

Design for Sustainable Prosperity

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Abstract

This paper is the tale of a journey towards design for sustainable prosperity. It shares the exploration through my own work as a designer and through working with groups of design students in the last five years. The paper describes some of the work done at the social-environmental study program which is part of the bachelor degree curriculum at the Department of Industrial Design at HIT - Holon Institute of Technology, Israel.

Various study cases will be presented according to five sustainable design strategies based on 'The Bridge' sustainable design methodology. The five strategies were designed with the intention of addressing the individual, communal and environmental scopes, offering an applicable path towards design for Prosperous Sustainability.

The study cases presented in this paper strive to a wide scope of exploration using product design in search of a role designers can adopt that supports the path towards sustainable prosperity.

Introduction

'We should go about in the manner of a bee collecting nectar from a flower: The bee harms neither the fragrance nor the beauty of the flower, but gathers nectar and turns it into sweet honey.'

This vision for the way humanity should act on earth taught by a Buddhist Arahnt, has become an important inspiration for my work as a designer seeking the path towards design for sustainability.

The allegory of the bee calls us to re-think our daily life habits and re-tune the way we dwell on earth. I believe, that as designers, we have an important role in creating ways in which we can respond to the challenge set to us by the honeybee.

Searching through contemporary literature pertaining to sustainability, I came across the definition by 'The Natural Step' that to some extent corresponds with the allegory of the bee. It states: 'the practice of sustainability is about creating new ways to live and prosper while ensuring an equitable, healthy future for all people and the planet.'

The combination of words "to live and prosper" as a sustainability ideal can make one wonder as we are normally told to shrink, minimize, eliminate and strive for zero impact. What could it mean to live and prosper in a sustainable world? Can we create life habits in which prosperity and sustainability are synonyms? Can the wolf dwell with the lamb?

Since designers share the unique quality to envision, illustrate and enable the realization of objects and behaviors, we can play a central role in designing new life habits that thoroughly re-think the encounter between man, object and environment.

In my perception, the task of Sustainable Design is precisely that – outlining the way to Sustainable Prosperity. Such design action supports the process of envisioning and realizing new ways to live and prosper on the planet or, in other words, designing sustainable prosperity.

Naturally this paper does not hold all the answers, but it is the story of a genuine search, a search that is conducted through my own work as a designer and through my work as a sustainable design lecturer. It describes some of the work that is being done in the last four years at the social-environmental design study program at the Department of Industrial Design at the HIT - Holon Institute of Technology, Israel and the outcome of sustainable design workshops which were guided in Israel and academic settings in other parts of the world.

The paper will be structured according to five sustainable design strategies based on 'The Bridge' sustainable design methodology which was formed as part of my Master thesis research in 2003-2004.

'The Bridge' was inspired by indigenous knowledge and indigenous living patterns. The five strategies were designed with the intention of addressing the individual, communal and environmental scopes, offering an invitation to a holistic, yet applicable, view to sustainable design. The strategies are continuously refined and elaborated with every new insight encountered on the path.

Design Strategy 1 – DANCE TO THE CHI

Products become a direct link between renewable resources and basic human needs.

This field of search evolves through exploring ways in which human needs can be answered through participating in natural processes. The vision that drives this strategy is that the array of products supporting our basic activities can be redesigned to enable human everyday deeds to become another one of the natural chains of reaction.

Just like a partner in a Tai Chi (a 'soft style' martial art) dialogue, we could participate in nature allowing the natural energy to empower us and move on unchanged to the next cycle.

The various projects developed in this field of exploration aspire to locate spaces in which we can react within our surrounding environment, enabling the movement to enrich us, while allowing it to continue forward to the next cycle.

'The CHI Dance' illustrates a sustainable design vision in which products become a direct link between renewable resources and basic everyday human needs. As such, products are created or operated by their direct contact with a renewable energy, resource or phenomena. This encounter is transformed into the desired human need.

Selected study cases:

- **WindyLight by Adital Ela**

WindyLight is a collection of self-sufficient outdoor lights operated by wind energy. It is created from a repetitive module which integrates wind collection and a LED light source into one element.

