

Universidade do Estado de Minas Gerais – UEMG

Escola de Design – ED



SUSTAINABLE DESIGN – AN EXPERIENCE AT JEQUITINHONHA VALLEY

Rita de Castro Engler, PhD

UEMG – Universidade do Estado de Minas Gerais
Rua Luz, 101/101 – CEP 30220-080 -Belo Horizonte/MG – BRAZIL
Phone:+55 31 8471 4400
rcengler@uol.com.br

Lia Krucken, PhD

UEMG – Universidade do Estado de Minas Gerais
Rua Luz, 101/101 – CEP 30220-080 -Belo Horizonte/MG - BRAZIL
lia.kucken@gmail.com

Rachel Brito Montenegro Campos

UEMG – Universidade do Estado de Minas Gerais
Rua Luz, 101/101 – CEP 30220-080 -Belo Horizonte/MG - BRAZIL
rachelmontenegro@gmail.com

International DMI Education Conference

“Design Thinking: New Challenges for Designers, Managers and Organizations”
14-15 April, 2008, ESSEC Business School, Cergy-Pontoise, France

Abstract

Nowadays, respecting for others, better living conditions and caring for the environment is fundamental to ecological consciousness. The search for solutions leads us towards sustainable design, no longer a simple choice, but a real need. One of the main objectives of such design is to promote sustainability and social inclusion, taking into consideration a region's economy, its environment and its population.

The goal of this project is to show how sustainable design can bring meaningful changes to those regions of low Human Development Index (HDI), such as the Jequitinhonha Valley, in Brazil. There, one is faced with two distinct and conflicting realities: it is one of the poorest regions of the State of Minas Gerais, and, at the same time, it is one of the richest regions in mineral resources, natural beauty, history and the production of handicraft.

We first listed all the projects implemented by different public organizations in that area as well as the results they achieved. We observed that in spite of all the efforts, the economic growing of the region remains a challenge. Even though the attained progress was relevant, the region still presents an HDI below the minimum suggested by the United Nations. Taking into consideration this initial observation, we sought out to identify the factors responsible for the more expressive results as well as those that did not contribute to reach the proposed goals.

As far as the positive points are concerned, one can observe that there were improvements — both entrepreneurs and craftsmen had their eyes opened to a globalized world reality, to the need of enlarging their horizon by seeking new clients, to the necessity of changing product layout and company organization and to the help of external assistance. Also, through the institutional support granted, there was an increase in product value and openness to new cooperation agreements and larger projects.

Based on these considerations, a research project was developed — “Products innovation and value of Jequitinhonha Valley natural resources through the Participative Design”. The main

objective points are: a) bringing value for the products, reinforcing their local identity; b) fomenting the development of alternatives of financial incoming for the local community; c) exploitation and protection of the immaterial and material values of the region; d) fomenting the integration between institutions of knowledge in Design and the communities.

The research method adopted is the research - action, which conduct is based on a cooperative action between research centers of the referred university and local communities, through visits, interviews, workshops and design projects.

This is an ongoing project. Its origin is related to the theme, the approaching, the expected results and the perspective of dissemination of its result. Among the possible impacts of this research, the competitive territorial integration, through the exploitation of human and physical resources of the contemplated locations, innovation in products and the development of networks between institution of education and research and communities can be highlighted. Hoping, in this way, to help to promote the productive inclusion, income generation and training through the interaction with the community.

It is well known that a sustainable design is an important key for a deep change in that community. The sustainable design will not be used just as mere tool, but as an opportunity for innovation and adaptation of both old and new products: producing more for less — adding quality and quantity.

This project receives support from FAPEMIG A Research Foundation of the State Government of Minas Gerais, which is connected to the Ministry of Science and Technology.

In conclusion, in order to achieve the expected permanent results, it is necessary to invest in the qualification and training of the community, enabling access to instructors and tutors in the area, conducting a detailed research in the potential consuming market — considering the creative wealth of the local community.

