

Report on the United States Institute on the Environment (USIE)

10 May - 21 June 2009

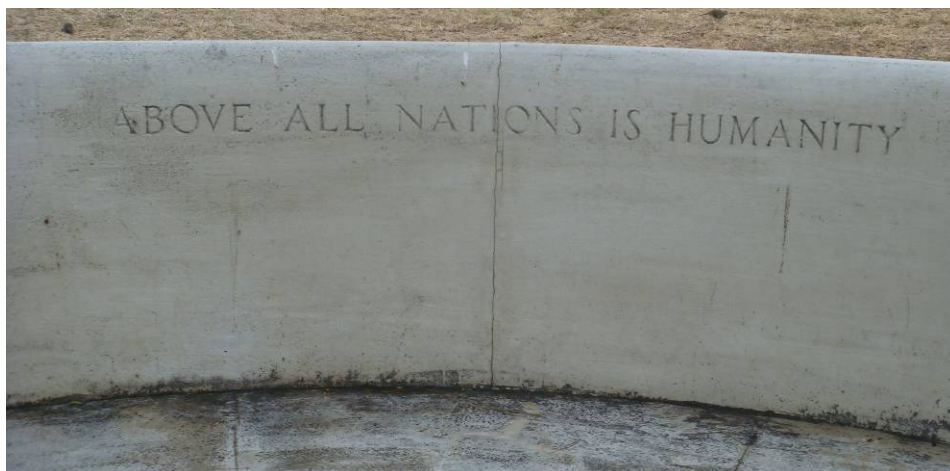


EAST-WEST CENTER
EDUCATION PROGRAM

Sofiah Jamil
Singapore, July 2009
sofiahsuaad@gmail.com

Table of Contents

<i>Introduction</i>	3
<i>Overall Assessment of the US Environmental Movement</i>	4
<i>What surprised me about the movement</i>	5
<i>US Environmental movement's greatest assets</i>	8
<i>Greatest Challenges to the US' environmental initiatives</i>	9
<i>The Essentials in Environmental Leadership</i>	11
<i>Specific 'take aways' for my homeland</i>	14
<i>Examples that answer and support my research question</i>	16
<i>Conclusion</i>	17



"Above all Nations is Humanity"

An engraving on a stone bench at the University of Hawai'i, which I believe captures the essence of the global environmental movement.

Introduction

I was fortunate to have been chosen to part be of the pioneer batch for the study of the United States Institute on the Environment (USIE). This program - funded by the US Department of State's Bureau of Educational and Cultural Affairs - was organised by the East-West Center in collaboration with over twenty other organizations. Key partners included the University of Hawai'i's Environmental Center, Stanford University's Woods Institute for the Environment, and the Nature Conservancy. Twenty scholars with diverse environmental backgrounds from Malaysia, Singapore, Fiji and Papua New Guinea attended the six-week institute, of which the first four weeks were spent in Oahu and Maui, Hawai'i; the fifth week in San Francisco and Monterey Bay in collaboration with Stanford University; and the final week in Washington, D.C.

Prior to the study trip, participants were asked to formulate a research question that was to be answered through the course of the 6 weeks. The research question that I had set out for myself was: ***How synergized are the efforts of environmental groups, businesses and policymakers in the United States in effectively addressing climate change?***

In addition to this, participants were guided by three main questions throughout the program:-

1. *What are the key intersections between social processes and environmental 'issues'?*
2. *What kinds of leadership actions are needed to affect positive social and environmental change through understanding these intersections?*
3. *How can you as a USIE participant take the new learnings and relationships developed in the program to affect positive environmental action in your home community?*

These questions not only allowed be to systematically understand the US environmental movement with greater depth, but also provided a base to which I could further reflect on the social and environmental movements, not only of the US, but also that of Singapore, Malaysia, Fiji and Papua New Guinea. The immense amount of knowledge, experiences as well as social bonds gained through the 6 weeks are without a doubt priceless. Words cannot fully describe this incredible experience, but I will nevertheless attempt to document key lessons learned during the trip and synergize it with my reflections and responses to the above-mentioned questions posed to USIE participants.

I would like to take this opportunity to thank the staff from the East-West Center, University of Hawai'i's Environmental Center, US State Department's Bureau of Educational and Cultural Affairs and the US Embassy in Singapore for their tireless efforts, enthusiasm and guidance in making this program a success. My thanks also to fellow USIE participants, for their dynamic and unique characters, which have made this trip all the more memorable and amazing.

