MOVING BEYOND SUSTAINABILITY AT INSTITUTES OF HIGHER EDUCATION:

THE POTENTIAL OF A PERMACULTURE INITIATIVE

AT TEXAS STATE UNIVERSITY-SAN MARCOS

Thesis Supervisor:

_____

Ken Mix, Ph.D.
Department of Agriculture

Second Reader:

_____

Ron R. Hagelman, Ph.D.
Department of Geography

Approved:

_____

Heather C. Galloway, Ph.D.
Dean, Honors College

MOVING BEYOND SUSTAINABILITY AT INSTITUTES OF HIGHER EDUCATION:

THE POTENTIAL OF A PERMACULTURE INITIATIVE

AT TEXAS STATE UNIVERSITY-SAN MARCOS

HONORS THESIS

Presented to the Honors Committee of

Texas State University-San Marcos

in Partial Fulfillment

of the Requirements

for Graduation in the Honors College

by

Katherine Tritsch

San Marcos, Texas

December 2012

Abstract

Sustainability is a promising concept yet to take on true meaning in much of the world. The aim of this thesis is to discuss shortcomings of the sustainability movement within Institutes of Higher Education (IHE) while offering a grassroots methodology for creating substantive, systematic change. This thesis posits IHE are the most promising avenues for introducing the opportunities and challenges of sustainability to future generations. It posits the need to move beyond sustainability into more regenerative designs for living systems, i.e.) permaculture. In other words, humans must strive not only to sustain current ways of life so a world exists for future generations to inherit, but also to restore broken life cycles and heal degraded environments to produce a world with increased abundance, beauty, and resilience. Permaculture is a socio-ecological philosophy and design methodology characterized by a state of living which reaches beyond sustainability. It is an international movement making headway in the U.S. and IHE. This thesis discusses prospects of integrating permaculture into IHE using Texas State University – San Marcos as a case study.

Background

"The word "sustainability" has gotten such a workout lately
that the whole concept is in danger of floating away on a sea of inoffensiveness."
- Michael Pollan

Sustainability and agriculture

In the U.S. and throughout the world, the notion of sustainability is becoming increasingly recognizable. It is marketed in products, discussed in local to international politics, increasingly regulated, and constantly debated. Without an agreeable across-the-board definition of sustainability, one widely accepted interpretation of sustainable development is, "the ability to meet the needs of the present without compromising the ability of future generations to meet their own needs," (WCED 1987).

Sustainability's expansion throughout the past decade has grown to current proportions due to the severity of environmental challenges. When looking at nine key planetary processes: climate change, ocean acidification, stratospheric ozone depletion, global phosphorous (P) and nitrogen (N) cycles, rate of biodiversity loss, global freshwater use, land-system change, aerosol loading, and chemical pollution, humans have already transgressed the boundaries for climate change, P and N cycles, and biodiversity loss, with global freshwater use and land-system change not far behind (Rockstrom et al. 2009). Humans are an unquestionable driving force for much, if not all, of these changes. However it is only recently humans have been considered a force powerful enough to shift key planetary processes and push the planet into a new realm of stability and characterizing conditions (Rockstrom et al. 2009).

As defined by the WCED, sustainability acknowledges continuous growth without harm yet excludes mention of the current necessity to heal desolate landscapes, collapsing ecosystems, or otherwise degraded physical processes. Sustainability can be interpreted as a balancing point situated between improving conditions and worsening them, whereby no more harm is done to the environment than necessary to sustain human needs. This is illiustrated in Figure 1.

One of the largest contributors to the degenerative shift of planetary processes is conventional agriculture. Conventional agriculture is defined as capital-intensive, large-scale, highly mechanized agriculture with monocultures of crops and extensive use of artificial fertilizers, herbicides and pesticides, with intensive animal husbandry (Beus and Dunlap 1990). These practices have characterized the U.S. for about half a century, and are often esteemed as reasons for the country's food and energy surpluses (Beus and Dunlap 1990). Unfortunately, even the U.S. Department of Agriculture (USDA1999) admits conventional agriculture practices aggravate climate change, degrade soil productivity, magnify ocean acidification and the rate of global freshwater loss, and increase the rate of biodiversity loss. These practices also negatively impacts social and economic systems by posing threats to public health, incurring debt among small farmers, degrading food quality and nourishment, and alienating people from their traditional rural cultures (Altieri and Nicholls 2000). Despite the ability of conventional agriculture to deliver high yields and an abundance of food, the externalities and embedded costs of these practices have caused many to question its true value.
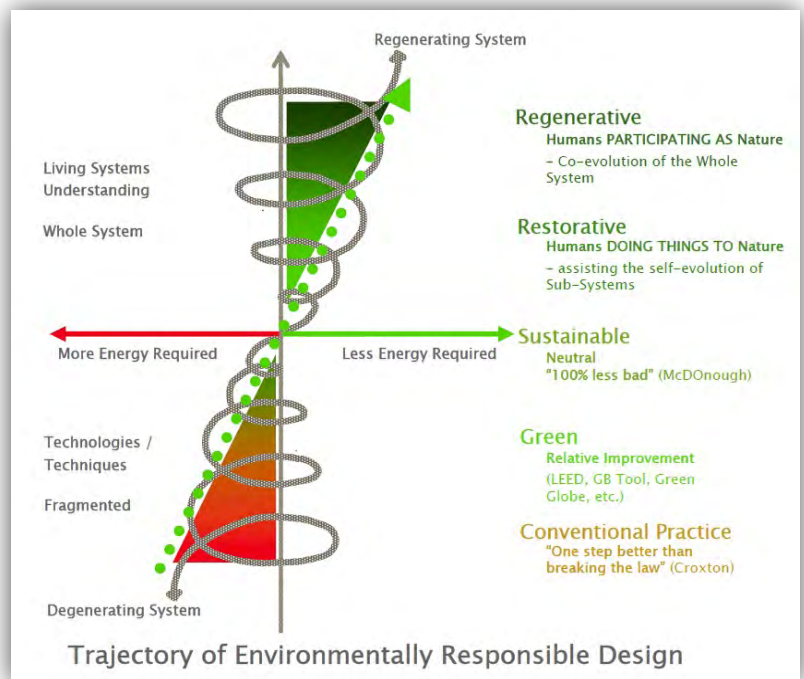

Figure 1. Trajectory of Environmentally Responsible Design. Borrowed from Integrative Design Collaborative, this illustrates more 'environmentally responsible' designs, i.e.) beyond sustainable, demand less energy intake and operate as integrated systems.

Alternative agriculture is often the back-lash of those dissatisfied with the negative environmental or social effects of the conventional agriculture system. Alternative agriculture is an umbrella term, encompassing agricultural systems identifying as organic, sustainable, regenerative, ecoagriculture, permaculture, bio-dynamic, agroecological, natural,

3

low-input, and so on (Beus and Dunlap 1990). Because it's impossible to separate practices and

technologies of agriculture from beliefs and values underlying them, these seemingly separate alternative

movements find a common thread in philosophy and worldview (Beus and Dunlap 1990). These

paradigms are shown below in Table 1, also illustrating the contrasting worldviews of conventional

agriculture proponents.

Table 1. Conventional versus alternative agriculture	
Conventional agriculture	**Alternative agriculture**
Centralization	**Decentralization**
- National/international production, processing, and marketing	- More local/regional production, processing and marketing
- Concentrated populations; fewer farmers	- Dispersed populations; more farmers
- Concentrated control of land, resources and capital	- Dispersed control of land, resources and capital
Dependence	**Independence**
- Large, capital-intensive production units and technology	- Smaller, low-capital production units and technology
- Heavy reliance on external sources of energy, inputs, and credit	- Reduced reliance on external sources of energy, inputs, and credit
- Consumerism and dependence on the market	- More personal and community self-sufficiency
- Primary emphasis on science, specialists and experts	- Primary emphasis on personal knowledge, skills and local wisdom
Competition	**Community**
- Lack of cooperation; self-interest	- Increased cooperation
- Farm traditions and rural culture outdated	- Preservation of farm traditions and rural culture
- Small rural communities not necessary to agriculture	- Small rural communities essential to agriculture
- Farm work a drudgery; labor an input to be minimized	- Farm work rewarding; labor an essential to be made meaningful
- Farming is a business only	- Farming is a way of life as well as a business
- Primary emphasis on speed, quantity, and profit	- Primary emphasis on permanence, quality, and beauty
Domination of nature	**Harmony with nature**
- Humans as separate from and superior to nature	- Humans are a part of and subject to nature
- Nature consists primarily of resources to be used	- Nature is valued primarily for its own sake
- Life-cycle incomplete; decay (recycling wastes) neglected	- Life-cycle complete; growth and decay balanced
- Human-made systems imposed on nature	- Natural ecosystems are imitated
- Production maintained by agricultural chemicals	- Production maintained by development of healthy soil