Key words:

Design, sustainability, Jequitinhonha Valley, strategic design

Sustainable Development

“sustainable development ... development that "meets the needs of the present without compromising the ability of future generations to meet their own needs."

(Brundtland Commission, 1987)

After centuries of misuse of our environment, as a solution for today's major concerns — climate changes, misery and massive residue — we often hear about sustainability as a new way of life and development.

Sustainability main focus is to make the best of human economic systems and have less impact on ecological systems resources. It is also used for analyzing and managing human activities, especially as they relate to nature, resources, and development – environmental protection.

For a sustainable development, the challenge is to inspire and motivate public and private organizations to grow with a bigger knowledge of responsibility with the help of technology willing to improve our quality of life.

Human development is about to create an environment in which people can develop their full potential and lead productive, creative lives according to their needs and interests. People are the real wealth of nations.

Sustainable Design

As we know, it is fundamental to have an ecological consciousness, and having solution such as sustainable design, is no longer a simple choice, but a real need.

One of the focuses that Design has is Ecological Design, in which we deal with products, their manufacturing and distribution of its use until disposal. Within this category, there's sustainable

design, which aims to promote sustainability and social inclusion, taking into consideration a region's economy, its environment and its population, generating new jobs and other economic benefits and more socially fairness, without destroying the local culture.

According to ULLMAN (2003), projects related to sustainability have four conceptual basis: for the establishment of the balance between the natural and artificial quotas that surround us are required simultaneous actions, aimed, in addition, the development of renewable sources of production, new products, the processing of goods in services and new scenarios of behavior GRUNOW (2007).

Jequitinhonha Valley

The Jequitinhonha Valley is located in the northern part of the state of Minas Gerais, it is where the Jequitinhonha river flows through . It occupies an area of more than 85 thousand km² where almost 1(one) million people live, distributed in about 80 cities. With an HDI around 0,56 it is considered one of the poorest regions of Brazil as well as of the world.

Most of the land is arid being and is regularly damaged by droughts and floods. What also contributed to the degradation of the region was the predatory activity of the mining and extraction of diamonds (WANDECK, 2002). Around three fourths of its population lives in a rural area practicing rudimentary agriculture and livestock. Even though through out the state of Minas Gerais the average percentage of the unlettered people is about 12%, in some cities of the Jequitinhonha Valley, almost half of the population (45%) suffer among other things, with lack of knowledge. (DOMINGOS, 2004).

"In Vale do Jequitinhonha, there is social inequality, a weak health infrastructure and the population is through the ineffectiveness of shares of health... "

Eriedna Barbosa, the MSF nurse who served in the flood of Vale do Jequitinhonha.

According to OLIVEIRA(2006), in Jequitinhonha Valley people reinvented life, moved by the need and their creativity. Its secular cultural expressions and craft reach, nowadays, an international projection. The main products are ceramic, baskets, wood, leather and embroidery. They also have lots of traditional dances such as the “Festival of Kings”, ‘the Suit of Shepard’.

Considering the importance of the preservation of cultural property as an strategic action to prevent the extinction of cities, there are great opportunities for the socio-economic region. It brings true value to the cultural roots at the same time that it contributes to increase tourism and the generation of business.

Projects’ Analysis

"The basic purpose of development is to enlarge people's choices. In principle, these choices can be infinite and can change over time. People often value achievements that do not show up at all, or not immediately, in income or growth figures: greater access to knowledge, better nutrition and health services, more secure livelihoods, security against crime and physical violence, satisfying leisure hours, political and cultural freedoms and sense of participation in community activities. The objective of development is to create an enabling environment for people to enjoy long, healthy and creative lives."

*(Mahbub ul Haq,)
Founder of the Human Development Report*

The misery in the Valley of Jequitinhonha is well known, and therefore it has been the theme, through out the years, of all kinds of projects and analysis, usually associated with the active participation of the community.