WindyLight creates a variety of lamps for the urban environment that operate on free, clean energy and require no connection to the city's electrical grid. In WindyLight, the capacity of wind is translated into light intensity, thus creating a unique light and sensual experience that is in tune with the natural flow of wind.

WindyLight is designed to utilize even a soft gust of wind. By dividing the energy collection into small and lightweight repetitive elements, WindyLight can transform wind into light even in an urban built environment. The weathercock modular element enables various WindyLight configurations in different sizes and functions.

WindyLight illustrates a sustainable design vision in which products become a direct link between renewable resources and basic everyday human needs.

As such, WindyLight is operated by its direct contact with wind, and transforms this encounter into a basic human need – light, while creating zero environmental impact.

- **WaterFull by Adital Ela and Oded Davidovitch**

WaterFull is an effective private upper-well that can be integrated in the home environment as a multi-season water collector as well as a shading element.

In the reality of global warming and evident lack of water in many areas around the world, WaterFull creates a self-sufficient platform that enables the home-user to collect dew and rain water for everyday needs. Doing so, one is able to make use of the natural abundance available in his surroundings.

WaterFull is 3 meters in diameter, and by using a unique dew-collecting fabric created by OPUR (International Organization for Dew Utilization), can collect up to 3.5 liters of water a day in the dry season. In the rainy season the water container allows the accumulation of up to 460 liters of water.

The draining water passes through a filter as it enters the container. The tap at the base of the container enables the use of the accumulated water for various home applications.

WaterFull illustrates a vision for a lifestyle in which well-designed products create a direct link between the user and accessible natural resources (such as dew and rain water), and therefore support the adoption of a sustainable way of life.

Figure 1: WindyLight by Adital Ela

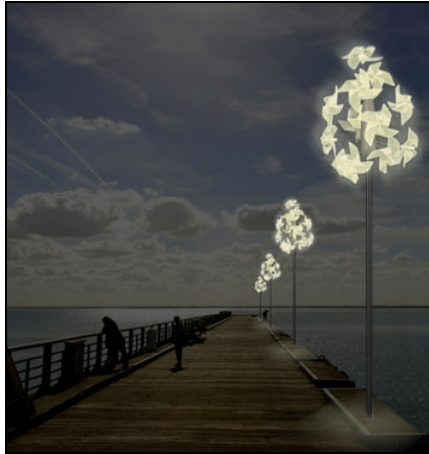


Figure 2: WaterFull by Adital Ela and Oded Davidovitch



Design Strategy 2 – REVIVE OBJECTS

Objects grow, change and react to diverse phenomena through their life span.

Reviving objects refers to exploring ways in which our artifacts participate in the changeability of nature and re-enter the living realm. It is an invitation to let go of attempting to make things that 'stop', but rather things that grow, change and react to diverse phenomena through their life span.

This strategy is explored by designing objects that react to and/or are nourished by the natural or man-made occurrence in their surroundings.

On the other hand it promotes the design of objects that change through their life-span according to the changing needs of the user and/or changes in technology, lifestyle etc.

An inherent part of this strategy is the invitation to explore ways of embodying the concept of 'closing the loop', thus promoting the re-design of products and processes into self-nourishing cyclical flows of organic or technical materials.

Selected study cases:

- **Alive Bus Stop by designer RTPs Team @ UIA Mexico City**

Alive bus stop was designed to enable climbing plants to grow over its poles and roof. The roof is designed to collect rain water and direct it to water the plants. The residue of water is channeled into the ground.

Alive bus stop is an outcome from a four-day 'Bridge Workshop' at Universidad Iberoamericana, Mexico City.

- **A DIY Shaded Roof-Garden by Ravid Rovner @ HIT, Israel**

A simply assembled construction and special terrace planters create a gardened environment for tenants on their roof-top. The system is self-transportable and self-assembled and fits any roof. Climbing Plants create a cover which has all the environmental benefits of green-roofs, while the planters provide a space for urban agriculture. This object changes throughout the year according to the seasons.

