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**Sustainability and Design
Education**

Case Study: Lebanon

Abstract

After twenty years of civil war and continued political and economical turmoil, concern for ecological issues is not a priority to most Lebanese. Lebanese students in higher education design programs are typically not even familiar with the term sustainability. Literary research found that a handful of NGOs, global corporations, local businesses and the Ministry of the Environment are currently addressing ecological issues in Lebanon, but merely on a surface level. Living within an ecologically diverse yet deteriorating country the Lebanese must take action immediately. From this, the question arose: How can design education in Lebanon be modified to encourage sustainability? A qualitative analysis of sustainability progress within design education outside Lebanon was conducted. By having faculty as question-asking facilitators and reference providers, students as content-creators capable of self-run critiques as well as program and course revisions made to be green-focused potential to modify Lebanese design education exists. Examples are provided that combine the literary findings of existing sustainable activities in Lebanon with pedagogy progress outside Lebanon to create program titles, course titles, project descriptions and student actions with community collaborations in a Lebanese context. The integration of sustainability within design education can serve as catalysis for environmental change in Lebanon.

Keywords

Lebanon, sustainability, graphic design, education

Introduction: Lebanon's War, Instability & Environment

Lebanon is a small country situated along the Mediterranean, bordered by Syria and Israel. It is a country where political and economic problems have overshadowed environmental issues for decades. In 1975 the Lebanese civil war began and did not see closure until 1991. Those 16 years of war took their toll with approximately 120,000 people killed and 300,000 wounded, many of whom were civilians (Marston, 1994). Even since the end of the civil war, Lebanon has experienced the July War in the summer of 2006. During such instances of conflict it is inevitable that concerns for one's personal safety, economic welfare and basic survival take precedent over environmental concerns.

The Natural Beauty of Lebanon

Though the Lebanese had much of their country and natural reserves destroyed by war, neglect or lack of concern, the people do pride themselves on the natural beauty of Lebanon. It is common place for the Lebanese to eagerly welcome foreigners with descriptions of the ecological diversity of their small country. In her book *Lebanon: New Light in an Ancient Land*, Elsa Marston (1994) writes about the misconception that all Middle Eastern countries have desert landscapes and the fact that Lebanon does not. She goes on to describe the snowcapped mountains, cedar and pine tree groves, the fertile Bekaa Valley, the abundance of wildflowers and fruit trees, mountain springs and rivers as well as the many ports and fishing communities along the sea. Moreover, throughout her description the word beautiful appears again and again in describing the Lebanese landscape. Unfortunately though, this beauty has been neglected and abused after years of turmoil, wars and instabilities.

The Environmental Concerns of Lebanon

In 2006 the war had a direct and destructive impact on the environment. Lebanon suffered dramatic effects from missile attacks, the bombing of a power plant and the largest oil spill ever in the Mediterranean region. Environmental issues began with attacks on thousands of Lebanese homes and buildings causing fires and smoke. The smoke contained contamination with the potential to create hormonal and respiratory problems in humans. The short and long-term damage continue to affect the people, water, animals, and breathing air. The environmental affects of the war could seal the fate of what was once a beautiful, tourist-filled country. (Mndaily, 2009). Other environmental impacts from this war included air pollution and chemical spills

as Israeli military targeted industrial factories, fuel bunkers, and other flammable structures. Furthermore, there were a half a million refugees in Lebanon. Difficulty due to transportation created waste problems and water pollution (Oilspilllebanon.org, 2009).

Beyond war-related environmental issues the conclusion of the 2001 State of the Environment Report for Lebanon provides a list of more topics that need to be addressed. Sound agricultural practices should be promoted. Industrial facilities need to be classified, sighted and implement new industrial emission standards. Road and highway projects should be rethought. Air pollution by way of the transportation sector should be reduced. Construction needs to foster environmentally-friendly practices. Public access to the beach should be restored or preserved. Sound water conservation measures need to be introduced. The national land use master plan should be shaped to protect so called protected sites. Reforestation resources need to be leveraged. Municipal solid waste management needs to be reshaped to encourage sound management of special wastes and promote small-scale wastewater treatment and reuse in rural regions (Ministry of Environment, 2001).

There are reasons why each of these issues must be addressed and information to help support the rationale behind them. In terms of water conservation, for example the USAID website explains that, "Today water in Lebanon is relatively plentiful. However, mismanagement of this vital resource causes 50 percent of the country's water to be lost. If this trend is not fixed, Lebanon will face severe shortages within the next 25 years...Lack of proper sewage disposal endangers Lebanese health and the environment" (USAID, 2009).