"Allocate resources in a single activity or geographical area does not multiply benefits and does not always solve the local problem," evaluates Roberto Nascimento, one of the professors of UFMG that works on the project *Polo Jequitinhonha*. A program that has been developed through activities of extension, research and teaching, is celebrating ten years of existence is the Pole Integration of UFMG (Federal University of the State of Minas Gerais) in the Jequitinhonha, it is a big social project that receives thousands of inhabitants of the region through 73 projects - of

culture, education, generation of employment and income, environmental, health and regional development. (VIEIRA,2006)

Another major project has been developed by SEBRAE with total support from the government of the State of Minas Gerais. At first they developed a research and rescue of the culture. Based on what they discovered and saw as true values and needs, they decided to start some projects there, such as handcraft – ceramics, baskets- and new designed furniture do be produced by the Local Arrangement Companies, hopping to improve local social and economic situation.

SEBRAE, being an institution, which goal is to support and help micro and small companies, prepared the population with lectures about economy values, enterprising and design – what they are? And how useful it can be?

The population has demonstrated the desire to remain in the region, preserve traditions and cultural activities. "The government proposals, developed only in the offices, are perverse to the Valley because they do not have identification with the local population," confirms Marizinha. She notes that the attitude of ignoring the evaluation of jequitinhonhenses on the reality of the region is recipe for failure. "Major projects were implemented, but left more memories in the Valley." (VIEIRA,2006)

Why then a New proposal since so much has been done?

New Proposal

"The industrial design ... has innovation as one of its main values. Taking that approach to communities interested in the market ethical and solidarity of the designer requires new qualities and greatest care ... "

(Christian Ullmann, 2003).

Design is an activity that aims to establish different qualities to objects, services and systems in its complete cycles of life. Therefore, design is one of the main factors for the humanization of

technology innovation, adding functional, creative, artistic, ergonomic, expressive and practical factors; it is about matching the needs of the user, so essential for the culture and economics.

The design has gained prominence through the marketing as a tool for sales, but we must also highlight its part sustainable and their important role in the planning of a future more responsible and committed to the environment and the society.

However, the socio-economic-environmental reality in Brazil has a lack of balance and justice on the people living in general. According to ULLMAN (2003), a solution to this inequality would be "the exploitation of natural resources, culture and the technical craft of each region, employing a minimum of technological resources needed to make the bridge with new consumer markets", which result the strengthening of the market for EU products. The author also notes that "some of the most important are the recognition, qualification and enhancement of traditional knowledge, so to get a fair price to the consumer and a fair remuneration of the community as well as the designer himself."

Therefore, the design would be an important factor that could contribute to the increase in the economic and social development of traditional communities. Designers see a problem as a situation to be resolved through a sequential process, obtaining results sometimes original, sometimes predictable and seek to transform the problem into a beneficial solution and appropriate for each situation. Since there is no single answer, the professional responsibility to do our best to find a solution most appropriate for each context. Both the simplicity of daily life of the community as the observation and exploitation of its legitimate features are the key to the creative process of their local production. However, the work of creating and, to some extent, the processing of the products of a community should not be done only by designers alone, but by a multidisciplinary group enabling artisans, not only for activities geared to the production of objects, but also the logistics and marketing.

Conclusion

In order to achieve the expected permanent results, it is necessary to invest in the qualification and training of the community, enabling access to instructors and tutors in the area, conducting a detailed research in the potential consuming market — considering the creative wealth of the local community and respecting the local culture and traditions.

This project is just beginning. We aim to create sustainable development. To achieve our goal we know that we will need to do some follow up, because it takes time to change habits. People need to understand more of negotiation, business, logistics, standards, etc. and respecting their culture and techniques continue to innovate in order to please customers all over the world.

Working with these communities is a learning process for both teams, us and the locals. It is a very pleasant experience and we hope to help improving gradually but surely the HDI of the Jequitinhonha Valley.

References

ENGLER, R. C. **Le Management participative**: Influence de la culture pour la conception d'une méthode d'évaluation. Paris: Ecole Centrale Paris, 1993. V.1.