- Highly processed, nutrient-fortified food	- Minimally processed, naturally nutritious food
Specializiation	**Diversity**
- Narrow genetic base	- Broad genetic base
- Most plants grown in monocultures	- More plants grown in polycultures
- Single-cropping in succession	- Multiple crops in complementary rotations
- Separation of crops and livestock	- Integration of crops and livestock
- Standardized production systems	- Locally adapted production systems
Highly specialized, reductionistic science and technology	- Interdisciplinary, systems-oriented science and technology
Exploitation	**Restraint**
- External costs often ignored	- All external costs must be considered
- Short-term benefits outweigh long-term consequences	- Short-term and long-term outcomes equally important
- Based on heavy use of nonrenewable resources	- Based on renewable resources; nonrenewable resources conserved
- Great confidence in science and technology	- Limited confidence in science and technology
- High consumption to maintain economic growth	- Consumption restrained to benefit future generations
- Financial success; busy lifestyles; materialism	- Self-discovery; simpler lifestyles; non-materialism

Beyond sustainability: An introduction to permaculture

Permaculture's integration of social ethics and design make it unique among other alternative agriculture practices. The term permaculture was coined and created in the 1970's by two men, Bill Mollison and David Holmgren (Mannen et al. 2012). Inspired from the words *permanent* and *[agri]culture*, it implies a state of living that seeks to create mutually beneficial relationships between human and other forms of life through principles of ecology, landscape design, indigenous tribes, architecture, horticulture, community design, and others (London 2005). Permaculture began as an application of ecological design to agricultural systems, creating integrated, evolving systems of perennial and self-perpetuating plants and animals for human use (Holmgren 2007). It has since evolved to encompass much more: soil building, habitat creation, passive and active water catchment, natural building, alternative economies, decision-making structures, etc. The movement now more accurately reflects the idea of *permanent culture*; the conscious design of landscapes which mimic patterns and relations of nature in order to provide an abundance of food, fiber, and energy for local needs (Mannen et

al. 2012). Holmgren (2007) points out putting humans as the central element of permaculture altered the evolution of the movement to more than just a design system.

In permaculture designers and practitioners seek to create diverse and stable environments around homes and cities that function like natural environments; it is in this sense permaculture "mimics" nature. Indeed, much of permaculture's influences come from two complex branches of science: systems theory and ecology (Holmgren 2007). Permaculture takes from these sciences concepts such as stability, resilience, diversity, inputs and outputs, feedback, multifunctionality, etc. and attempts to integrate them into a design system applicable to all persons. Ecologist C.S. Holling (1973) defines stability as the ability of a system to return to a state of equilibrium after a disturbance. Therefore a system is more stable when the return to equilibrium occurs more rapidly. Akin to stability is resilience, which can be defined as the ability of a system to experience shocks while retaining the same structure, function, feedbacks, and identity (Walker et al. 2006). These abstract concepts are embodied in permaculture designer's enthusiasm for closed loop systems and community sufficiency. By attempting to re-localize the production of resources and create systems without waste, permaculture design attempts to create communities capable of stabilizing themselves in wake of an emergency. Community resilience is additionally increased when communities are able to experience small disturbances and fluctuations in food and energy production without falling into a state of scarcity. As Mollison (1988) states, permaculture as a design system doesn't offer anything new but instead arranges provisions of the natural environment in ways which conserve energy, or generate more energy than the system consumes.

What separates permaculture from other alternative agriculture ideologies is the addition of direct ethical principles to their pedagogical methods. These ethical principles are 1) care for the earth, 2) care for people, and 3) fair share, or limits to consumption and reproduction and redistribution of surplus (Holmgren 2007). They are the result of research into community living and ethics, borrowed from indigenous and tribal cultures living in relative balance with their environment (Holmgren 2007).

In addition to ethical principles, permaculture offers principles for design methodology. These are meant to guide the permaculture design process by providing a framework. Holmgren's list of twelve principles is meant to simplify the process of design and serve as a checklist for systems thinking during the design process, as illustrated in Table 2.

Table 2. Holmgren's Permaculture Principles	
Bottom-up	**Top-down**
Observe and interact	Design from patterns to details
Catch and store energy	Integrate rather than segregate
Obtain a yield	Use small and slow solutions
Apply self-regulation and accept feedback	Use and value diversity
Use and value renewable resources and services	Use edges and value the marginal
Produce no waste	Use and respond to change creatively

Holmgren's principles differ greatly from Mollison's, who identifies different categories of principles in his book *Permaculture: A Designer's Manual*, including those of natural systems, thermodynamics, and ethical responsibility (Mollison 1988). He offers his own 'Mollisonion Permaculture Principles,' which are as follows:

1. Work with nature, rather than against the natural elements, pressures, processes, agencies, and evolutions.

2. The problem is the solution; everything works both ways.

3. Make the least change for the greatest possible effect.

4. The yield of a system is theoretically unlimited; the only limit on the number of uses of a resource…is the information and the imagination of the designer.

5. Everything gardens, or has an effect on its environment.

The role for permaculture in an environmentally degraded world is vast. This profound fusion of indigenous wisdom and scientific research and principles can do as little as inspire a person to grow their own food, or as much as make that person question their ethics, values, and morals towards life.

Permaculture is a movement based on solutions and integration in the face of an 'energy descent future,' characterized by a progressive reduction in energy production, human consumption, and human population (Holmgren 2007). Permaculture is a movement of the people – a grassroots movement – moving towards local autonomy and empowerment. Although usually categorized as a system for sustainable human settlements, this paper posits that due to permaculture's vision of abundant, stable, and resilient communities, permaculture is more aptly associated with regenerative design, thus moving beyond sustainability.

Prospects of permaculture in Higher Education

"The bottom line of systems thinking is leverage, seeing where actions and
changes in structure can lead to significant, enduring improvements."
- Peter Senge

Sustainability in higher education

Sustainability in Institutes of Higher Education (IHE) is a subject teeming with controversy. As sustainability spreads among students in idealistic conversations and university administrators publish webpages highlighting their roles as leaders in sustainability (Breen 2010), scholars within IHE are pushed to reflect on the role sustainability should play. IHE are improving energy use, conserving water, recycling and composting waste, constructing more energy efficient buildings, and utilizing more native plants in their landscapes all in the name of sustainability (Barlett 2011), however many scholars perceive campus sustainability initiatives as lacking in regards to the duties and potential of IHE. Many believe that IHE have a broader societal responsibility due to their unique influence on the minds of future generations (Cortese 2003; Schugurensky 2006; Breen 2010; Rhoads 2011).

IHE have the unique freedom to develop new ideas, comment on society, engage in bold experiments, and contribute to the creation of new knowledge which no other institution is granted (Wals and Jickling 2002). For this reason IHE should contribute to projects promoting social and environmental justice, and which ultimately altering social, economic, and political relationships (Schugurensky 2006). Unfortunately the consensus on sustainability in IHE seems to ring true to Stafford's (2011) statement,

> "…sustainability appears to be something of a luxury good in higher education. Larger and wealthier institutions are more likely to adopt sustainability than smaller, less well-endowed institutions. Thus, although in theory IHEs may be able to make long-term investments in sustainability that corporations would not find profitable in the short run, financial resources still play a significant role in the adoption of sustainable practices on campus," (Stafford 2011).

Breen (2010) points out that decisions about sustainability initiatives are usually justified by whether they have the ability to lower costs or bring in new funds, supporters, or students rather than whether they are justifiable on pedagogical, ethical, or ecological grounds. This leads to sustainability

movements rooted only in economic and political justifications, ignoring the need for or possibility of

radical change (Breen 2010). Similarly, sustainability initiatives answering to the whim of short-term or

temporary gain are undershooting the aim of the concept and its proponents. IHE typically support

relatively isolated campus projects that highlight sustainability, but the path towards a green showcase

differs greatly from the path of leadership in sustainability via institutional transformation (Sharp 2002).

Further, at the curricular level the highly specialized and discipline specific nature of most classes lack

the systemic approaches necessary to create professionals who view sustainability challenges as

interdependent, complex, and dynamic (Cortese 2003). In order to overcome these problems it may be

necessary to completely re-structure and re-define the goals and missions of IHE, altering their

approaches to operations, education and curriculum, research, and community relations (Cortese 2003).

These types of profound changes presuppose a change in mindset of the people working in

organizations and institutions like IHE. Similar to the conflict in worldviews between proponents of

conventional and alternative agriculture, the change in mindset necessary to implement sustainability and

all of its principles is a paradigmatic change; one that alters the prominent worldview individuals or

societies use in associating meaning to the external world (Beus and Dunlap 1990). Considering the

difficult, timely, and controversial nature of such changes, it follows that this mindset must be learned. Is

there a more appropriate place to start than in higher education?

Alternative agriculture programs in IHE

In addition to operational and infrastructural modifications, many universities feature student

gardens or student farms as key elements in their sustainability initiatives. Sustainable Agriculture

Education Association's online database of student farms in North America gives an accurate picture of

nearly fifty participating universities (SAEA 2012).

Some notable colleges and universities with alternative agriculture programs include Yale

University, Dartmouth College, University of Wisconsin Madison, University of California Davis,

University of Massachusetts Amherst, and perhaps now Texas State University-San Marcos. Many of

these sustainable agriculture programs began with similar origins: a group of passionate and dedicated

undergraduate students concerned with environmental or food justice met with administrative decision-makers and rallied student support until their cause was answered.