From articles on the 2006 war, text from the State of the Environment Report and information from the USAID website, a basic overview of Lebanon's dire environmental problems are addressed. Sustainability within Lebanon is a multifaceted and in-depth predicament. Fortunately, the country is experiencing a time of stability. With some sense of peace since 2006, the Lebanese have recently gained ground in terms of dealing with their environmental concerns.

Lebanese Organizations Taking Eco-Action

There are global and local organizations in Lebanon taking action. One major resource is the Ministry of the Environment (MoE). Key actions related to the environment which the Ministry takes on include: events, activities, international projects, publications, reports and forums. MoE also places emphasis on awareness, protected areas and reforestation. Another significant contributor to the environment in Lebanon is USAID which, focuses on water management. By protecting the environment USAID also encourages rural tourism and brings jobs and money to the region. Furthermore, in consultation with the Lebanese Ministry of Environment, USAID cleaned oil from over 68 miles of shoreline. The first priority for the oil spill cleanup were areas of high economic importance, including commercial harbors, public beaches, and several historic sites (USAID, 2009).

There are also organizations such as Green Line and AFDC taking on specific environmental concerns. Like, USAID, Green Line addresses environmental problems of a post-war Lebanon. However, "Green Line is a non-governmental association independent of any government, group, or individual. It embraces the principle of environmentally sound development in the developing world. Green Line brings together all those who are concerned with: preserving the past, conserving the present, and giving the future a better chance" (Green Line, 2009). Green Line's focus is on sustainable development. This organization promotes knowledge and documents environmental dangers in order to deal with them at the community level. The Association for Forests: Development & Conservation (AFDC) on the other hand, focuses on forestation. "Two of AFDC's main objectives include: "Developing local communities while maintaining conservation and the sustainable management of forests and natural resources. [and] Capacity building and public awareness in fields and issues related to the environment and sustainable development" (AFDC, 2009).

There are also several eco tours, tourism organizations and local businesses in Lebanon that contribute to the welfare of the environment. Some of which include: Esprit Nomade, Exit To Nature, Ibox ecotourism, Lebanese Adventure, Liban Trek, Speleo Club and ALES. Such organizations provide the public with awareness and active observation. They also work toward conservation and sustainability of local environments. Beyond eco-related organizations, there are local businesses that address the issue of sustainability in their own unique ways. Shtrumpf is a Lebanese bar and restaurant chain that organizes an annual graphic design competition open to university students. Their call for participation involves the creation of eco-friendly campaigns. The competition is referred to as Go Green. Shtrumpf is one of the few local businesses recognized for their green efforts. Moreover, they acknowledge the potential of sustainable design as a powerful force for positive change within Lebanon.

Lebanese Graphic Design Studies and Challenges

Lebanon has numerous colleges and universities, several of which include graphic design programs. A handful of reputable universities in Lebanon with design programs are: LAU (The Lebanese American University), AUB, (American University of Beirut), ALBA (l'Académie Libanaise des Beaux-Arts), AUST (American University of Science and Technology), NDU (Notre Dame University) and USEK (Université Saint-Esprit De Kaslik). Lebanon has a reputation for excellence in Higher Education for the Middle East. However, the design work coming out of university programs is not addressing the issue of sustainability in a significant manner. Students are commonly unfamiliar with the term sustainability. Though most understand the term green or eco-friendly they do not make a connection between impending environmental concerns and design. Nor, do they realize that they as designers have a social and ecological responsibility in all that they create.

Today's Generation of Students

Fortunately, today's generation is exceptional. They are referred to as the Facebook or Green generation. As explains in the article titled, *The Facebook Generation vs. the Fortune 500*, this new generation has a different set of values than previous ones. This generation believes that, "Intrinsic rewards matter most...Money's great, but so is recognition and the joy of accomplishment" (Hamel, 2009). Furthermore, this generation is referred to as, "people (who) want to change the world...They want their time working for an employer to mean more than just helping 'The Man' pay his mortgage...They want to be part of an organization that is aligned with their personal values" (Foster, 2008).

Not only do today's students set new priorities in their career paths, they were raised with awareness about global environmental concerns. An article titled, *The Green Generation* states that, "The current generation is the first to have grown up entirely in a world confronting global climate change...This generation is teeming with activists and organizers who will make the big visionary connection and take the drastic strategic actions on behalf of our survival" (Brown, 2007).