Mahalo! 😊



Along Waikiki Beach, Oahu, Hawai'i

Overall assessment of the U.S. environmental movement

My overall assessment of the US Environmental movement would perhaps be best articulated by using an analogy. As an avid lover of Southeast Asian tropical fruits, I would describe the growth of US Environmental movement as being similar to a *durian*¹. There are three main reasons why this is so :-



*Durian,
the King of Fruits.*

1) You either love it or hate it

Critics of the durian often cite its pungent smell and its thorny skin as deterring them from even coming a mile near it. Durian lovers, on the other hand, have no qualms with a lingering durian breath and would go at lengths to purchase the best durians (even if it means driving up to Malaysia and Thailand). The US Environmental Movement is similar – while environmentalists may advocate their passion for the environment, they are often perceived to be ‘tree huggers’ and ‘hippies’ who live too simple a life without being able to live like “normal people” in a highly globalised world.

2) Not many people understand it

Given the durian’s characteristics, many cannot fathom how it is that a durian can even be an entire meal for some durian lovers. The latter would argue that these critics have not been able to appreciate that despite its smell, the sweet and creamy texture of the fruit itself is heavenly. Similar to the US environmental movement, many fail to understand the complex nature that surrounds it. The stereotypical media images of Greenpeace activists, for instance, simplify the highly diverse and vibrant environmental movement. This is further compounded by the international image that the US has earned primarily over the past 8 years under the George W Bush administration. The environment was hardly on the administration’s agenda as it turned the world’s attention to other issues like the “War on Terror”. What is therefore not often brought to the attention of the international media are the efforts and voices of other players in the US environmental movement, such as the business community, schools, clergy and scientists – particularly at the local and state levels. The high degree of participation by various sectors of society is a reflection of the strong democratic values that have been upheld in the US. While one may suggest that there are pockets of society that still remained marginalized, there is nevertheless momentum within civil society to be engaged - and initiate novel ideas where possible - in the process. As aptly mentioned by several speakers during the course of the 6 weeks “where the people lead, the government will follow”.

3) It is evolving and gradually more people will come to appreciate it.

Fortunately, the tide has changed and there has been greater commitment by government officials at the national level to do more for the environment. Recent events such as increasing weather-related disasters, high food prices and resource scarcity as well as the mounting international pressure for the US to respond to climate change have precipitated this commitment. Moreover, environmentalists have also wised up and become more pragmatic in addressing environmental

¹ Widely known and revered in Southeast Asia as the “king of fruits”, the durian is distinctive for its large size, unique odour, and formidable thorn-covered husk. Its shape ranges from oblong to round, the colour of its husk green to brown, and its flesh pale-yellow to red, depending on the species.

concerns by being more willing to engage in multi-sectoral collaboration. There have also been greater efforts by scientists in being “translators” to enhance public awareness on the science behind environmental degradation and climate change, and more importantly the technological options available to address these problems. There are also efforts to engage local communities via advocating place-based environmental ethics, thereby making people more environmentally conscious in their own local setting. In short, environmentalists are coming from all walks of life thus demonstrating that the environment is a concern for all. The durian, too, has been evolving over the years with variations such as seedless durians, smell-free durians and even durian cakes, as a means of making the King of Fruit more palatable to the masses.

What surprised me about the U.S. environmental movement?

I was surprised by how many of the pre-dispositions that I had about the United States were challenged during the 6 weeks. One was the predominant perception that US has largely been associated with traditional military security with very little regard for humanity and less so for the environment – for the fact that the US is the largest carbon emitter in the world and did not ratify the Kyoto Protocol. Nevertheless, the 6 weeks allowed me to peel through the various layers of American society, which have long been active in the environmental sphere. As mentioned in the overall assessment, this is perhaps due to the fact that given the limited international media coverage of domestic US politics, we are often only exposed to US foreign policy deliberations without truly understanding the intricacies at work on the domestic front. Three areas were of particular interest to me – the role of indigenous communities and traditional security forces in the environmental movement and the use of natural resources.

1) The power of indigenous knowledge/place-based practices



Kukao'o Heiau in Manoa Valley

In Hawai'i, I was particularly intrigued by the intense relationship that traditional Hawai'ian culture has with the environment. Hawai'ian cultural concepts of *Ahupua'a*², the significance of the Poi Bowl and *heiaus*³ provide important lessons and instill habits which subconsciously encourage a person to be sensitive to the environment. Cultural themes were continuously reiterated by various speakers such as Ramsay Taum (co-founder of Sustain Hawai'i and Cultural Advisor to the University of Hawai'i's Travel Industry Management School), Vicky Takamine (President and Co-Founder, Hawai'ian Environmental Alliance, KAHEA)

and Kalani English (Hawai'ian State Senator from Maui). The field trips conducted in Oahu also provided greater insight to the importance of preserving cultural identity for the environment, namely the Ethnobotanic Garden at Lyon Arboretum – which features plant species that are endemic to Hawai'i – and the Manoa Heritage Center, which is home to the last remaining agricultural heiau on Oahu.