Figure 3: Alive Bus Stop by RTPs Team
Design Tutor: Adital Ela

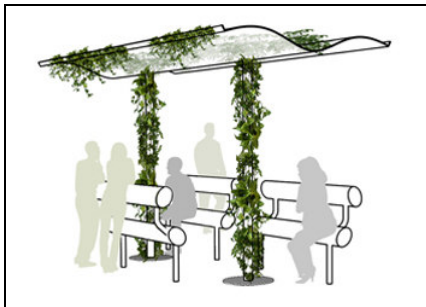


Figure 4: A DIY Shaded Roof-Garden by Ravid Rovner
Design Tutor: Prof. Gad Charny



Design Strategy 3 – CREATE MEDIATORS

Design that supports people to produce their personal objects.

Creating mediators relates to empowering people to regain their capacity to participate in designing their own environment and using their unique creative skills to create the artifacts they need.

From a sustainable development point of view, this strategy addresses the potential of design to become a mediation tool that supports people in adopting a sustainable lifestyle. It

also alludes to the view that as designers we should address human needs and not necessarily strive for the industrial production of more products.

This notion is explored by creating designs that mediate between an individual and the materials or resources he might find in his surrounding environment, thus enabling him to locate and use the existing potential.

On another level a design can create ways for the user to participate in a product's creation process by introducing creative kits that support users in producing their own daily objects.

Selected study cases:

- **Bacbucon by Johana Kiss and Shlomi Friedman @ HIT, Israel**

Bacbucon gives children free play opportunities utilizing "clean garbage" to create a personal outdoor play space. Bacbucon consists of a set of connectors that enable the re-use of empty plastic bottles to create an endless spectrum of open ended structures.

Bacbucon was created as part of an academic project at the social-environmental program at HIT with the aim of designing play objects for nursery schools of the foreign worker's community in Israel. These facilities are characterized by very poor conditions and severe lack of educational stimulation and toys.

- **TWO GO by Yael Livneh @ HIT, Israel**

TWO GO is a DIY designed project that supports the user in creating his own 2 in 1 bicycle seat and storage.

The design is based on the re-use of a plastic milk crate. It includes an instruction form and a kit of appliances that enables the user to create his own extra bike seat using a re-used plastic crate and seven standard joints.

Figure 5: Bacbucon by Johana Kiss and Shlomi Friedman
Design Tutor: Adital Ela



Figure 6: Two Go by Yael Livneh
Design Tutor: Prof. Gad Charney



Design Strategy 4 – DISCOVER ABUNDANCE

Utilizing hidden potential that we tend to overlook.

The call to Discover Abundance invites us to participate in the way things are 'right now' and make an attempt to identify sources of abundance that we usually tend to overlook.

Our ability to challenge, using design tools, the prevalent paradigm stating that abundance and sustainability are contradictory might become one of our greatest tasks.

In relation to this strategy diverse work is done with the aim of putting to use unseen sources of abundance that could be revealed at various layers of object, infrastructure and community.

Connecting to already existing situations can reveal abundant hidden potential that can manifest as industrial waste, agricultural refuse, natural processes and space that is used very few hours of the day, etc.

Selected study cases:

▪ Working with Date-Wands by Adital Ela

A project conducted in collaboration with Sindiyanna of Galilee Fair Trade. This project was developed around the idea of giving a new life to date-wands, a unique material that is considered to be agricultural waste. The purpose of this project is to create a unique and stable source of income for an income-deprived Arab female community.

Using design tools, this project explores the potential of design in developing products that restore the relevance of agricultural waste as a valuable resource and, simultaneously, creating a stable income channel for an income-deprived community.

▪ Working with industrial residue for social empowerment of the mentally ill

This project was a collaboration between the social-environmental study program at HIT and "Sheculo Tov", a social enterprise that aims to support the integration of the mentally ill in the community.

While working closely with a group of workers from the rehabilitation center, the students explored the potential of industrial residue materials in becoming starting points for products that have marketing potential as well as rehabilitation value in their production process.

An example of the outcome from this collaboration is 'Rolling Shelf' by Ido Livni, a modular shelf created from veneer industrial waste. It is presently in production in one of Sheculo Tov's rehabilitation workshops in the Arab village Tayibe, creating jobs for fifty of its members.