One well-documented student farm history is that of the Yale Sustainable Food Project. The movement at Yale began with a group of students who met with dining services representatives to discuss increasing the amount of organic food available in dining halls. The dining halls responded by seeking out organic produce when the purchase was cost-neutral. The students, not quite satisfied, formed a student organization aimed at raising awareness and continuing the fight for more organic food in dining halls, which culminated in a conference and supplemented support from well-known restaurant owner Alice Waters. With this culmination of support, Yale University administrators began the Yale Sustainable Food Project, which included the creation of a steering committee, a pilot project to increase one dining hall's menu to 100% sustainable food, and a student farm proposal submission to the President. With approval from the Vice President of Finance and Administration, the proposal was accepted and the first farm interns were hired. A conference was held and the pilot project was so successful Yale decided to offer sustainable food options in all of its dining halls. Four years after breaking ground the farm was producing 20% of all dining hall produce in an organic and sustainable fashion. As of now there are twenty student interns that run the farm throughout the year and courses in psychology, biology, and even history offered in conjunction (Yale University 2012).

Other student farm histories are less well-documented on their individual webpages, but their goals and tactics remain largely the same. In each case the path to make the dream of a sustainable farm or garden a reality requires working within the boundaries of university funding and administrative approval. In each case there is a form of student organizing, a written proposal, an administrative approval, and management responsibility. In nearly every case there includes some form of garden manager, project overseer, or similar title that belongs to a university employee rather than a student. This is necessary to make such an undertaking truly 'sustainable,' as student volunteers will come and go with semesters.

Something that should be considered in the vast movement for sustainable agriculture programs is the lack of emphasis on other alternative agriculture practices such as agroecology, permaculture, low-input, biodynamic, etc. Might this be due to sustainability's popularity and acceptance rather than its ideological implications? With only a handful of IHE braving the path beyond sustainability, even fewer achieve campus-wide success and national recognition. Only one has managed both under the umbrella of permaculture.

Permaculture in IHE

University of Massachusetts – Amherst (UMass) is one of the only, and the largest, IHE to adopt a permaculture initiative. Some other IHE with permaculture programs or classes include California State University, Pacific University in Oregon, Indiana University, and Oregon State; yet none of these programs have succeeded in the public eye quite to the extent of UMass.

UMass Permaculture is a self-stated unique and cutting edge sustainability program. Their focus is turning unproductive grass lawns into ecological, socially responsible, financially sustainable, and easily replicated permaculture landscapes (UMass 2012). They explain permaculture as a Vision, a Design System, and a Community: it is a vision that seeks to create landscapes of resilience, abundance, and a world in which individuals, communities, and ecosystems thrive. It is a design system that provides tools and skills necessary to create regenerative systems for individuals and their communities. It is a global community with over one million practitioners and thousands of projects in more than 100 countries throughout the world (UMass 2012).

This initiative's beginnings and tactics were similar to those of other sustainable agriculture programs, but their outcome and goals quite different. Table 3 illustrates the goals of sustainable agriculture programs in the aforementioned IHE, and may help distinguish the difference in scope when comparing sustainability oriented programs versus those emphasizing other alternative agriculture practices.

12

Table 3. Alternative agriculture program goals	
Yale University, Yale Sustainable Food Project (YSFP)	By gathering people around shared food, shared work, and shared inquiry, the YSFP fosters a culture that draws meaning and pleasure from the connections among people, land, and food; By creating opportunities for students to experience food, agriculture, and sustainability... graduates have the capacity to effect meaningful change…
Dartmouth College, Dartmouth Organic Farm	The Dartmouth Organic Farm is a student-run educational and working garden that provides members of the Dartmouth community with opportunities for independent research, student projects, and hands on experience in sustainable food and energy systems.
University of Wisconsin – Madison, Center for Integrated Agricultural Systems (CIAS)	The goal of our work… is to learn how particular integrated farming systems can contribute to environmental, economic, social, and intergenerational sustainability. We aim to help farmers capture a larger share of the consumer food dollar while implementing sustainable systems… to develop and assess visions of alternative food systems.
University of California – Davis, Agricultural Sustainability Institute (ASI)	Centers around three principles: A focus on sustainable agriculture principles and practices; an emphasis on in-field, experiential learning; and the encouragement of student initiative, creativity and exploration.
University of Massachusetts – Amherst, UMass Permaculture Initiative	Guided by the ethics and principles of permaculture, the UMass Permaculture Committee engages and educates the… campus community in the

The UMass Permaculture Initiative began in 2010 when Ryan Harb, a senior at UMass at the time,

development of a whole systems approach to moving beyond sustainability. To this end, the… Committee creates and supports the evolution of model regenerative ecosystems and social systems on campus.

finished a Permaculture Design Course that left him feeling empowered and motivated to spread the knowledge of permaculture to his university and community. Knowing he would need to gather support and attention to do so, he began by transforming the lawn in front of his home into a permaculture garden. Harb and the group of students that helped him accomplish this feat put up signs and provided pamphlets of information about the garden, invited groups and neighbors out to see it, and were soon attracting the attention of the university. Harb was simultaneously teaching permaculture at the university and writing his Master's thesis on the front lawn project. Despite support for a campus permaculture garden from multiple departments, on an individual basis they didn't have the financial resources to set it into motion. It was then a group of students including Harb set up a meeting with Ken Toong, the Executive Director of Auxiliary Enterprises at UMass. They discussed the dining halls' shift towards local, organic foods and how a permaculture garden on campus grounds could provide produce directly to the dining halls. Toong was enthusiastically supportive and Harb submitted a proposal for the project, creating a position for himself as the Sustainability Manager for Auxiliary Enterprises. Three or four months later the proposal was accepted and Harb found himself working for UMass Auxiliary Enterprises leading what might now be the most successful campus permaculture initiative in the nation.

Since Harb's hiring on in September 2010, the UMass Permaculture Initiative has successfully transformed a quarter-acre campus lawn into a permaculture garden which produced over 1,000 pounds of produce in its first growing season (UMass 2012). To accomplish this the initiative motivated over 1,000 volunteers from the campus and 300 children from the community (UMass 2012). Harb's Curriculum Vitae explains how the initiative has already begun working on two other permaculture landscapes on campus, one donated as the senior class gift worth $25,000. The initiative's website provides evidence of UMass Permaculture as the subject of multiple media outlets including newspaper, radio, magazines and

television, as well as eight awards they've earned including the Real Food Challenge National Award and White House Champions of Change. UMass Permaculture has also produced a three-part documentary, held an international Permaculture Your Campus Conference, and hired on three full-time staff members.

Figure 2. UMass Franklin Permaculture Garden. On the left, the quarter-acre garden space after the sheet mulching phase in Fall 2010. On the right, the garden in June 2012 complete with over 150 different plant species, social spaces, mulched pathways, and signs indicating the five different themed sections.

The necessity of grassroots activism

In an analysis of what motivates universities to adopt sustainable practices, the largest barriers found were lack of awareness or interest, the institution's organizational structure, lack of funding, and lack of support from administrators (Stafford 2011). Other reasons lie beneath the surface, including fear of corporatization of university operations (Seybold 2008) and the myth of the 'rational university' brought up by Sharp (2002). This myth of rationality in IHE is engendered in the assumption that IHE operate at the highest level of functionality. This, in turn, prevents institutional analysis or reform because the political payoff for accepting dysfunction is greater than paying for the root cause of the dysfunction (Sharp 2002). IHE are particularly vulnerable to political pressure from larger society, and therefore mirror its corporatization and inequalities (Seybold 2008).

While the UMass Permaculture Initiative has succeeded on the surface level, do they stand a chance in altering power relationships and ultimately influencing the course of the university? Seybold

(2008) theorizes doing so would take a student movement in unity with campus workers and supportive

faculty challenging the very structure of the university. Perhaps substantive change must come from a

movement thriving in balance between surface level barriers such as finances, faculty support, and

awareness, and underlying attitudinal barriers revolving around fear, politics, and ethics. As

environmental activist David Orr (2004) states,

> "The primary causes of biotic impoverishment are not ignorance or the lack of
> research funding. They are, on the contrary, invariably political, having to do with 'who
> gets what, when, and how.' The decisions necessary to conserve biological diversity
> likewise will be political."

The systemic change necessary for IHE to adopt truly sustainable practices will need to be organized with

the intention to alter and abolish political relationships allowing sustainability to exist as conceptual

rhetoric. The grassroots activism embodied by the majority of environmental non-profit organizations can

help students, faculty, and staff of IHE walk down this road.

The environmental movement in the U.S. began in the progressive era as a struggle between

conservation and preservation, and the epic battle between Gifford Pinchot and John Muir over Hetch

Hetchy Valley. Although preservationist Muir lost the battle for Hetch Hetchy, he made lasting

contributions to the environmental movement due to his founding of the Sierra Club in 1892. According

to their website, the Sierra Club is the nation's oldest and largest grassroots environmental organization.