² Ahapua'a refers to the traditional Hawai'ian water management system

³ A Heiau is a sacred site that is used for traditional Hawai'ian ceremonies.

to effectively carry out tasks, senior military officers are in the best position to see through environmental efforts and be good stewards in Hawai'i. Of notable mention would be the recent banning of plastic bags on military bases in Hawai'i⁵, as the latter has been a significant contributor to the amount of waste generated annually.

The US Air Force has also undertaken various conservation efforts on their training grounds, such as the Bird Air Strike Hazard (BASH), which includes simple measures of reducing the likelihood of birds onto military bases. According to Mr. J. Mark Ingoglia, Environmental Program Manager at the Pacific Air Forces Headquarters, this would include simple measures such as maintaining a grass height of 6 to 11 inches, no accumulation of water on runways and no landfills.

Another example would be that of the United States Coast Guard (USCG). During a presentation by Commander Mark Young, Chief of the Enforcement Branch, 14th Coast Guard District, his responses to my questions were useful in providing more “meat” to the academic discussion on climate change and security, and the role of traditional security forces. For instance, he confirmed that the melting of ice caps in Alaska does pose greater complexities for coast guard operations as it would require greater surveillance of the larger sea lanes. However, given the existing amount of Coast Guard resources available in that region, effective surveillance and rescue operations would be limited. In California, the USCG has also been active in ensuring the safety of seals and other marine life in the designated marine sanctuaries.



USCG presence on the Californian coast.

3) Use of Natural Resources

Several site visits have been very interesting and informative. Firstly, the visit to the Halawa Water shaft provided some interesting insight, as we were told that apart from minimal treatment with chlorine and charcoal, Hawai'i's water supply is naturally filtered through the lava rock in the mountains over a period of 25 years. I was in disbelief momentarily as it made me reflect on the immense treatment that water in Singapore goes through before it reaches our taps. Secondly, the visit to the landfill in Waimanalo changed my perception of what a landfill would be. Instead of being a messy area with rubbish piled up, the landfill was neat and organized. Such visits are indeed important in order to dispel misperceptions that the public might have. Moreover, by having a better sense of where our resources come from and where they end up, we would gain greater understanding and appreciation of our environment and hopefully the need to use it wisely.

While having lunch at Point Lobos in California, I overheard a comment made by an American mother to her child “Stop wasting water. California has scarce water resources”. This brought a smile to my face and was a reassurance that the US environmental movement is alive and well within families. Pressure and guidance from those surrounding an individual are significant drivers in ensuring environmentally conscious behaviors. It was also commented by other USIE participants, that such a remark would hardly be heard from a mother to her child back home [Singapore and Malaysia]. If

⁵ See Marine Corps Base Hawai'i at Kaneohe 'Bags' Plastic Bags, *Sunrise on KGMB9*, 27 February 2009, <http://kgmb9.com/main/content/view/14501/108/>

such a comment was actually made, the reason would probably be different. Instead of it being the fact that “water is precious”, it would rather be because “water is expensive”, which suggests a monetary value over water’s intrinsic value.

I was also amazed by the vast exhibits at the Monterey Bay Aquarium, especially its “Kingdom of Kelp”, which made me think “Man, now I know the importance of seaweed!”. Such enormous displays are not only astounding, but also provide an impetus for visitors to learn more about the ocean and its plant and marine life.

US Environmental movement’s greatest assets

There are several assets that have spawned from the US environmental movement.

1) Place-based knowledge

Place-based knowledge is a powerful tool in engaging local communities to be more environmentally conscious. One of Hawai’i’s greatest assets, as mentioned above, would be its cultural practices that advocate a sense of care for the environment. According to Dr Ramsay Taum, the Ahupua’a symbolizes a system of

systems. Not only is it a prime example of watershed management, it also depicts the importance of behavior management, which would encompass values and virtues. In addition to this, the traditional Hawai’ian dish Poi – made from taro – plays a significant role in the Hawai’ian way of life, as it is seen as the root of sustenance and is revered in Hawai’ian legends. Moreover, daily communal lifestyle habits also emphasize principles that are of relevance to the environment. For instance, daily eating practices around the Poi Bowl advocates that one should take enough for one’s needs as others are to share as well. Such customs are still practiced in Maui, as the indigenous Hawai’ian population there continues to manage their natural resources by constantly engaging government officials on their needs and concerns.

