, economic and political problems and issues (instead of relying on politics or other forms of activism)?

  - What learning is occurring, and how does it relate to environmental peacebuilding?

  - What is the impact of the program on environmental conservation and regeneration, cultural preservation and livelihoods?

Over fifty years ago, a small book, Rachel Carson's *Silent Spring*, helped raise awareness of the dangers of chemicals for the environment and human health. It sparked the new environmental movements and collective social action for environmental protection. Now, in the 21st century despite all that we know, all the

resources at our disposal, the efforts of social movements from below, the establishment of institutions, the implementation of political and social control, and a raft of laws, rules and legislation, there is still a great deal of business-as-usual, now just couched in the rhetoric of 'sustainable development' and, the 'green economy'. Despite all the research, resources and institutionalised efforts, nearly five decades of environmental education has largely failed in convincing world citizens to act in environmentally responsible ways.

Greed is winning over need and the transnational capitalist class is gathering forces in the battle for control over one of our most basic needs – food. This battle, between peasants and smallholder farmers and the global corporate regime, is playing out around the globe, and now in Myanmar, as the country opens up to democracy and embraces a market-led, industrialised development program.

This thesis has based itself on the concept of environmental peace. Environmental peacebuilding is vital in order to address the structural and ecological violence that is occurring around the globe and impacting on environmental, human and food security. Environmental peacebuilding can work towards healing the metabolic rift between humans and our first nature, and the widening gap between rich and poor. Environmental peace is vital for intergenerational justice (Thompson 2010).

Environmental peacebuilding requires a holistic approach, one that is multi-disciplinary and involves multiple stakeholders (Amster 2015; Kyrou 2007; Lederach 1997). This thesis has contributed to understandings of the many responses that are emerging as a result of the damaging effects of globalising capitalism. It has contributed to understandings of the type of education and learning that are, and can be utilised as a powerful tool for collective social action. It has also contributed to understandings of the limitations of this collective social action, in order that we can facilitate it.

If we want to survive as a species, we must address the way we treat our home, planet Earth. We need to create more peaceful, healthier and happier ways of co-existing with other species and each other. The challenge is how to do this. This thesis has discussed one small example – the political activism of NEED in Myanmar.

10.2. Research Design

Contemporary environmental issues are firmly embedded in the complexity of modern day social, political and economic structures. Any process that seeks to understand environmental problems must include a critical analysis of these institutionalized systems, so a critical social research methodology was applied in this study. The study utilized Paulo Freire's notion of critical consciousness, as well as the writings of critical theorist Herbert Marcuse, and a Marxist theory of social movements, as lenses through which to analyse the learning that is occurring within this program, as well as the potential it has for broader, transformative social action.

The study is grounded in qualitative research and a soft, social constructivism paradigm. The overall purpose of qualitative research is to understand how people make sense of their lives and their experiences. A case study approach was chosen because it allows for a holistic understanding of the complexity of the phenomenon under investigation. Field research and participant observation were chosen as research methodologies, in order to reach an understanding of the participants, their activities and relationships.

This study was conducted as a shared project with the participants in order to understand how we, together, can instigate the social changes identified as vital by the participants. This critical research therefore also falls into the paradigm of 'activist research'. Carrying out research along with the participants allowed me to gain an understanding of their practices, processes and culture, whilst interactions between us enabled mutual understanding and respect to develop.

Data was collected via participant observation, structured, formal and informal unstructured interviews, group discussions and workshops, informal conversations and personal communication, and collating secondary data such as class notes and resources, records, reports and documents pertaining to the program. A literature review of a number of fields of enquiry was conducted: environmental peace studies, post-development theory, social movements, environmental adult education and learning in social movements.

10.3. Summary of Results

This study sought to understand the potential of EAE for environmental peacebuilding, in this case, in a nation-state emerging from fifty years year of authoritarian rule. Overall, the thesis that EAE is contributing in a positive way to environmental peacebuilding at the grassroots level in Myanmar, has been confirmed. EAE is being utilised by a social group of highly motivated individuals, with a deep connection to land, strong communitarian values, and a sense of duty and responsibility to act for their communities and the environment. They have mobilised due to their significant lived experiences of structural and ecological violence, and are acting out of a sense of solastalgia, the actual or threatened loss of what they value most – their land and, ergo, their communities and traditional lifestyles. NEED is a leader in new ideas centred round permaculture and organic agriculture and ecologically sound practices. NEED is also an example of a collaborative project between North and South.