The non-profit organization aids in the preservation of parklands and natural resources as well as offers

recreational and educational opportunities to the American public. Most of the Sierra Club's prominence

has resulted from successful grassroots campaigning, which ultimately boils down to political

participation as means to an environmental end.

The Sierra Club (1999) defines campaigns as: a series of connected events over a period of time,

each of which builds the strength of the organization and brings it closer to victory. To maximize

effectiveness and minimize confusion during the campaign process, the Sierra Club uses a written out

plan called a campaign planning matrix, outlined in Figure 4. This planning matrix is based on a direct

action organizing template put together by Midwest Academy, an

institution aimed at training people on methods of grassroots

organizing.

        "Grassroots…is about going to the very source of
democracy: the people. It is about figuring out how they feel, and
what their self-interest is. It is about listening to their needs,
communicating in words they understand, caring about making a
real, tangible difference in their daily lives," (Sierra Club 1999).

In any movement it is necessary to appeal to the people capable of

granting victory. In environmental movements the importance is

magnified, for it is up to humans to act as the voice for the

environment and target those with the ability to transform societal

institutions into environmentally responsible entities.

        Permaculture is an environmental grassroots movement. It

is about empowering people and producing results that improve

quality of life in a tangible way. Although permaculture has not

been the topic of many environmental activist campaigns, the

grassroots organizing model provides an excellent framework for

enhancing the understanding of permaculture as a social as well as

environmental movement. Similarly, as shown by the success of

student movements in the 1960's and 1970's, it is campaigns are as

effective in universities as they are in communities (Seybold 2008).

No matter the setting or scale, organizers face an overwhelming

amount of bureaucracy, rules, and loopholes to work through when

planning and executing a campaign with political, and therefore

ideological, alterations.

Figure 3.
Sierra Club's Campaign
Planning Matrix

I. Issue Focus

II. Background Research

III. Campaign Goals
   A. Campaign goals
      a. Long, Interim, Short
   B. Organization goals
      b. Long, Interim, Short

IV. Lay of the land
   A. Organizational
strengths and weaknesses
   B. Campaign allies and
opponents

V. Strategy
   A. Strategic Vehicle
   B. Targets
      b. Decision-makers,
Secondary targets, Public
audiences

VI. Campaign
communication
   A. Message/Slogan
   B. Story
   C. Media Outlets

VII. Tactics and Timeline

VIII. Resource Management
   A. Campaign budget
   B. Donor
management/Fundraising

Case Study

A Glance at Texas State Sustainability

Texas State University – San Marcos is an IHE experiencing student enrollment increases, state level budget cuts, the transition to a research-based institution, and ever-increasing pressure from incoming students, faculty, and staff to incorporate sustainability into their triple bottom line. In the 2012-2017 Campus Master Plan Update, Texas State University recognized sustainability as an area needing elaboration from the original 2006-2015 Master Plan (TSU 2011). The update highlights current sustainability initiatives like Bobcat Blend (the campus composting project) and storm-water runoff plans, but seems to regard funding as the greatest factor in establishing sustainability projects on campus. "Does it make economic sense to cover a parking lot with photovoltaic (PV) cells or use rainwater harvesting to help irrigate athletic fields?" (TSU 2011). These and similar questions posed by the sustainability symposium, one of five symposia scheduled in the Master Plan Update preparation, were analyzed in three different ways: 1) Cost effectiveness, 2) Competitive advantage and other benefits, and 3) Evidence-backed strategies for greatest impact.

Cost effectiveness deals with the 'hard' benefits of sustainability, i.e.) long-term savings associated with more efficient green building practices. In other words, cost effectiveness is a measurement of how economically profitable the project would be for the university. Competitive advantage refers to whether a sustainable project will further recruitment and retention of students, faculty, or staff; other benefits refer to 'soft' benefits of sustainability initiatives such as increased human health and productivity. Lastly, evidence-backed strategies for greatest impact refers to the assumption that the greatest impact is made through infrastructural changes, i.e.) energy savings, green building and renovations, storm-water reclamation, and transforming impervious to permeable cover. Some sustainability recommendations in the update include utility monitoring and improvement, increased ADA accessibility and bike routes, complete streets, passive solar architecture, green roofs, an Open

Space Network Implementation Plan, better storm-water management via rain gardens, bio-swales, and water cisterns, and recycling bin upgrades.

The economic practicality that went into compiling these sustainability recommendations falls short of the systematic transformation necessary to move beyond sustainability. As Breen (2010) points out, perhaps a water cistern here and a green building there are not making Texas State or any other IHE leaders on the paths to global sustainability. While authors of the Master Plan Update suggest substantive change must come from the institutional leadership level (TSU 2011), it is argued here substantive change must also come from student and community organizing efforts.

How to Implement Permaculture at Texas State

Using Texas State as a model university and the Sierra Club's campaign planning matrix as an outline, a simplified example of what a written plan for a permaculture initiative at Texas State might look like is located in the following section. This section will summarize the assumptions and methodology which went into the construction of the campaign plan example. Ideally, a campaign plan should be written by a small group of organizers within a period of a few hours. The example provided is meant to serve as a guide for future student organizers who wish to move Texas State beyond sustainability into realms of ecological responsibility through the planning and execution of a permaculture initiative.

The campaign plan follows three main phases: creating a demand, establishing accountability, and taking delivery (Sierra Club 1999). This paper envisions typical grassroots strategies like tabling and petitioning to create a demand, a pilot project and fundraising to establish accountability, and the centralization of sustainability as the method for taking delivery at Texas State University. One of the first presuppositions in putting together a campaign plan is the existence of an organization or coalition running the campaign; in this case, a student organization would be most appropriate. An existing permaculture student organization at Texas State named People Envisioning Regenerative Models Integrating Every System, or PERMIES, will be the hypothetical organizers in the campaign for a permaculture initiative.

20

To create demand, organizers must bring awareness of the issue to their target audience while emphasizing the crucial role their audience's participation plays in solving it. This type of organizing preceded the Yale Sustainable Food Project when students formed the organization 'Food From the Earth,' which held meetings and wrote petitions supporting an increase in organic food in the dining halls. Harb's front yard permaculture garden also exemplified this idea by attracting attention of students and media and expanding awareness of permaculture. At Texas State PERMIES would follow much of the same tactics. PERMIES would have to begin by centering meetings on the permaculture initiative while simultaneously tabling at campus events, sharing the campaign idea at other organizations' events, meeting with faculty, staff, and Associated Student Government (ASG) representatives to seek established support, and gathering signatures on a petition for the centralization of sustainability. In line with community organizer Saul Alinsky's (1971) organizing principles, PERMIES would have to make permaculture 1) a real, immediate, and concrete improvement in peoples' lives, 2) something that re-aligns power relationships through strong and effective organizational structure, and 3) something that empowers people [students] to become active in the political process and in their [campus] community. It seems PERMIES could address these principles by providing effective education on the imperative of environmental action, the potential leadership role of IHE in global sustainability, and ethics and principles of permaculture in relation to organizational structure.

Establishing accountability can be done through involvement with well-known, reputable organizations and events and the successful execution of a pilot project. For PERMIES, a small permaculture demonstration site – on or off-campus – would show administration the level of student dedication and serve as an example of permaculture design's aesthetic and abundant landscapes. To further establish accountability PERMIES could run a miniature campaign, perhaps in conjunction with another student or non-profit organization. Hosting events, fundraising for a local environmental nonprofit and writing a report on the benefits of permaculture landscaping may also be good strategies for establishing accountability.

The most deceivingly complicated part of the campaign is taking delivery, which entails success of the organization and campaign goals. This only happens when demand and accountability have been satisfied, meaning strategies and tactics were successful and targets are convinced of the necessity of permaculture in IHE. In a meeting with Texas State's Associate Vice President of Finance and Support Services, Nancy Nusbaum, in October 2010, she mentioned the largest barriers to a permaculture initiative would be 1) finances and 2) the university's decentralized sustainability policy put forth by the president. Therefore, taking delivery for the permaculture initiative will be defined by: 1) Centralization of sustainability at Texas State University, 2) Creation of a student-run permaculture garden, 3) Integration of permaculture into student education, and 4) Implementation of ecological landscaping. The provided campaign plan speculates centralizing sustainability at Texas State would call for a new University Policy and Procedure Statement (UPPS) signed by the President and raising the Environmental Service Fee (ESF) for the purpose of hiring a garden manager would be appropriate under the Environmental Service Committee (ESC) bylaws, located in Appendix A.

Table 4 illustrates different tactics organizers may use in their planning efforts. For instance, PERMIES may or may not choose to attempt partnership with Texas State University's dining services, Chartwells. While doing so could possibly result in expanded funding for the initiative, it would incur further rules and regulations on the scope of the garden produce. The campaign plan in the following section assumes this as a less desirable option, offering students more freedom in experimentation with their harvest; perhaps participating in a farmer's market and holding harvest events.

| Director of Grounds | > | Associate VP for Facilities | > | VP for Finance | > | President |

Figure 4. Chain of command for a permaculture garden. As identified by Nusbaum (2010), this figure illustrates the key players necessary to approve a permaculture garden on campus. It is assumed these are the same positions which would have most influence on the President in drafting a policy for a permaculture initiative.