2) Natural / geographical terrain

Another asset would be the sheer vast natural habitats available in various parts of the US. Whether it is Diamond Head in Hawai’i or Point Lobos in California, environmentalists and non-environmentalists alike will appreciate the natural beauty of their surroundings and thus be more conscious of the need to protect it. Although some nature reserves in Singapore remain intact despite development, and there are efforts to replant more greenery around the island, one cannot but ponder at how ‘manicured’ the latter greenery in Singapore looks compared to the wilderness of US parks.

Weather conditions, I believe, also play a part in influencing a person’s willingness to embrace nature. While the cool and temperate conditions made hiking during our various field trips enjoyable, the intense humidity in Singapore may deter people from going outdoors, but rather remain in the air-conditioned comforts of their homes or shopping malls. This would perhaps then reduce the ability of encouraging people to be close to nature and in turn appreciate and protect their environment.



*Monterey Bay Aquarium,
California*

In addition to this, Hawai'i's geography as a relatively remote set of islands should also be seen as an asset as it forces Hawai'ians to be more aware of their surroundings and encourage them to be self-sufficient. Much of Hawai'i's resources, including oil, is imported from the US mainland, thereby resulting in massive carbon emissions while transporting these goods. The need to reduce their waste is also important so as to reduce the likelihood of transporting their waste to the mainland to be deposited in landfills there. In contrast, despite being an island state with no natural resources, there seems to be less environmental awareness amongst Singaporeans on where their resources come from, and where it all ends up.

3) Surge of environmental activity at the state level

I was also impressed by the level of environmental activity happening at the state level, whether it be in the business, civil or governmental sectors. In Hawai'i, for instance, new policy initiatives include introducing the electric car as a means of reducing carbon emissions, while part the tax imposed on oil imports would be put to a food security fund. The plethora of NGOs at the Green Drinks event was also a sign of the vibrant environmental network in Hawai'i.

In California, environmental groups such as Sierra Club have taken an active role in facilitating the policy making process. This is done via several ways. Firstly, they assist politicians in formulating the legislation via participating in advisory committees/councils. Secondly, they can lobby for better amendments, by which they would have paid staff to pressure congressmen. Thirdly, they would encourage members to write to their own state's elected members, Fourthly, they would utilize print media by writing letters to the editors. And finally, they would increase awareness via education.

Businesses are also increasingly looking toward green markets for future profits, such as the increase in venture capital in green technology. According to Brian Fan, Senior Director of Research at CleanTech Group, this would also be reflected in global trends, where 15% of global stimulus packages to address the financial downturn have been devoted to advancing green technologies.

The US also has a significant role to play in providing these green technologies, in particular California, which is a hub for the latest advancements in the field, with a bevy of experts from various environmental backgrounds.



USIE participants with Dr Chris Field, Co-chair of IPCC Working Group 2 and Director of the Carnegie Institution for Science's Department of Ecology at Stanford University, California

Greatest challenges to US environmental initiatives

There are, however, several challenges that may hamper US environmental initiatives.

1) Difficulty in ensuring behavioral changes

Firstly, there is the difficulty in altering the behavior of consumers in adopting environmentally-friendly lifestyles. This is exacerbated by the current financial meltdown where people may be less

willing to pay more for certain environmentally friendly products. To address this, there needs to be greater awareness on the issues, and more importantly depicting how they would be affected if action is not taken. It is also important to formulate more initiatives that provide incentives for people to act.

In addition to this, the high dependence on tourism, creates a sense of denial of the gravity that climate change poses to Hawai'i. While much governmental effort has been put into clean energy and waste management and marine protection, there seems to be less attention given to the devastating effects that climate change would have on centers of economic activity, such as Waikiki beach. Based on what has been said by speakers such as Jeff Mikulina, Executive Director of the Blue Planet Foundation, there is still much inertia in political circles to address the looming sea level rise that would occur on Honolulu's coasts. This is depicted in the dilemma between the pursuit for recreation and that of research, which have differing goals, stakeholders, purpose and ethics (as seen in the table below).

<u>Recreation</u>			<u>Research</u>	
Development	←	Goal	→	Management
Tourists	←	Stakeholders	→	Scientists
Leisure	←	Purpose	→	Knowledge
Profit	←	Ethic	→	Conservation

It would also be useful to formulate initiatives to educate tourism on the importance of sustainable development and living – in a bid to reduce the Not-in-my-backyard (NIMBY) syndrome. Some tourism sectors have already done so, as mentioned by the Captain of the Trilogy yacht that transported us to Molokini. She noted that the Trilogy does not discharge toilet waste into the ocean, and that anchors are not used as it would damage corals. Such measures have been put into place due to governmental legislation.