Design education can harness such positive aspects of this generation and implement innovative changes. Fortunately, there are organizations working to help the Lebanese environment and today's students are eager to play a positive role. The question then arises: How can design education in Lebanon change to be more sustainable?

Qualitative Analysis

In order to determine how to make educational changes towards sustainability in Lebanon, it is first essential to examine how design sustainability is being taught outside Lebanon. The following is a qualitative analysis of the four main components of education: Faculty, Students, Programs and Courses. Each was researched in terms of progress made outside Lebanon. The question was asked: What can faculty, students, programs and courses do to implement sustainability in design education?

Faculty

First, faculty must acknowledge the importance of sustainable design and understand what it encompasses. Faculty should become aware of the type of information available in sustainable design resources. This could then be used to help students initiate design projects. International design organizations are already taking action. One example is the Center for Sustainable Design, which empowers designers as specifiers and communicators who encourage sustainable energy, materials, products and services through research, professional development, education, communication and outreach. The Center provides designers with practical information regarding sustainable business practice. There are case studies, articles, initiatives, interviews, answers and discourses as references. The Center can help faculty to inspire, encourage and support design student to incorporate sustainable thinking into their design projects (Center for

Sustainable Design, 2009). Such resources provide a starting point for faculty to be reference providers for the students.

Faculty also need to consider how they guide the students. Creating eco-friendly designs begins from the initial concept development. The environmental impact of a design project must be thought through in every stage of design. In the same way that faculty expect projects to be aesthetic they should also take sustainability into consideration (Ortobol, 1996). The article, *The Ecology of Design* provides a series of questions that faculty must ask their students. "Is the design appropriate for the final product? Is there a better way to design this using fewer materials? Are there other ways to deliver this message effectively with less impact on the environment? Can we use recycled materials? What is required to produce this design? How much energy will it eat? Pollution? Hazardous Waste? Is the product reusable? If it isn't reusable is it recyclable? Is it easy to recycle?" (Ortobol, 1996). This indicates how faculty can facilitate question asking rather than answer giving techniques. In turn students become responsible for finding their own unique solutions.

Students

Students play an active role in making design projects sustainable, especially in terms of content creation and participation in critique. "Project assignments can require content developed by the student dealing with public and personal social, political, and economic issues and current events. The responsibility for developing content is a crucial one; it counteracts the passive design role in which one unquestioningly accepts client-dictated copy" (Heller & Vienne, 2003). There are a variety of contexts in which written content can be created. Though it is typical for research papers and essays to be used as content within academia, other creative potentials exist such as: blogs, articles, surveys, poetry, lyrics, interviews and dialogues. By enhancing the creative approach behind content development, students could become more inspired. Furthermore, by making students controllers of their own content, they become active judges of the content's value. However, beyond such self-initiated content, group critique is essential.

"The critique process for issue-oriented work can be a very effective forum for values clarification. This is particularly true of group critiques in which all students are encouraged to participate, rather than the authoritarian traditionalist crit in which the faculty do all the talking" (Heller & Vienne, 2003). The group critique enables all the students to personally evaluate and discuss issues. They question their own values and see how solutions arise through design. Beside the critique there are also other means to engage students in dialogues that work toward the improvement of projects. Survey's can help to gather data. Focus groups can be used to test a design. Group and team collaborations can help to strengthen a design project and facilitate critique. "The point here is content. As design educators, we cast projects almost as a scientist designs a laboratory experiment. The formula and the variables conspire to slant the results in one direction or another. The project assignment and

the project critique are powerful tools that teach far more than explicit goals, and carry strong implicit messages about design and designers' roles" (Heller & Vienne, 2003). In both content creation and critique the projects relation to the environment can be evaluated and improved upon. Diversity among student projects can expose the classroom to a whole range of projects and solutions.

Programs

There are both major and minor steps that programs can take in implementing sustainability. The major step is to introduce new or completely revise existing major programs. Minor steps would be the introduction of emphasis or minor programs which addresses sustainability. Master's in graphic design programs stressing the importance of sustainability can be initiated. Numerous design curriculums have latched onto the popular trend of going green. Some examples of higher education programs in design sustainability specific to architecture and interior design include: Rocky Mountain College of Art and Design which, offers a Bachelor of Art in Interior Design: Green Design and Carnegie-Melon, School of Architecture which, offers a Master's of Science in Sustainable Design.