KRUCKEN, L. COSTA, M.D., BOLZAN, A. **A Gestão do conhecimento aplicada ao desenvolvimento de novos produtos**. Revista Inteligência Empresarial, Edição Especial Gestão do Conhecimento e Inteligência: Oportunidades e desafios para o setor produtivo brasileiro, v.12 julho de 2002. P. 48 – 56.

MOURA, A. **A Tradição do fazer do Jequitinhonha**. Resgate Cultural dos vales e dos Rios – Jequitinhonha e São Francisco. SEBRAE/MG, Cidadania, 2006.

ULLMAN, C. **Para um design solidário**. Fundação Frederich Ebert/ ILDES. São Paulo: 2003.

VALE DO JEQUITINHONHA-MG - **ARTE POPULAR**- research developed by Renato Wandeck about Ceramica no Rio – information available at the Internet <http://www.ceramicanorio.com/artepopular/valedojequitinhonha/valejequitinhonha.htm>.

September 2007.

OLIVEIRA, Luiz Carlos Dias. **Tradições e Oportunidades , resgate Cultural dos vales e dos Rios – Jequitinhonha e São Francisco**. SEBRAE/MG, Cidadania,2006. pg.24

HAG, Mahbub ul, - Founder of the Human Development Report- **HUMAN DEVELOPMENT REPORTS** - information available at the Internet <http://hdr.undp.org/en/humandev.->. [March 2008](#).

Sustainability - information available at the Internet <http://en.wikipedia.org/wiki/Sustainability>
March 2008.

KERMATH, Brian – **SUSTAINABILITY** – What it is Sustainability & how to get there? -
information available at the Internet
http://www.uwsp.edu/cnr/GEM/ambassador/What_is_sustainability.htm . March 2008.

GRUNOW, Evelise. Design sustentável – **PROJETODESIGN**. Edição 332 Outubro de 2007.

DOMINGOS, Marina. Região pobre de Minas Gerais recebe programa de alfabetização.
PORTAL DA CIDADANIA– information available at the Internet
http://www.uwsp.edu/cnr/GEM/ambassador/What_is_sustainability.htm. March 2008.

VIEIRA, Ana Maria. **Vale do Jequitinhonha aponta os seus rumos**. Boletim Informativo
UFMG. Nº1538- Ano 32, 06.07.2006

POLO JEQUITINHONHA – Programa Polo de Integração da UFMG no Vale do
Jequitinhonha– information available at the Internet– [information available at the Internet-](http://www.uwsp.edu/cnr/GEM/ambassador/What_is_sustainability.htm)
http://www.uwsp.edu/cnr/GEM/ambassador/What_is_sustainability.htm. March 2008.

Acknowledgement

The authors express their gratitude to the FAPEMIG for its support to the research, CNPq -
Ministry of Science and Technology of Brazil, , and UEMG.

RITA DE CASTRO ENGLER

Pos-doctoral studies in Design at UEMG, Docteur de l'Ecole Centrale Paris in Industrial
Engineering and Technology Innovation Management, MSc in Industrial Engineering at -PUC/RJ
and Bachelor in Civil Engineering at UFMG. Has created and coordinated for 6 years the
Leadership Center from BSP- Business School São Paulo. She was also the coordinator of the
MSc Program in Technology at CEFET/RJ, for 3 years. Actually is researcher at UEMG (State
University of Minas Gerais), professor in MBA Program of UNA and work as consultant in
Service Design and Work Organization in several Brazilian and foreign companies and institutes.

LIA KRUCKEN

Pos doctoral studies in Design at UEMG, PhD in Production Engineering at Universidade Federal de Santa Catarina, with a PhD internship at the Department of Industrial Design, Communication and Fashion at Politecnico di Milano. Master's in Production Engineering and BSc in Food Engineering. At present, she is researcher at Design the School of Universidade Estadual de Minas Gerais, Brazil, and collaborates with the research unit DIS - Design and Innovation for Sustainability, at the INDACO Department of Politecnico di Milano, Italy, and the ID+ Institute of Research in Design, Media and Culture at Aveiro University, Portugal. She is consultant for several research and business projects with Brazilian and foreign companies and institutes.