Behavioural change would also be difficult to enact amongst the youth, given that most eco-literacy programmes- whether in Maui or California – have often been concentrated in private schools. As a result the majority of students who are in public schools are not exposed to the environmental initiatives. It would therefore be wise for schools or state ministries to channel more funds to specifically enhance students' level of environmental awareness in school.

2) Lack of Funding

Related to the previous point, is the lack of funding. This has been the case in Lyon Arboretum, where the lack of manpower has meant that 1 horticulturalist oversees 10 acres of land. The same could be said for Point Lobos where rangers are only paid a small fraction of the funding allocated to the nature reserve. This limited funding is further exacerbated by the recent financial crisis, as governments have reduced the funds available for environmental initiatives. Nevertheless, the lack of funding has facilitated the need to collaborate with other like minded organizations to achieve their common goals and thereby contribute to a more vibrant environmental movement. In the case of Point Lobos,



California State Park Ranger, Matt Buonaguidi, tells of his experiences working at Point Lobos.

contributions from wealthy resident in the neighbouring areas have been much appreciated in conserving the park.

This also relates to a point raised by Mr Alex de Roode, Executive Director of the Sustainable Living Institute in Maui (SLIM), who noted that tapping into the sense of philanthropy amongst wealthy residents (mainly wealthy celebrities or businessmen from the US mainland who have bought holiday homes in Maui) was one of the ingredients to seeing a successful environmental movement on Maui.

The financial downturn had also affected the activities of the Sierra Club, as 40 committees were closed down. Nevertheless, it brought about a new means of communication – i.e. online. Yet while some older members of Sierra Club would comment that there is a lack of face to face contact with its members, utilizing the new media has nevertheless allowed Sierra Club a much greater outreach and ability to engage the youth.

The lack of funding has also reduced the extent to which eco-literacy lessons are taught to students in schools. For the most part, it is the private schools that have the flexibility and funds to incorporate environmental lessons into their teaching. As a result, public schools, where most American students attend (and should be the main target of these eco-literacy programs) do not engage on environmental matters as much as the private schools.

3) Difficulties in elevating state policies to the national level

There is also the tedious task of elevating successful policies at state level to the national level. While states such as California are paving the way on environmental policies, negotiating these policies in Congress may not always pull through. This is due to the varying views of various states representatives and senators. One could argue that this is evidently democracy at work, but the decision making becomes even harder in the end as it is oftentimes pitted as a republican versus democrat tussle. This would perhaps be the weakness of the US' two-party system, vis-à-vis Germany's multi-party system, where there is a greater spur to come to a consensus on an issue, rather than it degrading to an "Us versus Them" scenario.

The Essentials in Environmental leadership

The USIE program provided us with an immense breadth of resources and activities in understanding the importance of effective leadership in the environmental movement, which included role-play and teambuilding activities and opportunities to meet with environmental leaders and practitioners.

1) Experiencing leadership and teamwork

A key lesson in effective leadership would be the importance of **listening and working with others**. USIE's first taste of this was when Dr Nick Barker, Coordinator for the East-West Center's annual Asia-Pacific Leadership Program (APLP), initiated a simple role-playing exercise of decision-making. A scenario was given in which there were a group of people – all with various traits, strengths and idiosyncrasies - stranded on an island. USIE participants had to come to a consensus on who would be the best person to send off from the island to get help, given the time constraints and limited transport available. Reactions and comments after the exercise reflected a better understanding amongst participants on the difficulties in coming to solution for environmental issues amongst various parties. As a participant from Fiji aptly put it, "I now have greater respect for policy makers and negotiators when it comes to discussing issues.... 'cos it sure ain't easy!". It was also noted that as leaders too are susceptible to err. Hence, when in leadership positions, it is

important to keep making decisions to the best of your capacity, although at times it may not have the preferred result.



USIE participants trying to come to a consensus

This is also tied to the virtue of **humility**. An effective leader must be willing to take criticism and must be open to other ideas, as the former cannot function or succeed alone. Moreover, it was noted that an effective leader does not control the people, but rather serves the people. Further ideals were also flashed out as Dr Barker ‘talked story’ about the history of the Hokulea – the traditional Polynesian voyage canoe – and the individuals that sailed it. These include (1) the need to be determined in the face of criticism; (2) the ability of accepting other opinions in pursuing the common goal; (3) making decisions while being prepared for the risks involved; (4) being meticulous and prepared for any task; (5) being aware that being a charismatic leader does not necessarily translate into being a good manager; and (6) the need to nurture and sustain future leaders/successors to avoid a vacuum in leadership. In doing so, leaders must exercise **patience and pragmatism** when dealing with the concerns of various stakeholders and coming to a middle ground to meet all, if not most of their interests.