This study has highlighted the power of values, in particular of simplicity and a sense of community, in the emergence of collective social action. It has also highlighted the power of youth as social change agents, and the potential for social change lying within the agrarian, meta-industrial class. This class possesses true wealth – land, community and traditional ecological knowledge (TEK). It also holds the power – of critical mass.

This study has also noted the challenges facing the participants as they seek to operationalise their EAE outreach program and attempt to influence behaviours within their rural communities. NEED also faces challenges with regard to influencing government policies due to a ‘green’ development project, headed by a competitive and aggressive agri-business industry and endorsed by the state.

NEED in Myanmar was established with the aim of empowering civil society, particularly youth, through an environmental adult education (EAE) program focused on sustainable agriculture, environmental conservation and community-based economic development. Their prime objective is training social change-makers who can assist their local, rural communities to restore their agriculture-based livelihoods, diversify and establish new, ecologically sustainable, socio-economic opportunities to enable them to regain control over their livelihoods.

As noted by NEED, it is important to have a strong civil society in light of increased foreign direct investment and development initiatives emanating from the state, to ensure the investment and development is ecologically sustainable, equitable and benefits those who need it most. NEED, like other grassroots and community-led organisations, environmentalists, political activists, and agrarian organisations, is taking advantage of the opportunities created by recent political, economic and social reforms instigated by their government. NEED has been working to empower the grassroots through critical pedagogical programs since 2006 when it first emerged in Chiang Mai, Thailand.

NEED was established with the primary intention of training young adults from rural areas and differing ethnic groups around Myanmar, to become social change agents and leaders for their rural communities. NEED's focus from the beginning has been on regenerating traditional practices and livelihoods through the application of permaculture and organic agriculture, and empowering local communities by raising awareness about the underlying structural causes of their economic and environmental problems, primarily lack of food security. The focus of its EAE program, has therefore, been raising awareness in the young adults that attend its school by training them in new practices and processes, land issues and human rights and alternative community development theory. NEED"s program provides the students with analytical thinking, skills, raised levels of critical consciousness and practical skills. Since NEED established its eco-farm in Myanmar in 2013, over 220 young adults have graduated from its EAE program. These students are now sharing their knowledge in a variety of ways beneficial to their communities, nation and the planet.

The education at NEED has resulted in instrumental learning and myriad new skill sets for the students. It has resulted in communicative learning, through interactions with staff, NEED supporters, other students, and foreign teachers. It has enabled critical, emancipatory learning through reflection on their lived realities. Students leave the NEED eco-farm armed with practical skills aimed at putting theory into practice. Post-NEED projects include farmers' workshops, short training courses, advocacy training, networking and the development of knowledge-sharing forums with Myanmar nationals, and others from within the South-East Asia region, and abroad. These

include like-minded individuals and organisations, but also those new to the concept of permaculture, and those seeking new understandings and opportunities for dialogue. There are also seed saving networks, small organic farming projects, engaging with government departments, cultural activities and networking with international groups and tertiary institutions. They have been given a toolkit for environmental peacebuilding and they are learning how to use it. As noted at the end of the last chapter, after their 10 months spent on the eco-farm these students have become a small, but growing, force for social change.

Integral to this environmental and social justice action, advocacy and activism has been the efficacy of the EAE program developed by NEED which has resulted in raised critical consciousness and ecological literacy together with a sense of self-determination and agency. Together these processes and practices are resulting in critically informed citizens, with a sense of agency, armed with a toolkit of practical solutions that they can apply at the local level, as well as engage in wider collective social action. NEED has created a learning community, a space for new voices, imagination and creativity and in so doing it has planted the seed of an idea that is spreading and cross-fertilising. This is occurring through NEED's horizontal networking, its demonstration farms and the students sharing their new knowledge and practical skills at the local level.

However, as seen in the discussions by the students in the previous chapter there are structural and cultural constraints on their activism. Many of the students have noted that they are facing some resistance from villagers for their ideas. Villagers said that their thinking was 'crazy' or different. Much of their new awareness, understanding and behaviour surrounding the environment contrasts with current, local practices, particularly those encouraged by globalised agri-business.