Two programs that have a direct relation to this paper because they entail design in general are those of Finlandia University International School of Art & Design which, offers a Bachelor of Fine Arts in Sustainable Design (BFA) and Ontario College of Art & Design (OCAD) which, offers a minor in Sustainability in Design. "Finlandia puts you in touch with revolutionary design strategies: Biomimicry, Inventive Reuse Design, Designer for the Real World, Permaculture Designer and others yet unnamed" (Finlandia University, 2010). Another interesting aspect of Finlandia University is that they place emphasis in their program description on being cross disciplinary or interdisciplinary. This is because of the unpredictable nature of sustainable design. OCAD, unlike Finlandia offers a minor program. Their program is part of what they refer to as NEL, The New Ecology of Learning. "It entails both a structural and conceptual shift in OCAD's undergraduate curriculum" (OCAD, 2010). Like Finlandia, OCAD focuses on holistic thinking. OCAD also places emphasis on community engagement, non-profit organizations and government ministries. Though such major, minor, undergraduate and master's programs exist outside Lebanon, Lebanese universities do not yet have such programs.

Courses

The next level of change is the introduction of or revision to courses. Sustainable design course descriptions from OCAD provide thorough examples. Three of the courses that display diversity in sustainable design studies are: Socially Responsible Design Practices, Sustainable Business and Greening the OCAD Campus. Socially Responsible Design Practices explores design responsibility in a social setting. The course content considers human aspects related to psychological, spiritual and cultural needs. Emphasis is placed on designers as leaders exchanging ideas. Sustainable Business is a course in which students develop a sustainable business plan. This course is unique

because it addresses the need for designers to understand the business side of sustainable design. Emphasis is placed on the Triple Bottom Line. This is also "known as the 'three-pillar model of sustainability', the principle states that sustainability not only comprises the natural heritage we pass on to the next generation but also the economic achievements and social institutions of our society, such as democratic political participation or peaceful conflict resolution" (Bader, 2008). The third course example is Greening the OCAD Campus. At OCAD this course serves as a summer workshop. In this workshop students examine aspects of sustainable design on their campus including the: environment, social and economic. Students raise potential solutions and collaborate with the community. This last example shows how changes may not only be made to full-fledged courses but also in the incorporation of eco-related workshops internships, lectures, forums, competitions and seminars. Involvement can come from environmental experts, green organizations and designers who specialize in sustainable design.

Results

From the qualitative analysis it can be determined that there are key actions to implement sustainability into design education. By having faculty as question-asking facilitators and reference providers, students as content-creators capable of self-run critiques as well as program and course revisions made to be green-focused changes can be made to Lebanese design education. Furthermore, one key point should be addressed that was mentioned in the student section of the qualitative analysis: students should develop content, "dealing with public and personal social, political, and economic issues" (Heller & Vienne, 2003). This indicated that the public plays a role in sustainable design. Connection can be made that link universities design programs with green organizations in Lebanon. Community involvement and collaborations are essential to ensure that sustainable student design projects have real impact beyond educating students. As written about in the sections, The Environmental Concerns of Lebanon and Lebanese Organizations Taking Eco-Action there are numerous organizations that are actively participating in creating environmental change in Lebanon.

Discussion

By combining components from the literary findings on Lebanese NGOs, global corporations, local businesses and the Ministry of the Environment with information gained from the qualitative analysis examples in relation to Lebanese design education are made. Three examples provide potential program titles, course titles and project descriptions with community collaborations in a Lebanese context. Program titles were left to be in design in general (rather than specific to graphic design) to give opportunity for interdisciplinary approaches. The projects themselves were created to show the applicability within graphic design specifically. Questions are asked by faculty in each description and students are required to be content creators.

Example 1.

Program title: MA in Sustainable Design

Course title: Socially Responsible Design Practices

Project description: Exchange ideas through group research and analysis. Link this to the development of an individually written thesis paper that evolves into an extensive and cohesive design project that addresses a specific aspect of the topic: Impact of War in Lebanon on the Local Environment. Take into consideration human aspects related to psychological, spiritual and cultural needs. Throughout the process ask: What is the impact of your piece on the environment? This project includes readings from: Design for the Real World.

Community collaboration: in collaboration with USAID

Example 2.

Program title: Bachelor of Science in Design: minor in Sustainable Design.