Table 4. Goals, strategies, and tactics for a permaculture initiative at Texas State University		
CAMPAIGN GOAL	NECESSARY STRATEGIES	TACTICAL OPTIONS
Centralize sustainability	Show support from students, faculty, staff, and alumni	-Obtain over 5,000 signatures for support - Table, write letters to alumni, meet with faculty/staff, build coalitions with other student organizations
	Create a new policy (See Appendix B for guidelines)	- Seek assistance from university lawyer, ASG, Office of University Marketing
Create a student-run permaculture garden	Obtain administrative approval	-Collect statements of support from secondary targets (See campaign plan) -Submit a proposal (See Appendix C for content suggestions)
	Obtain funding for supplies and management	-Raise Environmental Service Fee (See Appendix A for regulations) -Partner with Chartwells -Offer permaculture course for credit (registration fee includes garden supplies)
Integrate permaculture into student curricula	Create at least one permaculture course for credit	-Find willing department (Geography, Honors, Agriculture) -Find and/or hire appropriate teacher -Students provide free labor and supply costs
	Obtain support from department heads	-Set up meetings and obtain written statement of support to incorporate sustainability into curricula
Implement ecological landscaping on campus grounds	Coordinate with Facilities and Grounds	-Set up meeting with Director of Grounds and VP for Facilities
	Obtain professional consultation from permaculture designer	-Submit a proposal to Environmental Service Committee to cover part of consultation costs -Host benefit show to fundraise for consultation costs

From personal experience, one of the most important aspects in trying to organize people for a cause is to be organized. It is of upmost importance for organizers to know their mission, goals, and strategies as an organization before planning a campaign. One way to achieve internal stability might be to apply the principles of permaculture to the organization. This was done in a 120-day study attempting to present a multiparadigm perspective of sustainable organizing (Mannen et al. 2012). The given definition of sustainable organizing was modeled after Holmgren's definition of permaculture, and the study concluded with an application of his twelve permaculture principles to human systems, specifically organizations. This is illustrated below in Table 4. Sustainable organizing was defined as,

> "…the conscious design of an organization in ways that mimic the patterns and relationships found in nature, yield an abundance of resources necessary for the sustainability of the mission of the organization without compromising the needs of future generations of stakeholders to continue that mission," (Mannen et al. 2012).

This definition links together permaculture, organizational development, and sustainability. The study posits the need for organizations to define a mission statement, frame of reference, systems and processes, and purpose, as well as invite division of labor, innovation and creativity, and interdepartmental meetings into their normal operations.

Table 5. Application of Permaculture Principles to Natural and Human Systems		
Permaculture Principle	Permaculture Application to Natural Systems	Permaculture Application to Human Systems
Observe and interact	By taking the time to engage with nature we can design solutions that suit our particular situation	By taking the time to engage with stakeholders we can design solutions that suit our particular situation and promote evolution and adaptation
Catch and store energy	By developing systems that collect resources when they are abundant, we can use them in times of need	Align an organization as closely as possible to its mission in all of its actions, so that when the need for adaptability arises, the culture and behavior of the organization is strong

Obtain a yield	Ensure that you are getting truly useful rewards as part of the work that you are doing	Yield must be defined in terms of the organizational mission or objectives. Once clear, a frame of reference indicates progress toward or away from that mission
Apply self-regulation and accept feedback	Discourage inappropriate activity to ensure that systems can continue to function well	Consists of formal articles of incorporation, bylaws, and governing principles; organizational systems and processes must be design to ensure opportunities for ongoing communication, agreement, alignment, and evaluation
Use and value renewable resources and services	Make the best use of nature's abundance and to reduce our consumptive behavior and dependence on nonrenewable resources	Invest in the needs of individuals and of the natural environment such that they do not become depleted but rather become renewed, and in turn support the renewal of the organization in response to external challenges
Produce no waste	By valuing and making use of all the resources that are available to us, nothing goes to waste	Waste arrives in the form of purposeless activity, bureaucracy, or requirements that persist beyond their usefulness
Design from patterns to details	By stepping back, we can observe patterns in nature and society. These can form the backbone of our designs, with the details filled in as we go	Division of labor and evolving patterns associated with who does what: specializing or generalizing, simultaneous or in shifts, as well as homogenous or heterogeneous combinations
Integrate rather than segregate	By putting the right things in the right place, relationships develop between those things and they work together to support each other	Points of integrations or segregation occur at any point of difference; interdependence is a fundamental reality of life and integration across an organization provides an opportunity for personal and organizational growth that may not otherwise exist
Use small and slow solutions	Small and slow systems are easier to maintain than big ones, make better use of local resources and produce more sustainable	Relationships between people grow from a collection of singular interactions

	outcomes	
Use and value diversity	Diversity reduces vulnerability to a variety of threats and takes advantage of the unique nature of the environment in which it resides	When properly managed, diversity within human systems is directly correlated with an organization's creativity and hence with its ability to respond in innovative ways to external challenges
Use edges and value the marginal	The interface between things is where the most interesting events take place, these are often the most valuable, diverse and productive elements in the system	At intersections (between departments, between an organization and its stakeholders, between leaders and follows), not just people but also their ideas, passions, and visions come together to create a thriving environment and growth
Creatively use and respond to change	We can have a positive impact on inevitable change by carefully observing, and then intervening at the right time	Through observation and interaction, change is first perceived, which is a necessary prerequisite to a creative response; organizations that design for agility and intentional efforts to maximize innovation and creativity can outperform through rapid change and uncertainty

Students, faculty, and staff are the only people with the power to inspire systemic transformation of IHE. With permaculture ethics and principles as their guide, success just might be possible.

The Campaign Plan

This section provides the example campaign plan for a permaculture initiative at Texas State University, along with a brief description at the beginning of each section explaining its significance.

I.   Issue Focus -

The issue focus defines how the issue is characterized and understood by the organizers. It is explicitly identifying the problem as well as stating how it can be solved. The issue focus should be a positive statement in order to motivate and empower those involved.

We can empower our students, progress our university, and become leaders in the global sustainability movement through the creation of a centralized permaculture initiative.

As an educational and dynamic public institution, Texas State and other universities should strive to offer the most progressive socio-environmental policies. These should not only include energy system efficiency and conservation, solid waste disposal and recycling programs, but also landscape functionality, ecosystem services, and ethical, experiential programs.

II.   Background research

Background research is necessary to know the challenges and opportunities a campaign may face. It is about asking questions that will affect the way the rest of the campaign is run.

a.   *How does permaculture fit in with the larger university's goals/mission?*

Texas State is a fast-growing university located in an ecologically sensitive region, and must make strides to serve both its growing population and its surrounding environment. Permaculture gardens and landscaping would aid in transforming unproductive landscapes into functional foodscapes, as well as offer students a unique collegiate experience rooted in active learning. The integration of permaculture ethics and principles into operations and curricula would help the university in it's strive for excellence, as permaculture implies higher standards and fuller understanding of complexity. These aspects of a permaculture initiative would also fulfill university values in regards to diversity, inclusiveness, global perspective, and sense of community (TSU 2012).

b.   *What is Texas State's current policy on sustainability and on landscaping?*

Texas State has a decentralized sustainability policy. This is one of the largest impediments to the possibility of a permaculture initiative. It indicates that sustainability is not a campus-wide goal but rather a respectable goal for different departments to pursue on their own accord.

Landscaping at Texas State is based on a "Plant Palette" of native plants. Architects must use these plants in their landscaping, however there are no guidelines as to how, where, or when to plant them in order to increase functionality or aesthetics.

c. *Are there any student groups currently working on this issue, and what has been their success or failure?*

There are no student groups currently working on a permaculture initiative at Texas State, however there is a Student Sustainable Farm underway and talk of a central campus garden, which would both aid in creating a demand and raising awareness of environmental issues.

d. *What is the history of student activism at Texas State?*

Although it's impossible to know everything students have accomplished through organizing for a cause, two examples are particularly impressive and relevant: 1) The university's name change from Southwest Texas State University to Texas State University – San Marcos and 2) The establishment of the Environmental Service Fee. Both of these were results of student action.

e. *What's been the success of similar initiatives at other universities?*

UMass is currently the only nationally recognized IHE succeeding in a campus-wide permaculture initiative, which offers experiential learning, research opportunities, internships, departmental interconnectedness, as well as social and organizational experimentation. It may be especially impressive for Texas State to adopt a permaculture initiative due to the lack of permaculture awareness in the San Marcos/central Texas area.

f. *How can permaculture be a truly campus-wide initiative?*

Texas State University has nine different colleges, each with departments and skills that can help a permaculture initiative thrive. Some examples are located below in Table 6.