Nevertheless, NEED has many strengths and, despite issues facing the organisation in its few first years of mobilisation in Myanmar, it is achieving its goals, in a number of important and interesting ways. It has created a learning community. It is contributing positively to environmental peacebuilding within Myanmar through its focus on organic agriculture, but more so, through the potential empowerment of a generation of rural youth. For through its EAE program, NEED has created agitators, social change

agents, who are beginning to influence change at the local level, particularly in young people.

NEED mobilised with the intention of working with government departments, business and corporations in developing policy for the nation's future. The director, Khaing Dhu Wan, feels that he has local knowledge, new knowledge and networks that can assist the government in implementing programs for rural communities. NEED's ideology resists top-down structures centred on economic development that homogenises culture and alienates the 'periphery', and it seeks to empower the grassroots and involve them in decision-making that meets the needs of their communities.

Those involved with NEED in Myanmar are taking ownership of the development and peace process of their emerging democracy. They are attempting to regenerate a traditional culture of sustainability and simplicity. This subsistence mode of peacebuilding, maintained at the local level, is one that constitutes an important form of counter organisation against the project of liberal state building. In this respect, despite NEED's efforts to influence policy, it is more likely that its organic agriculture programs, and alternative community development projects, are going to stand in opposition to state-led projects. It is proving difficult for NEED to work with a new government, which, as yet shows little interest in the environment and/or the civic participation of the grassroots. NEED is currently, therefore, despites its objectives of working with governments, working parallel with much of the government's initiatives.

Despite these limitations and contradictions, this study found a vibrant site of adult learning in a small school in Myanmar, and the beginnings of a social movement. It is too early to assess the long-term efficacy of the NEED program but, two years after graduation, the initial cohort of students that completed the NEED program report a greater sense of ecological awareness and sense of responsibility towards the environment; greater awareness of political, economic and social structures and institutions; a greater sense of agency; new practical skills and confidence. NEED is offering a new way of being for those on the land who seek to protect their traditional lifestyles but also seek to function within a rapidly changing society.

10.4. Limitations of the Research

There are clearly limitations to this study. As a single case study it explores just one example of the myriad community-led and grassroots environmental projects that are emerging in this nascent democracy. As such, the participant demographic is limited and it could be argued that this study's findings cannot, therefore, be generalised to the broader population. However, the limited demographic was intentional and aimed at a deep understanding of one specific cultural group. The program at NEED is unique as a residential critical education program in its focus, participant demographic, residential style and the length of the curriculum. Also, this was its seminal program.

With regard to methodology, there were cultural and language issues. All the Burmese staff could speak English to varying degrees and the majority of the students had some English – in fact some were quite articulate. However, the need of this researcher for constant reiteration and interpretation might have limited a full understanding of particular aspects of the culture of the organisation. Language can be both a facilitator and a barrier to communication, and it is unclear as to how much might have been lost in translation.

This study did not consider the learning occurring for the staff at NEED. When planning the research I included this as an aspect of the study. However, there were difficulties in the field, due to cultural issues. Mainly, I felt that I needed to respect the hierarchical management structure, and including the staff in the assessment process had implications relating to staff/management dynamics. There were certain management issues and structural constraints that prevented me from interviewing staff. Further, in-depth interviews of the type required to effectively assess and monitor the staff's learning would have taken up time that I instead spent working with and observing the students.

This study has also not considered the learning that has occurred for me as a researcher, and as a co-learner and agent co-creating this new social reality in Myanmar. As discussed in the social movement literature, much learning occurs through involvement in social movement activities, and if we are to be effective as activist scholars we need

to engage in this reflexivity.[132] Nor has the thesis discussed fully my impact on the process. These, and other aspects are considerations for further research.

10.5. Recommendations for Further Research

In order to understand the potential of EAE for environmental peacebuilding, it is important to identify effective models and programmes that result in and maintain social change, and how and where these can be developed and applied. This case study of NEED provides a small glimpse into the 'pedagogical space' of a community-led alternative community development and environmental peacebuilding project in which members are working to shape and control their futures, and where adult learning and education is critical to this endeavour. This research is descriptive and exploratory in nature and, as such, is the beginning of a discussion which opens up many areas for future research, in a field where there is a dearth of research.