Communication and trust are also vital factors to ensure effective leadership and teamwork. USIE participants had the chance to experience this during their teambuilding ropes course at Kualoa Ranch, which is also a popular location for various Hollywood films such as Jurassic Park, Godzilla and 50 First Dates. Going through the ropes course was however, nothing like watching a movie. Despite some intense challenges at various intersections, it forced us to overcome our fears and value the importance of communication and teamwork. What was most challenging for me was an activity that required me to be blindfolded and place my trust with two other participants (who were physically much smaller than me) to “be my eyes” as we climbed up the ropes course. The hardest part of this course was the first 15 minutes, whereby the lack of communication in directing me how to climb, only made me feel weaker as I hung on to the rough unstable ropes. Nevertheless, we soon figured out how to ensure better communication, by having communication be both ways. Rather than me waiting to be told what to do, I would initiate and ask them what the next step would be. Clearly, constant communication is the key to any team’s success.



In mid-air during another ropes course exercise emphasizing the importance of trust

2) Understanding Communities and Networks

Effective leadership would also entail knowing how to effectively **utilize networks** that are available to us. Dr Scott Macleod noted that networks - though a looser connection of people without necessarily a common identity, such as a community – are nevertheless significant as they bring people together to achieve common goals. According to the 80/20 principle, it is said that 20% of nodes are responsible for 80% of links. Therefore, bringing more people together would be a significant step in aggregating a critical mass which would bring about a **tipping point** and result in a sea of change. Participating in a Green Drinks event was one way for USIE participants to practice their networking skills and also contribute to creating the critical mass for environmental change.

3) Meet the People: Examples of effective leadership

USIE participants also had the chance to meet several individuals from the business community, government circles and civil society, who have been prime movers in the US environmental movement. Several of them have been inspiring for me. The first would be James Koshiha Co-Founder and Executive Director of Kanu Hawai'i. Mr Koshiha noted that the success of his organisation was born out of a simple hope to start small and do individual acts that would help to protect the environment. Peer pressure then soon provided the impetus for others to act and thereby create a ripple effect in the rest of the community.

The second inspiring individual for me was Senator Kalani English. While his aristocratic bloodline may have given him an impetus in certain circumstances, I believe it is his openness to opportunity and humility that has allowed him to achieve that status that he currently has, and continue to serve the people of Maui, Hawai'i.

Another set of inspiring individuals would be Gary Fouth-Manoukea (owner of Mao Farms) and Ed Kennedy (owner of Town Restaurant), who have been able to engage various sections of the community. In the case of the former, it was his drive to help the less fortunate children in his constituency and provide them with the opportunity to learn life skills and build their confidence and a sense of family. Ed Kennedy sought to encourage a sense of environmentalism via the love for food. He had the objective of creating his restaurant as a social hub, in which patrons would be at ease and discuss environmental issues. Such a move seems similar of other countries in which coffee shops are seen to be a social domain to discuss politics and rally support for other contemporary issues.

The fifth inspiring individual would be Vicky Takamine, President and Co-Founder of the Hawai'ian Environmental Alliance or KAHEA, whose vibrant personality and passion and in-depth knowledge of her culture has, in my opinion, been the source of her success in leadership. It was wonderful to see how even a dancer could relate to the importance of the environment in her own life.

Another outstanding leader would be Sierra Club's International Vice President, Michelle Perrault, who has demonstrated her active environmental stewardship with over 20 years of service Sierra club as well as on various advisory councils, such as President Bill Clinton's Sustainable Development Council and the Citizen Advisory Committee on Environmental Education under George Bush Sr. Being engaged in the various avenues towards policy making would be an effective way of influencing policy makers.

Specific 'take aways' for my homeland

1) Waste reduction initiatives

The USIE experience has without a doubt provided several take-away messages for me. The first few 'take-aways' are to do with US' waste reduction initiatives. For instance, it would be good to pick up tips on methods of encouraging recycling –as seen from the East West Center and Tour de Trash. While Singapore has embarked on recycling since the 1990s, such measures have not been so successful. Nevertheless, recent news reports have noted that the Singapore government is aiming to recycling up to 50 or 70% of its waste. I personally feel that such a goal would be hard to achieve given the current level of apathy of many Singaporeans towards recycling. A skeptical family member, for instance, said to me "Oh please, this green thing is just a cool 'in' thing nowadays. People will get tired of it." Given this sense of pessimism, more innovative and fresh ideas would therefore be needed to respond to the possibility of 'issue fatigue' and further encourage Singaporeans of all ages to be environmentally conscious.