Table 5. Participation of Texas State University colleges in a permaculture initiative	
College of…	**Could help with…**
Applied Arts	Designing and planting a permaculture garden or landscape (Agriculture)
Business Administration	Marketing the permaculture initiative to other IHE, campus-wide sustainability management, tracking short-term vs. long-term economics of the initiative
Education	How to integrate experiential/active learning into curricula for different levels of education
Fine Arts and Communication	Designing and creating flyers, brochures, reports, etc. about the initiative
Health Professions	Looking into the benefits of local food or ecosystem health in relation to the individual
Liberal Arts	Predominately identifying and conducting studies on different aspects of the initiative, such as geographical significance, political barriers, historical precedence, psychological implications, etc.
Science and Engineering	Designing and/or building some of the more complex components of permaculture design, such as aquaponics
University College	Raising interest and awareness of sustainability as a global issue
Graduate College	In-depth research of the initiative's implications, benefits, challenges, etc. in any field

g. *What are the benefits of a permaculture initiative?*

Texas State will become a leader in the global movement towards sustainability and beyond. A permaculture initiative will attract students with many different interests, and once established serve as a way for them to learn self-sufficiency as well as self-responsibility. It will empower students by showing them the wealth of community, and by introducing them to a quality of life that goes hand-in-hand with nature.

h. *Who has the ability to help with supplies, funding, etc?*

A variety of organizations, individuals, and companies including the Environmental Service Committee (ESC), alumni, Chartwells (the campus dining services), Associated Student Government (ASG), the Agriculture Department, local farmers and nurseries, in addition to opportunities for fundraisers, grant-writing, and awards.

i.   Where will the permaculture garden/landscape be located?

A permaculture garden on campus shouldn't be any larger than ¼ acre and a permaculture landscape can be any amount of square footage. This allows for flexibility in the location on campus grounds. It is as simple as locating an unused grass lawn in view of foot traffic to make it a success.

III.   Goals

There are two categories of goals to consider in a grassroots campaign. The campaign goals set the expectations for the issue and how victory will ultimately be granted. The organizational goals are set in order to strengthen the organization running the campaign and define how the campaign aids in recruiting new members. All goals should be S.M.A.R.T.: Specific, Measurable, Attainable, Relevant, and Timely (Doran 1981). In other words, they must explicitly point out how success will be quantified.

a)   <u>Campaign goals:</u>

Long:

- Centralize sustainability at Texas State by Spring 2016. This means having the president sign a UPPS drafted by the initiative that emphasizes, 1) A commitment to ecological design on campus landscapes, 2) increased dialogue between departments and in student curricula revolving around environmental and sustainability challenges, and 3) an openness to future permaculture projects.

Interim:

- By Fall 2014, gain approval for a permaculture garden as a pilot project of the initiative as well as support for permaculture landscaping on campus. Begin by sheet mulching in Fall 2014.

Short:

- Raise the Environmental Service Fee (ESF) to $5.00/person per each regular semester by Spring 2014. This means following all guidelines provided in Appendix A.

b)   <u>Organizational goals:</u>

Long:

- Grow to at least 30 active members by Spring 2015 in order to form committees revolving around different aspects of the permaculture initiative, including education, design, and community. Committees come together on the garden projects and in drafting a centralized sustainability policy.

Interim:

- Host a fundraising event for the initiative with at least 100 attendees in Spring 2014.

Short:

- Usher in 4 new core leaders by Fall 2013 who show a dedication to a permaculture initiative at Texas State, and are willing to form a garden committee to put together a proposal. Also gain and retain membership numbers to around 15.

IV. **Lay of the land**

The lay of the land is about creating an accurate picture of the context in which the campaign will be run. In this section, organizers make an assessment of their organization's strengths, weaknesses, and human, financial and material resources, as well as those of potential allies and opponents of the campaign and the organization. It is important to know the strengths and weaknesses of possible allies and opponents in order to assess how to work with them; not compete for resources with your allies and build connections with opponents.

a) *Organizational strengths and weaknesses: PERMIES*

Strengths

- Subject widely and deeply felt; large potential base
- Passionate leaders
- Personal connections in academic departments
- University offers many student services and resources (meeting space, software, money, etc.)
- All weaknesses can be fixed

Weaknesses

- Need more active members and dedicated core leaders
- Lack of funds
- Starting out; getting organized
- Need to be more involved in campus events for visibility and reputability

b) Campaign allies, competitors, and opponents

Allies	How will I work with them?
- Environmental student orgs.	- Throw event together; swap volunteers
- Student Sustainable Farm (SSF)	- Swap volunteers; create continuity (SSF)
- Environmental Service Committee (ESC)	- Make project presentation and proposal for grant; help increase environmental service fee (ESC)
- Non-profits: Austin Permaculture Guild, Sustainable San Marcos, San Marcos Greenbelt Alliance	- Express need for professional sponsors; expertise; invite to event, offer to swap volunteers or represent them
- Associated Student Government	- Present campaign; ask for support
- Alumni	- Ask for support; point out benefits and unique opportunity
- Board of Regents	- Ask for support; point out benefits and unique opportunity

Competitors	How can we work together?
- Environmental student orgs.	- Build coalition for campaign (simplified, shared purpose and goals)
- SSF	- Swap volunteers; exchange information and supplies

Opponents	How can I get them to support this?
- Facilities	- Point out long-term benefits; economic, social, and environmental
- Administration	- Write professional proposal; schedule meetings for discussion; highlight progressiveness; make them accountable

V.   Strategy

Strategy is about identifying exactly how the campaign will be won, i.e.) creation of a new

policy, approval of a proposal, etc. and who has the ability to secure that victory. Those that

will help secure the campaign's victory are the targets. When looking at targets, organizers

map out 1) decision-makers, those that have the direct ability to deliver your campaign goal(s), 2) secondary targets, those that influence decision-makers, and 3) public audiences, those in the general public that will hear your message and support your goals. An actual campaign plan will include specific names of individuals, but for the purpose of this paper I have only provided broad categories of people.

a) *Strategic vehicle:* Lobbying the administration to adopt permaculture landscapes and centralizing sustainability via adoption of a new policy.

b) *Targets:* Primary targets are the university President and the Board of Regents. Secondary targets include the heads of grounds, facilities, and finance, as well as professors and alumni. Public audiences are students, community members, and San Marcos public officials.

VI.   Campaign Communication

Campaign communication is extremely important, and can oftentimes make or break a campaign's success. This is where organizers define their campaign slogan, the story that communicates the issue to target audiences, and the media outlets that will be effective in getting the campaign out.

a) *Message/slogan:* Beyond Sustainability: Raise the bar for higher education

b) *Story:* With no end in sight to global environmental challenges, a permaculture initiative in higher education has the potential to beneficially alter the relationship between humans and nature. The integration of permaculture ethics and principles into university operations and curricula will empower students to work together to solve the complex and deleterious environmental issues we now face as a species. The world needs young professionals who look to nature as their teacher and the community as a resource for improving the world on a larger scale. Higher education must raise the bar for sustainability and begin to educate future generations on the amount of effort it will take to regenerate our planet's resources.

c) *Media Outlets:* University Star, KTSW, San Marcos Daily Record, Austin Chronicle, Facebook, Twitter

VII. **Tactics and Timeline**

Planning tactics along a timeline allows organizers to decide which methods will be most

effective and what order they should be implemented in. The timeline below is in list form

and spans a three year campaign from Spring 2013-Spring 2016.

▫
TIMELINE:

Spring 2013
1. Begin creating a buzz by tabling and petitioning for centralized sustainability and a student-run permaculture garden. Also motivate people to vote for an increase in the ESF.
2. Meet with representatives from ASG to discuss increase of the ESF.
3. Build coalitions with other student organizations to collaborate on the Beyond Sustainability campaign.

Fall 2013
1. Form a garden committee dedicated to writing a proposal for a student-run garden.
2. Continue tabling and petitioning, as well as obtaining statements of support from Director of Grounds, Associate VP for Facilities, and VP for Finance, as well as alumni, faculty, and staff in support of a student-run garden.

Spring 2014
1. Host a benefit show for campaign.
2. Meet again with Director of Grounds and VP for Facilities to discuss ecological landscaping.
3. Vote for ESF must be a success; funds will go to student garden supplies and management and ecological landscaping supplies and consultation.
4. Submit garden proposal.

Fall 2014
1. Gain approval for garden.
2. Hold sheet mulching volunteer day.
3. Hold campus-wide design charrette.
4. If necessary, submit proposal to ESC to cover costs of professional consultation. Then obtain professional consultation from permaculture designer.

Spring 2015
1. Hold planting event for garden based on designs.
2. Reach 5,000 signatures and statements of support from department heads and secondary targets for centralized sustainability.
3. Begin drafting UPPS.
4. Reach 30 active members.

Fall 2015
1. Find someone willing and able to teach a permaculture course.
2. Hold a fundraiser with keynote speaker in support of centralized sustainability.
3. Finalize UPPS with assistance from ASG, Office of University Marketing, and university lawyer.

Spring 2016
1. Take delivery by having President sign a new sustainability policy. Follow through with plans for integrating permaculture ethics, principles, and tactics into university operations and curricula.

VIII. Resource Management

Perhaps the most important part of any organizing, resource management goes over financial

and human resources available for the campaign, and details how additional resources will be

obtained if needed. Organizers must agree on how money will be spent and where it will

come from, as well as how new and existing volunteers will remain engaged and involved.