One field of research that should be of immediate concern, is an analysis of the psychological impact of this pedagogical program on the students, and the effects on them as they return to their villages and communities. This study only touched lightly on this aspect. Further research could analyse the gendered aspects of this program. In particular, it could examine a comparative analysis of the outcomes for males and females. Again, this study only touched lightly on this aspect.

Further research could analyse the impact on younger generations in the village as the students from NEED return to the villages and share their knowledge with their siblings and younger members of their communities. This could highlight the successes, as well as limitations, of the program with regards to influence and changing behaviours. This study could have provided a more comprehensive account of local knowledge, particularly with regard to environmental sensitivities and their links to livelihoods. Further ethnographic studies into local, lived realities for rural communities in Myanmar are vital, for example, how local ecological knowledge shapes farming practices.

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[132] Although space limitations have prevented an in-depth exploration of my learnings, some of these are implicit in my discussion chapters.

As noted throughout this study, there is a vast array of training opportunities emerging for young adults in Myanmar. This opens up a wealth of opportunities for further research into education, adult education, EAE, peace education, and training and in Myanmar. Truly enduring and sustainable peace requires a long term view that fosters positive, co-operative relationships. More research is required to understand the new relationships emerging between the ethnic groups as they work together on environmental problems.

One way to understand action is to look at the social actors involved. It is suggested, therefore, that more ethnographic research is required into this rapidly changing social world. There is a need for further research, particularly through engagement with practitioners, subaltern groups, the grassroots, activists and action research. If we are to engage with this political activism, we (researchers) need to look at the multi-faceted nature of resistance. We need more research into localised struggles and how these struggles are shaped by a whole range of factors – history, ecology, politics and culture. We also need to understand how diverse struggles are connected and how they shape one another. These new ecological voices from the South are providing us with a model that not only feeds the planet but might solve many of our social issues

I will leave the last words to the student from Rakhine State who said “we should respect the farmers because they are simple” [they live simply].

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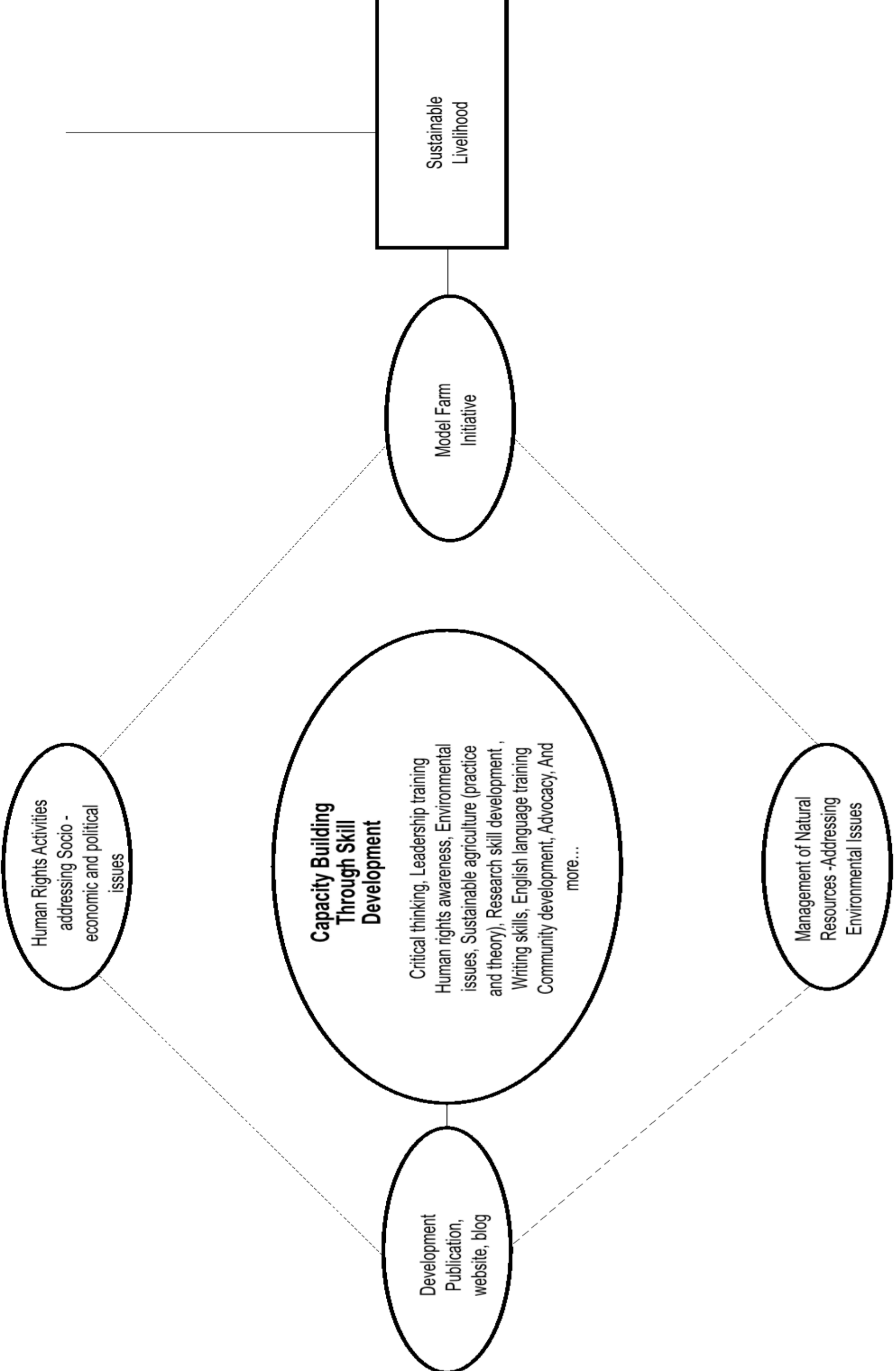
Appendices