Another take-away would be to find ways of introducing biodegradable plates and cutlery to my University (Nanyang Technological University) and other public eating areas that use styrofoam plates and plastic cutlery. I was intrigued by the use of biodegradable plates (made out of sugar cane) during the course of the Institute, and felt somewhat ashamed when I thought about the hundreds of styrofoam plates used in my university's canteen every day. While styrofoam utensils may be cheaper, the key would be to find ways of making it cheaper or provide incentives to stallholders to use it. Subsidizing the costs of these bio-degradable utensils would be one way in which the university (and other establishments) can give back to the environment. There is also the need to find a way of making composting easy and convenient in Singapore, given the fact that many live in small high-rised apartments.

2) Fine-tune methods of nurturing the youth

There is also a need to further fine-tune how we teach our youth about the environment. I find the lessons learned from the Center for Eco-Literacy in California and the Sustainable Living Institute of Maui (SLIM) very useful in formulating environmental awareness programs in Singapore. It would be good for the government of Singapore to incorporate these initiatives into the school curriculum, as it not only enhances a child's understanding on the environment and nurtures environmental ethics, but also allows the child to be out of the classroom and to feel nature rather than learn about it in books.

Singapore does have organized tours to various nature reserves and government facilities such as water management systems; however, what seems to be less apparent is the extent to which lessons from these field trips are appreciated as much as lessons from books. There still seems to be a preoccupation with ensuring a result that is for the most part immediately tangible, such as correct answers in an examination or something that measurable



***A diagram of the Ahapua'a system
courtesy of Mr. Alex de Roode,
Executive Director of SLIM***

with monetary values. As such, the frequency of schools utilizing such field trips may not be as high as it should ideally be. Moreover, less emphasis tends to be given to allowing the child to reflect on his/her experiences during the field trips, something which although is more idealistic and not be as tangible, could nevertheless have a more lasting impression on the individual.

Beyond mere rote learning, environmental activities can also provide children with life skills such as developing a sense of business acumen and enhancing their social skills. This was clearly demonstrated by the activities conducted by the Center for Eco-Literacy and Mr Gary Fouth-Manoukea of Mao Farm, where the youth were guided as to how to sell their own produce. Such life skills are important and would be more beneficial for the youth as it increases their confidence levels and their ability to take initiative and be independent – attributes which perhaps are lacking in many Singaporean youths, who often get what they need on silver platters and are merely encouraged to excel via the use of textbooks.

3) Singapore's forgotten environmental history

The fifth take-away would be to revisit traditional/historical environmental practices in Singapore – an area that has been mostly forgotten by modern Singapore society. While it is near impossible for Singaporeans to revert to the *kampung* (village) days, there is a need for Singaporeans to look back at their history to have a better understanding of what traditional practices can perhaps be adapted to modern life. This would also facilitate a greater appreciation for one's culture and history. An example of this – also related to the 2nd take away mentioned above – is the University of California (Berkeley)'s organic garden patch. This organic garden demonstrates the dynamic sense of initiative, creativity and activism amongst the students that run it as it allows them to grow their own food as well as provide awareness on food that was grown during the war periods.



Organic garden with a war history theme at the University of California, Berkeley.

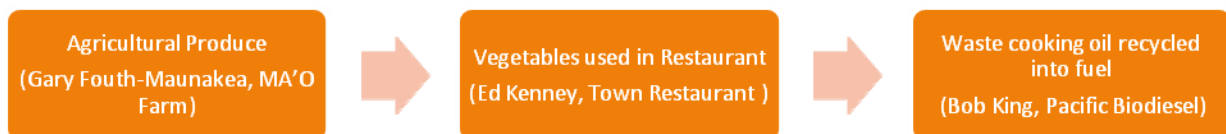
4) Role of Traditional Security Forces

Another take-away would be the experience of traditional security forces in engaging in environmental protection/conservation. In addition to the examples mentioned earlier, the USCG has also introduced non-lead bullets in its firing range and is installing solar panels in its bases. It would therefore be interesting to see what measures the Singapore Armed Forces are undertaking to do their part for the environment. After all, the military is the most equipped organ of government to implement any form of action.

USIE examples that support my research question

The research question that I had formulated for the institute is **“How synergized are the efforts of environmental groups, businesses and policymakers in the United States in effectively addressing climate change?”** The USIE experience has without a doubt provided several instances where there is synergy among the three sectors in addressing climate change. Many initiatives have been on the premise of reducing the US’ dependency carbon footprint. In addition to this, these multi-sectoral initiatives seem to be relatively more successful at local and state levels rather than at the national level. The sections above have highlighted several examples that demonstrate the increased collaboration in the three sectors but here are nevertheless other examples:-

From the session on sustainable solutions from the private sector in Hawai’i, I noticed the inter-connected relation primarily between three out of four of the speakers (as seen in the diagram below). Not only did their cooperation reduce the amount of waste disposed, but it also demonstrated an attempt to reduce society’s dependency on fossil fuel, by using a renewable source of energy.