Course title: Sustainable Business

Project description: Develop a sustainable business plan that transforms into a website for an eco-tourism organization in Lebanon. Be sure to take into consideration the Triple Bottom Line. Conduct research on the impact of on-line media in sustainable business practice. Meet with members of eco-tour organizations in Lebanon. The project will be conducted through a series student-run critiques. Throughout this process continuously ask: Is the design appropriate for the final product?

Community: in collaboration with Ibx ecotourism, Lebanese Adventure, Liban Trek

Example 3.

Program title: BA in Design

Course title: LAU: The Green Campus (Workshop)

Project description: Examine the aspects of sustainable design on your campus including: environment, social and economic. Formulate potential solutions. Transform these solutions into a campus-wide campaign that addresses: How the Lebanese American University can be more sustainable. As part of your process conduct a survey and focus groups. Throughout this process ask: Are there other ways to deliver this message effectively with less impact on the environment?

Community collaboration: in collaboration with the Ministry of the Environment

Conclusion

These examples show the potential to take the results from this paper to create actual educational scenarios that could be implemented in design education in Lebanon. Furthermore, even though this case study applies directly to Lebanon, this research serves as a means of initiating change within education in other countries or regions with similar predicaments. This research serves as a basis indicating that the integration of sustainability within design education can serve as catalysis for environmental change in Lebanon by evaluating local potential with global progress. Modifications in graphic design education in Lebanon would contribute to the development of the next generation of ethically, socially and environmentally responsible designers.

References

- Association for Forests, Development & Conservation. Mission Statement and Objective. Retrieved June 22, 2009, from <http://www.afdc.org.lb/mission.php>
- Bader, Pascal. (2008) Sustainability – From Principle To Practice. Retrieved August 9, 2010, from <http://www.goethe.de/ges/umw/dos/nac/den/en3106180.htm>
- Brown, Adrienne Maree. (2007) The Green Generation. Retrieved June 12, 2009, from <http://www.wiretapmag.org/environment/43304/>
- Center for Sustainable Design. Our Mission. Retrieved June 22, 2009 from http://sustainability.aiga.org/sus_mission
- Finlandia University. The Future is Sustainable Design. Retrieved August 9, 2010, from <http://www.finlandia.edu/index.php?id=587>
- Foster, Carly. (2008) Wooing Facebook Generation with Meaning, Spirit. Retrieved June 12, 2009, from <http://ebnc.benefitnews.com/asset/article/591131/staying-current/wooning-facebookgenerationmeaning-spirit.html>
- Green Line. About Us. Retrieved June 22, 2009, from http://greenline.org.lb/new/english/about_us.html
- Hamel, Gary. (2009) The Facebook Generation vs. the Fortune 500. Retrieved June 12, 2009, from <http://blogs.wsj.com/management/2009/03/24/the-facebook-generation-vs-the-fortune-500/>
- Heller, Steven & Vienne, Véronique. (2003) Citizen Designer: Perspectives on Design Responsibility (pp. 7-8) New York, USA: Allworth Press.
- Marston, Elsa. (1994). Lebanon: New Light in an Ancient Land. (pp. 45-48) New York, USA: Dillon Press.
- Ministry of the Environment, Lebanon. (2001) State of the Environment Report. (pp. 242-246) Retrieved June 14, 2010, from <http://www.moe.gov.lb/SiteCollectionDocuments/www.moe.gov.lb/Reports/SOER2002/Summary%20and%20Conclusions.pdf>
- Mndaily: The University of Minnesota. (2008). Environmental impact in Lebanon: Keeping the oil spill and forest fires under control could save the future of the country. Retrieved June 22, 2009, from <http://www.mndaily.com/2009/02/22/environmental-impact-lebanon>
- OCAD, Ontario College of Art & Design. New Ecology of Learning. Retrieved August 9, 2010, from <http://www.ocad.ca/programs/nel.htm>
- Oil Spill Lebanon. Israel's Attacks on Lebanon Cause Major Oil Spill Beirut; 21 June, 2006. Retrieved June 18, 2009, from http://www.oilspilllebanon.org/articles/Isr%20oil%20spill_PR_Jul06_En.pdf
- Ortobol, J. (1996) The Ecology of Design. (p. 11) New York, USA: AIGA Press.
- USAID: Lebanon. Programs: Protecting the Environment. Retrieved June 22, 2009, from <http://www.usaid.gov/lb/programs/environment.html>