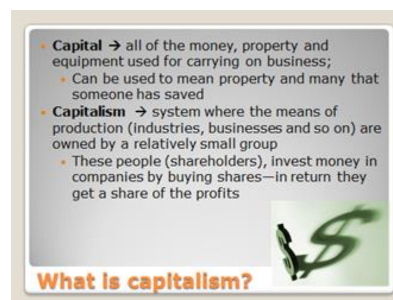
Appendix A – NEED Conceptual Framework



Appendix B – Example of Curriculum Materials

- Differing opinions and interests among people
  - Small scale: A family may disagree over who should do certain chores
  - Larger scale: members of a country may think differently about issues that affect them all
- Aristotle (Greek, 384-322 BC): **Politics** is the art of controlling these differing interests within a state and reaching agreements on them. A **state** is a community with its own government. Someone actively involved in politics is a **politician**.
  - Politics: *Polis*, Greek, city state
  - State: *Status*, Latin, condition or circumstances

What is politics?



Power point: What is Politics? Cook & Kirby for NEED 2013.

What is Land Tenure?

- Relationship between people and land;
- Rules invented by societies to regulate behavior;
- Defines property rights:
  - Rights to use, control and transfer land;
  - Who can use what, for how long, under what conditions.
- Plays a role in social, political and economic structures

Power point: Land Rights, NEED 2013

7 Basic Human Rights

- Human Rights Watch reports seven overarching categories in human rights:
  - Right to security of a person
  - Economic and social rights
  - Civil and political rights
  - Non-discrimination
  - Labor rights
  - Rights of communities or groups, including indigenous peoples
  - Right to an effective remedy and accountability
- There is no hierarchy or rigid division between theses rights. In fact, rights tend to remain closely related and the categories frequently overlap, reflecting the fact that human rights are by nature universal, indivisible and interdependent

Power point: Basic Human Rights, Human Rights Watch 2013.