The advantage of running a campus campaign is the vast availability of resources. Students

have free access to printers, meeting rooms, tabling space, newspaper and radio outlets, tools,

volunteers, and potential speakers. Due to the hypothetical nature of this campaign and

university resources, exact figures and plans are not provided. An example of the UMass

Franklin Permaculture Garden budget can be found in Appendix D.

a) *Campaign budget*

Assuming the campaign is executed as planned, student enrollment remains at or around

34,087, and the ESF is raised to $5.00/person/semester, that means $170,435.00/semester for

environmental project allocation. ESC bylaws do not inhibit creation of a permanent fund (see

Appendix A), so it is possible for the committee to dedicate a substantial portion of the ESF to

garden manager and student intern salaries. The increased fund additionally presents financial

opportunity for PERMIES to bring in speakers, cater events, and fund start-up garden costs

through the submission of proposal(s). Although an exact budget has not been created due to the

hypothetical nature of this campaign plan, it is assumed nearly all campaign necessities could be

provided by the university. What is not available is funded through the ESF increase and

organizational dues of $5.00/person/semester.

a) *Donor management/fundraising*

Not applicable. Funds will exceed the amount necessary to run the campaign.

b) *Volunteer recruitment and stewardship*

PERMIES volunteers would be responsible for designing and displaying marketing

materials, tabling and petitioning, and gardening duties. Essentially everyone in a student

movement is a volunteer, however motivational task design, leadership development, and

rewarding events are the primary ways to recruit and retain members.

Conclusion

"It is necessary to begin where the world is
if we are going to change it to what we think it should be."
– Saul Alinsky

Many opportunities and challenges face the integration of sustainability into daily life and IHE. A student movement such as the one illustrated here may fail for any number of reasons, and even its success may fall short of the paradigmatic change this thesis posits necessary. There is no sure telling what the watershed moment in environmental activism will be; what will ultimately push global leadership in sustainability or if it will be too late to matter. It is a personal and shared belief IHE have a broader responsibility to society because their mission is one of education. If nature's abundance is to prevail for future generations IHE should not only be allowing, but presenting the uncertainties and challenges of sustainability in an attempt to motivate and empower students to overcome them. It is up to students, faculty, and staff of IHE to make a unified effort if this mission is to be fulfilled and individual growth is to be celebrated. Permaculture, whether taught directly by name or indirectly by ideology, offers opportunities in personal empowerment, growth, and creativity not seen as fully in many other movements. The fight for permaculture and all it stands for will ultimately be a political one. In the words of Mollison,

> "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 [permaculture is] seditious. But its peaceful sedition," (London 2005).

In younger generations the hopes of systematic transformation are high while the level of activism remains relatively low. This is only a first attempt into uncovering the challenges and barriers lying ahead for environmental activism and community sufficiency. Hopefully the ideas presented here provoke thought amongst peers and can serve as a guide for the implementation of ethics and ecology into education.

References

Alinsky, S. D. 1971. Rules for Radicals: A Pragmatic Primer for Realistic Radicals. U.S.: Random House.

Altieri, M. A., Nicholls, C. I. 2000. Agroecology and the Search for a Truly Sustainable Agriculture. Mexico: United Nations Environmental Programme, Environmental Training Network for Latin American and the Caribbean.

Barlett, P. F. 2011. Campus Sustainable Food Projects: Critique and Engagement. *American Anthropologist 113*(1), 101-115.

Beus, C. E., Dunlap, R. E. 1990. Conventional versus Alternative Agriculture: The Paradigmatic Roots of the Debate. *Rural Sociology 55*(4), 590-616.

Breen, S. D. 2010. The Mixed Political Blessing of Campus Sustainability. *PS: Political Science and Politics, 43(*4), 685-690.

Cortese, A. D. 2003. The Critical Role of Higher Education in Creating a Sustainable Future. *Planning for Higher Education 31*(3), 15-22.

Holling, C. S. 1973. Resilience and stability of ecological systems. *Annual Review Of Ecology & Systematics, 4*, 1-23.

Doran, G. T. 1981. There's a S.M.A.R.T. way to write managements's goals and objectives. *Management Review 70*(11), 35.

Harb, R. 2010. Lawns to Gardens: Growing Your Own Food for Economic and Environmental Savings: A How-To Guide.

Harb, R. 2012. Curriculum Vitae. http://ryanharbdotorg.files.wordpress.com/2012/09/ryan-harb-cv-sept-2012.pdf (last accessed 8 October 2012).

Holmgren, D. 2007. Essence of Permaculture. Holmgren Design Services: Australia.

London, S. 2005. Permaculture: A Quiet Revolution – An Interview with Bill Mollison. http://www.scottlondon.com/interviews/mollison.html (last accessed 23 November 2012).

Mannen, D., Hinton, S., Kujiper, T., Porter, T. 2012. Sustainable Organizing: A Multiparadigm Perspective of Organizational Development and Permaculture Gardening. *Journal of Leadership & Organizational Studies 19*(3), 355-368.

Mollison, B. 1988. Permaculture: A Designer's Manual. Australia: Tagari.

Orr, D. 2004. Earth in Mind: On Education, Environment, and the Human Prospect. Washington, D.C.: Island Press.

Rockström, J., Steffen, W., Noone, K., Persson, A., Chapin III, F.S., Lambin, E., Lenton, T.M., Scheffer, M., Folke, C., Schellnhuber, H., Nykvist, B., De Wit, C.A., Hughes, T., van der Leeuw, S., Rodhe, H., Sörlin, S., Snyder, P.K., Costanza, R., Svedin, U., Falkenmark, M., Karlberg, L.,

Corell, R.W., Fabry V.J., Hansen, J., Walker, B., Liverman, D., Richardson, K., Crutzen, P., and Foley, J. 2009. Planetary boundaries:exploring the safe operating space for humanity. *Ecology and Society 14*(2), 32. http://www.ecologyandsociety.org/vol14/iss2/art32/ (last accessed 11 October 2012).

Schugurensky, D. 2006. The political economy of higher education in the time of global markets: whither the social responsibility of the university? In *The University, State, and Market: The Political Economy of Globalization in the Americas*, ed. R.A. Rhoads and C. Alberto Torres, 301–320. Stanford: Stanford University Press.

Seybold, P. 2008. The Struggle against Corporate Takeover of the University. *Socialism and Democracy 22*(1), 115-125.

Sharp, L. 2002. Green Campuses: The Road from Little Victories to Systematic Transformation. *International Journal of Sustainability in Higher Education 3*(2), 128-45.

Sierra Club. 1999. Grassroots Organizing Training Manual. Sierra Club: San Francisco, CA.

Stafford, S. 2011. How Green is Your Campus? An Analysis of the Factors that Drive Universities to Embrace Sustainability. *Contemporary Economic Policy 29(3)*, 337-356.

Sustainable Agriculture Education Association (SAEA). 2012. Student Farms in the U.S. and Canada. http://sustainableaged.org/Resources/StudentFarmDirectory/tabid/85/Default.aspx (last accessed 8 October 2012).

Texas State University (TSU). 2011. Texas State University – San Marcos Campus Master Plan Update. Texas State University.

TSU. 2012. About Texas State. http://www.txstate.edu/about/index.html (last accessed 22 November 2012).

UMass Permaculture (UMass). 2012. UMass Permaculture. http://www.umasspermaculture.com/ (last accessed 8 October 2012).

United States Department of Agriculture (USDA). 1999. Sustainable Agriculture: Definitions and Terms. http://www.nal.usda.gov/afsic/pubs/terms/srb9902.shtml (last accessed 6 November 2012).

Walker, B. H., Gunderson, L.H., Kinzig, A.P., Folke, C., Carpenter, S.R., and Schultz, L. 2006. A handful of heuristics and some propositions for understanding resilience in social-ecological systems. *Ecology and Society 11*(1), 13.

Wals, A. E.J., Jickling, B. 2002. "Sustainability" in higher education: From doublethink and newspeak to critical thinking and meaningful learning. *International Journal of Sustainability in Higher Education, 3*(3), 221-232.

World Commission on Environment and Development (WCED). 1987. From One Earth to One World: An Overview. Oxford: Oxford University Press.

Yale University. 2012. Yale Sustainable Food Project History.
  http://www.yale.edu/sustainablefood/about_history.html (last accessed 8 October 2012).

Appendix A:

Selected ESC bylaws, taken from http://www.txstate.edu/esc/about/bylaws.html

Article III - Purpose

- In accordance to the aforementioned legislation, the Environmental Service Committee is to distribute funds collected from the Environmental Service Fee in order to provide funding for environmental improvements at the University through services such as environmental education, recycling, transportation, employment, product purchasing, distributing small grants or matching funds, planning/maintenance, beautification, and irrigation. The Environmental Service Committee, however, is not to use the revenue from the fee to reduce or replace other money allocated by the University for existing projects.