Figure 7: Working with Date-Wands



Figure 8: Rolling shelf by Ido Livni
Design Tutor: Adital Ela



Design Strategy 5 – DESIGN SHARING

Utilizing hidden potential that we tend to overlook.

'Design Sharing' alludes to designers creating platforms for people to collaborate for a common goal. It strives for the strengthening of community ties and on a larger scale - strengthening the local social fabric.

This area of search is explored by creating experiences that would initiate shared common moments in which people are playing or working together to address common goals that are either long term outcomes or spontaneous moments of joy.

The matter of sharing could relate to objects, Materials, knowledge, skills, a smile or any other valuable resource.

Selected study cases:

- **Zocalo interactive shadow system by Blessed @ UIA Mexico City**

El Zocalo is a public square commonly used as a meeting point although it has no resting or shaded areas. Zocalo is a human powered shadow system, which becomes effective only when a number of people use it together. This system promotes interaction between people sharing the same space while creating a common shaded waiting area.

Zocalo is an outcome from a four-day 'Bridge Workshop' at Universidad Iberoamericana, Mexico City.

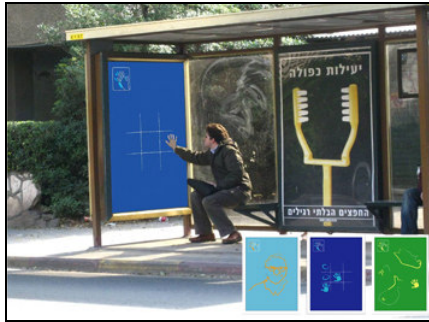
- **Interactive bus stop by Rony Tamir @ HIT, Israel**

An interactive game board designed to be placed at bus stands and other public locations, thus encouraging dialogue and playful interaction between passers-by in public space.

Figure 9: Zocalo by Blessed Team
Design Tutor: Adital Ela



Figure 10: Interactive bus stop by Rony Tamir
Design Tutor: Prof. Gad Charny



Conclusion

The search towards design for sustainable prosperity is a fascinating journey inlaid with many riddles. It is a journey that challenges us to encompass a wide scope search and, at the same time, calls us to apply our insights to objects and services.

The work with various groups of students and professionals during the last five years shows that sustainable design methodologies such as THE BRIDGE can have great impact in supporting designers to grasp this wide scope and, at the same time, identify their unique applicable approach within it.

In many cases working with the design strategies allowed students who had little or no background in sustainable design to grasp its essence swiftly and address the design and conceptual challenges it contains.

The challenge for the near future is to maintain a genuine quest towards revealing new layers of understanding of the term sustainable prosperity and, simultaneously, attempting to identify and design the applicable aspects of these revelations.

If we manage to inspire the critical mass of designers to join the genuine quest towards sustainable prosperity, I believe we can get much closer to making that giant leap toward a society that is nourished by the nectar of the world while turning it into sweet honey.

References

- Balam, S. 1996. "Product Symbolism of Gandhi and Its Connection with Indian Mythology" in Margolin V. & Buchanan R. (ed.) The Idea of Design MIT Press.
- Balam, S. 1998. Thinking Design National Institute of Design: Ahmedabad.
- Batchelor, M. & Brown, K. (eds.)/ 1994. Buddhism and Ecology Motilal Banarsidass Publishers: Delhi.
- Chapple, C. K. & Tucker, M. E. (ed.) 2000. Hinduism and Ecology: The intersection of earth, sky, and water Harvard University Press: Cambridge.
- Grim, J. A. 2001. Indigenous Traditions and Ecology The interbeing of cosmology and community Harvard University Press: Cambridge.
- McDonough, W. & Braungart, M. 2002. Cradle to Cradle: Remaking the way we make things. North Point Press.
- McDonough, W. & Braungart, M. 1998. The next Industrial Revolution The Atlantic Monthly Company.
- Prime, R. 1994. Hinduism and Ecology: Seeds of Truth. Motilal Banarsidass Publishers: Delhi.
- Thakara, J. 2006. In the Bubble. The MIT Press: Cambridge.