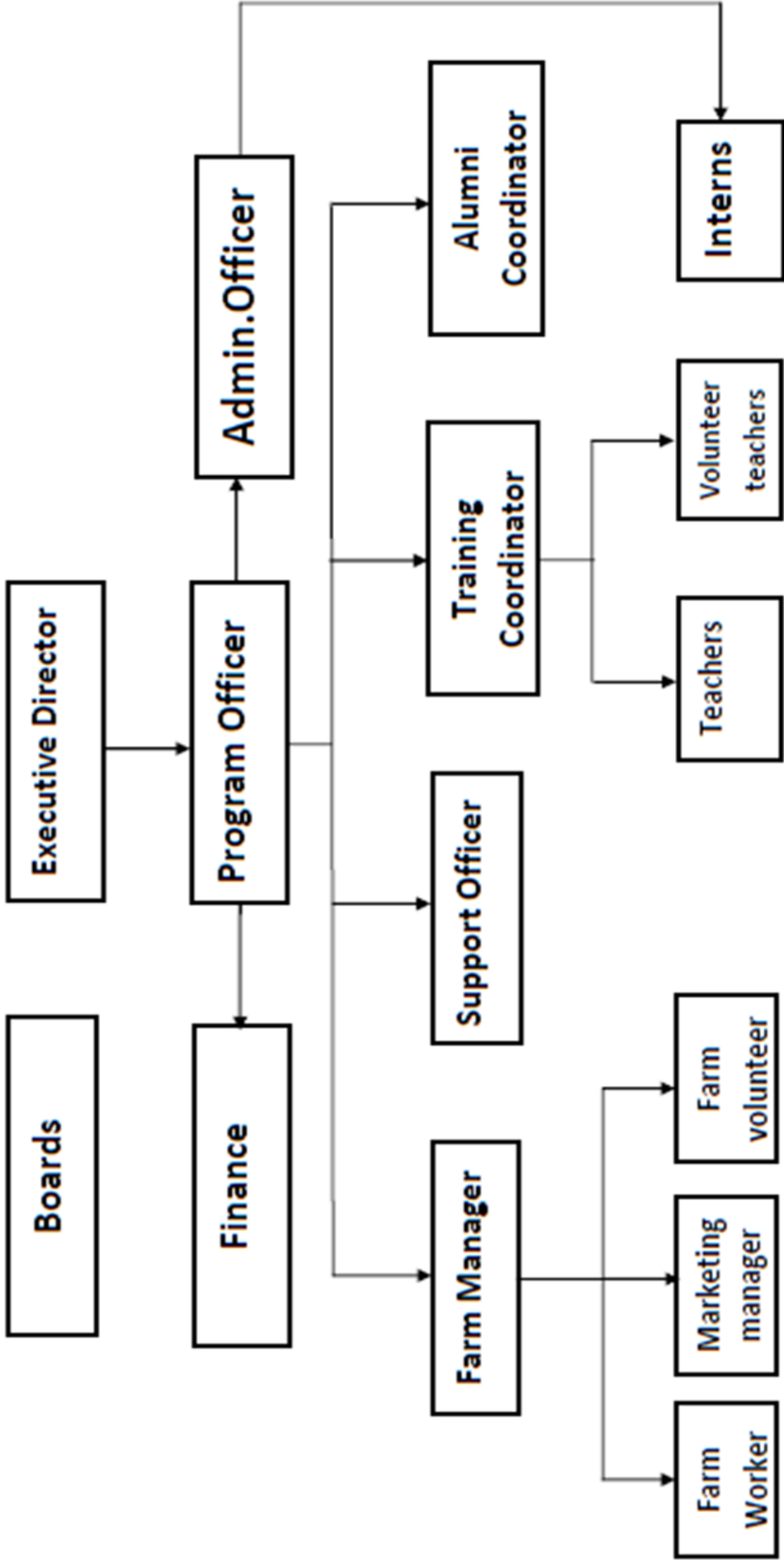
Why Is Sustainable Agriculture and Ecological justice Important?

- Environmental issues are everywhere
- Environment impacts economics and social livelihoods worldwide
- Pollution impacts us in many ways
- Human induced climate change is a fact
- Forests are depleted faster than they can regenerate

Power point: NEED 2013.

Environmental Issues, Student Book (Curriculum Project 2013, p. 2, 8 & 9)
The natural environment is the land, sea, air, water and all living things. Everything made by people is called the built environment. The built environment includes many things such as houses, computers and plastic bags. What about ideas, knowledge, religion, beliefs and languages? This is called the social and cultural environment.
People have only started to understand the relationships between things in the environment in the last few decades. This new science and way of thinking is called ecology. Ecology is about understanding how everything in the environment works together. A system with interactions and interdependence between living things (birds, trees, plants, elephants) and their non-living environment (rivers, mountains, valleys, rocks, chemicals) is an ecosystem. An ecosystem is any place that supports life.
Biodiversity of species means the number of different species in an area. Biodiversity is richest in rainforests and coral reefs. Biodiversity is being destroyed very quickly. This means life on earth is being destroyed. The main reason biodiversity is being destroyed is habitat loss.