The fourth speaker, Pete Cooper from ‘Better Place’ – a California-based company specializing in electric car technology – also provided great insight in the development and growth of the electric car industry, which has gained immense support from the Hawai’ian government, in particular on Oahu. ⁶ This initiative also fits in with the government’s Clean Energy Initiative, which aims to have 70% of clean energy sources by 2030. However, it still remains to be seen whether such a massive project would be able to be effectively implemented. Such an initiative therefore requires the cooperation of civil society. As noted by Representative Hermina Morita, it was vital that people must lead, so that the politicians will follow. This is evident in the role of civil society groups such as the Blue *Planet* Foundation, which has been vocal in aiming to make Hawai’i independent of energy.

There have also been efforts by several members of the environmental movement to connect various sectors and functioning as translators. In the case of California, as mentioned above, NGOs such as Sierra Club have been in the forefront of advising and lobbying policy makers. At the governmental level, Governor Arnold Schwarzenegger has encouraged inter-departmental discussions so as to understand environmental issues from a holistic perspective which would then allow more efficient policies to be passes. Synergising efforts of these various groups would also require a degree of pragmatism. This is thus the thrust of the Pew Center for Global Climate Change’s work, whereby they formulate realistic policy options for business communities.

There are also, however, examples that suggest potential obstacles in addressing climate change. In the words of Brian Fan from CleanTech, ‘nothing is for free’. For instance, in the case of HPower in Hawaii, while fossil fuel dependency is reduced by processing waste into electricity, such a process cannot be totally void of carbon emissions, as a bit of coal would need to be burned in the beginning to start up the process. Advancements in carbon-free energy sources such as biofuels also run into

⁶ Also see ‘Hawaii seeks better place with electric cars’, Christian Science Monitor, Available from: <http://features.csmonitor.com/innovation/2008/12/03/hawaii-seeks-better-place-through-electric-cars/>

problems. For instance, 2nd generation biofuels derived from jatropha was seen to be the answer to addressing the problems of food insecurity that arose from 1st generation biofuels derived from soy, corn and palm oil. However, 2nd generation biofuels themselves come with limitations as they are resource intensive - clean water, fertilizer and equipment are needed for production. This has thus led to the development of 3rd generation biofuels that are derived from algae, which are able to be produced from saltwater and wastewater. However there is also the issue that refining oil from algae itself requires a lot of water. Hence, beyond merely seeking to reduce carbon emissions, efficient use of existing limited natural resources must also be factored into the equation.

There are also a series of governance issues. Ted Peck, State Energy Administrator in Hawai'i's Department of Business, Economic Development and Tourism, noted several policy barriers that still need to be overcome with regards to emerging renewable energy sources. These include issues of compensation, transparency, support and incentives and net metering. These therefore need further clarification and discussion before policies can be effectively implemented. In addition to this, while there may seem to be much synergy amongst environmental groups, businesses and policy makers at the state level (at least relatively in Hawai'i and California), the scene is not as rosy at the federal level, as there are more players contending on the issue, and thereby resulting in decision making being much more difficult. The delays and constant debates over the Waxman-Markey Bill on carbon emissions is one clear example of this.

Despite these barriers, I believe that increased pressure from business and environmental groups may slowly change the dynamics, in particular if these groups are able to engage and meet the concerns of citizens in opposing states. This would nevertheless require constant negotiation amongst leaders and a willingness to compensate some interests in forging a consensus in the middle ground.

Conclusion

These six weeks have thus been immensely motivating coupled with a series of priceless experiences. The intersections between social and environmental processes have been highly vivid throughout the programme as seen from the challenges faced by environmental leaders and practitioners. These include providing awareness to all sectors of society on the significance of threats to the environment to our daily lives and understanding and managing the concerns of the various stakeholders involved in the process. Environmental leadership (as mentioned above) is vital at various junctions of these processes in ensuring smooth communication and coordinated action in various sectors.



USIE on Capitol Hill

In going forward from this experience, the key to success ultimately would be in effectively translating the science behind environment issues to the layman on the street- whether it be by listening to their concerns, talking their lingo or getting others around to provide support. A greater understanding of the issues we face and peer pressure to act, would generate the critical mass needed for a tipping point. As for me, I intend to do my bit for the environment by encouraging Muslims in Singapore to be more environmentally friendly. Issues of the environment seem to be lacking in Muslim circles, despite it being an integral part of Muslim life. So far, my environmental ethics have rubbed onto family members and close friends. I look forward to it being spread further. ☺