Article IV - Funding

- The Environmental Service Fee itself may be increased but has the following restrictions:

    - The Environmental Service Fee may not be increased more than once in an academic year.
    - The Texas State University System Board of Regents may increase the fee to cover increased operating costs of environmental services if:

        - The increased fee is approved by a majority vote held on the same ballot as a student government election, wherein a minimum of 1,000 University students cast a ballot for this specific purpose.
        - The fee cannot exceed:

            - $6 per student for each regular semester or for each term of the summer session
            - $3 per student for each six-week or shorter term of the summer session.

Article X - Continuity/Accountability of Project

- Before the Committee approves an application, the applicant and sponsor shall understand that:
    - They are responsible and accountable for the granted funds,
    - ESC is not responsible for the management of project funds, and
    - ESC may cease funding if these terms are not met or funding is misappropriated.
- The awardees and/or sponsors will come to at least one meeting per semester to present information on the progress of the project, management of funds, and the remaining budget (if applicable).
- Awardees will present a final report that will be held on file by the Committee. This document will contain photos of the project during and following its completion. Reports and photos may be posted on the Environmental Service Committee website at www.txstate.edu/esc.

Article XII - Amendments

- The Committee members shall remain aware of the bylaws and their guidelines. Amendments to the bylaws shall be made when necessary and be discussed by the Committee members during regular meeting times, or under extenuating circumstances by electronic mail, and passed by a quorum vote of the Committee.

Appendix B:

UPPS guidelines, taken from http://www.txstate.edu/effective/upps/upps-01-01-01.html

02.   DEFINITIONS

02.01 <u>Reviewer</u> – A stakeholder in the policy or procedure being outlined or reviewed.

02.02 <u>Senior Reviewer (SR)</u> – Typically the person most knowledgeable about the policy. If the identity of the senior reviewer is not apparent, the President's Cabinet will identify the correct individual.

02.03 <u>Executive Assistant (EA)</u> – "Executive Assistant" in this policy refers to either the appropriate division's executive assistant or a designee.

02.04 <u>Director of University Planning and Assessment (UPA)</u> – The person responsible for maintaining the review process and posting approved UPPSs to the <u>university Web site</u>.

02.05 <u>Congressional style</u> – A method of mark-up in which deletions are lined through and additions are underlined using the Microsoft Word editing format (Track Changes).

02.06 <u>Substantive change</u> – A change to policy that impacts the policy or process outlined.

02.07 <u>Non-Substantive change</u> – A change that does not impact the policy or process outlined. Examples include typographical errors, grammatical errors, and title changes.

02.08 <u>Pen and ink changes</u> – Any revisions where policy or process require only minimal changes, producing a "Pen and Ink" revision.

02.09 <u>Reviewers' Approval Sheet</u> – A document signed by all reviewers which states that they concur with the proposed revision. In lieu of a Reviewers' Approval Sheet (see <u>Attachment II</u>), emails from all reviewers may serve to indicate approval.

02.10 <u>Reduced document</u> – An official policy statement that was once a UPPS but has been reduced to the division level as a policy and procedure statement (PPS).

03. PROCEDURE FOR REVIEW OF EXISTING UPPS DOCUMENTS

03.04 Each EA will compile responses and send them via email to the director of UPA, noting whether or not the comments are substantive. If a division has no comments, that EA will send a "no comment" message to the director of UPA.

03.05 The senior administrative assistant in the Special Assistant to the President's office circulates the draft UPPS to:

a.   The Texas State University System legal staff, as necessary;

b.   The director of Audit and Analysis;

c.   The director of Athletics; and

      d.   The chief diversity officer and director of Equity and Access.

03.06 The senior administrative assistant in the Special Assistant to the President's office forwards a compiled draft of comments received to the director of UPA.

03.07 Once all divisional comments are received, the director of UPA will compile the comments and sort them as substantive and non-substantive. The director then sends the comments document to the SR and copies the appropriate divisional EA. The correspondence will include a deadline for response.

03.08 The SR should address each comment in blue ink, noting whether to incorporate the change or to discuss it further. Once completed, the SR should send the document, complete with comments, to the director of UPA and copy the appropriate EA.

03.09 Based on the feedback received from the SR, the director of UPA will determine whether to submit the draft UPPS for electronic approval or to add it to the agenda for the next President's Cabinet meeting.

    a.   <u>Electronic Approval</u>: The director of UPA sends the Senior Reviewer Comments document to the President's Cabinet after incorporating or resolving all comments or indicating no comments were made.

        1) If electronic approval fails, the director of UPA will request that the draft UPPS be added to the next President's Cabinet agenda for further discussion and possibly invite the SR to the meeting.
        2) If the UPPS is approved electronically, that approval is reflected in the UPPS Review Minutes.
        3) The appropriate EA will incorporate comments (if present) into the electronic version of the UPPS based on the SR comments previously submitted. The EA then sends the UPPS with comments incorporated and all attachments to the director of UPA via email for final processing.

    b.   <u>President's Cabinet Meeting</u>:

        1) If required, the director of UPA will request that a UPPS discussion be added to a President's Cabinet agenda.
           (a) The director of UPA will notify all EAs of the time and date for the Cabinet meeting discussion.
           (b) If necessary, the appropriate EA will invite the SRs with UPPSs on the agenda to the meeting, noting the specific time scheduled for each.
           (c) The President's Cabinet will then meet to review the disputed UPPSs.
        2) Upon receipt of the President's Cabinet minutes, the appropriate EA will incorporate comments.
           (a) The appropriate EA will incorporate all comments based on the SR's written response and any further instructions from the President's Cabinet.
           (b) The appropriate EA will email the UPPS with comments incorporated and all attachments to the director of UPA for final processing and distribution.

04.   PROCEDURE FOR INTRODUCING A NEW UPPS

04.01 The appropriate vice president will identify reviewers when a new UPPS has been proposed. As necessary, the President's Cabinet will select an SR in cases of more than one assigned reviewer.

a.   Reviewers develop a draft UPPS that addresses the identified needs. Attachment I includes the proper format for a proposed UPPS. Preferred writing style guidelines can be found at:http://www.umktg.txstate.edu/resources/guides/editorial-styleguide.html.

b.   All key stakeholders must have an opportunity to comment.

c.   Reviewers must consider legal ramifications.

d.   Reviewers must address conflicting issues with the policy across divisions.

04.02 The SR forwards the completed UPPS draft, along with the signed Reviewers' Approval Sheet (Attachment II), to the correct divisional EA.

04.03 At this point, the EA sends the draft UPPS out to all other divisions, via the divisional EAs for review and comment:

a.   The EA will direct reviewers to send comments via their divisional EA to the director of UPA by a specified deadline, usually within two weeks.

b.   The EA will also forward the reviewed draft to the director of UPA, along with the completed Reviewers' Approval Sheet (Attachment II).

04.05 Follow steps outlined in Sections 03.04 through 03.09 above.

Appendix C:

Proposal suggestions,
taken from http://sec.enviroslug.org/uploads/3/1/4/8/3148717/college_8_garden_course_-
_rfc_college_garden_guide.pdf

       I.   Mission Statement

      II.   Benefits of a permaculture garden
- Academics
- Community

     III.   Garden management and labor
- Farming practices
    - Food production and use of harvest
    - Site discussions/field layout
- Human resources
    - Management roles
    - Management turnover
    - Advising
    - Volunteer system
    - Summer and holidays

     IV.   Timeline and budget

     V.   Garden contact list

     VI.   Appendices: Petitions, statements of support

Appendix D:

UMass Franklin Permaculture Budget, taken from conference material at UMass Permaculture Your Campus Conference 2012

Year 1 Costs for Umass Amherst 1/4 Acre Permaculture Garden			
Garden size: 10,000 sq. ft.			
Umass Permaculture Year 1 Materials Cost	**Amount**	**Cost per unit**	**Total Costs**
Soil Test		n/a	$20
Soil amendments (minerals, rock dust, etc.)	Consult with soil expert	n/a	$500
Compost - 1 yard spread 3" thick covers 100 sq. ft.	100 yards	$25/yard	$2,500
Cardboard	Numerous truckloads	Free	$0
Wood chips	100 yards	Free	$0
Plants/seeds	(Approximate)	n/a	$8,000
Tools	(Approximate)	n/a	$1,000
Shed - 10' x 12'	1 shed	n/a	$3,500
Aesthetics: (Picnic tables, garden signs)	(Approximate)	n/a	$2,500
Hoses, garden stakes, misc. garden expenses	(Approximate)	n/a	$500
TOTAL			$18,520
Year 1 - Salary Costs	**Amount**	**Cost per unit**	**Total costs**
1 Permaculture Coordinator Position	$20 hourly position	40 hrs/wk * 50 wks	$40,000
2 Student Summer Garden Interns	$10 per hour	15 hrs/wk * 20 wks	$6,000
TOTAL			$46,000
Note: Umass Amherst students receive independent study credit during the academic year (September - April) to manage the garden			
Other Expenses	**Amount**	**Cost per unit**	**Total costs**
Consultant fees (professional ecological designer)	$50/hour	50 hours total	$2,500
Marketing costs (website, printing flyers, etc.)			$2,500
TOTAL			$5,000
			YEAR 1 - ALL IN COSTS $69,520