Appendix C – NEED Organisational Structure



Appendix D – Student Proposals

Proposal Three

Group:	Women Empower Group (five females)
Project Title:	Women and Agriculture (WA) in Kyauk Ran Village
Project Precis: Establishing a model organic farm To solve the jobless problem among all of the women in our village. To change chemical agriculture to organic agriculture in our village. To conserve the environment. Target - women Vision: All of women have own employment with their capacity in our village. **Conclusion:** If our project succeeds we will work continuous in the future. We expect to our modern farm as a big plan in the future.	

Proposal Four

Group:	Youth for Social Development Group (YSDG) (one female/one male)
Project Title:	Summer Education in our Community
Project Precis: To make a summer education program To create youth training centre To conduct English language training To organize the youth To select 30 youth from our community every year To train 30 youth for 2 months every year Target - youth **Conclusion:** We are making for the community development and sustainable living.	

Proposal Five

Group: No name (two males)

Project Title: Promoting native livelihood and sustainable organic agriculture

Project Precis:
The villagers are overused of chemical
They are losing their traditional agriculture
The villagers are more and more in debts on rich business men
They are depended on the ready-made market
To grow a model farm as a demonstration farm
To show how to get organic food
To show organic agriculture
To train in small scale farm by practice
Target - farmers

Conclusion:
Promoting to develop for the remote areas and poor community
Participate in community development projects
To promote traditional agriculture and ways

Proposal Six

Group: Friends for Local Initiative (one female/two males)

Project Title: Eco-system and Economic Development (EED), Kanbouk, Ye Phyu township, Dawei

Project Precis:
To become Sustainable environment and living style
To demonstrate model farm rotate by eco-systems
To know how to maintain the natural environment
To make small scale farming or agriculture
To provide villagers with capacity building base on organic agriculture farming
To promote eco-systems in my village
To create systematic small scale to large
Target - farmers

Conclusion:
We will donate 50% of profit to our village to be developing.
We will donate 30% of profit to orphans
We will use 20% of profit in our farm for running again to be sustainable.
We will making capacity building in my community

Proposal Seven

Group:	Buddhist Youth Inle Watershed Development Project (four females)
Project Title:	Sustainable Livelihood and Women Empowerment Project
Project Precis: To increase the number of young girls and women who are interested in handicraft making. To reduce burning and cutting trees. To be able to make money for family income when they are taking rest in the house and to reduce poverty through handicraft marketing. To flourish money through breeding one pig. Target – women **Conclusion**: Good communication To be able to make income Environment Can live safely	

Proposal Eight

Group:	Buddhist Youth Inle-watershed Development Project (two males)
Project Title:	Reducing Poverty and Natural Resources Management in Inle
Project Precis: To be aware how to manage natural resources and waste management To conduct the natural resources and waste management training to 30 farmers from the village. To reduce the costs in agriculture To receive more income and to improve livelihoods To share the knowledge in how to grow sawdust mushroom and straw mushroom organically to the 30 local people To create opportunities for income generation To reduce the use of agro-chemicals To raise awareness of these in how to relate to the environment, organic agriculture and conserve natural resources. To develop organic agriculture in Inle Lake Target – farmers **Conclusion**: Strong network among 30 farmers Interest in community development and natural environment They reduce agro-chemical , maintain the natural environment More income , create income generation Food security We get trainer and facilitator skills Become organic farms in Inle Lake	

Proposal Nine

Group:	Youth Environment Watch Group (YEWG) (one male)
Project Title:	Youth Education and Rehabilitation (YER)
Project Precis: Reforestation Project To empower youth about the natural environment To get Local varieties plants (forest) To aware more people about Environment To get more educational opportunities and network for youths Target - youth **Conclusion**: We will get a new forest near the village. Will be better off their livelihood The weather will be better than before They will get firewood, post and other things for their infrastructure Many local wild animals will live more again The community will get social, natural asset and more healthy.	