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In the past years there has been crescent global awareness on issues of sustainability. Many social and ecological movements were created in response to the sense of global crisis and the need for a sustainable future. One such movement was Permaculture. Permaculture is a recognised path to sustainable culture which was created by Right Livelihood award winner, Bill Mollison. Permaculture stands for *permanent culture*. It is a design system for creating productive, sustainable human communities by which we can exist in such a way that we don't continually erode our future on earth. This holistic design system works with nature, rather than against, through imitating natural processes, using wisdom of traditional and indigenous survival systems and modern scientific technological knowledge to create permanent and abundant communities. Permaculture ethics is defined by Mollison (1988:8) as caring for the Earth, caring for all species and sharing the surplus. The founder, through a series of lectures and intensive educational courses brought the movement of Permaculture to Brazil in 1990. This case study presents the undergoing of a permaculture ecological centre in Brazil as an experience on influencing people and environmental policies, educating and demonstrating the possibilities of a localised sustainable model.

Brazil is a country characterised by its contrasts and diversity. With a territory spanning almost half of the South American continent, the largest fresh water catchments in the world and some of the largest concentrations of biodiversity, the country is perceived 'in the world's eyes as a traditional 'bank' of natural resources (Camara and Santos, 2002). This international perception is further manifested by the country's history, which is riddled with attempts by foreign powers to control its natural resources (Colby and Dennett, 1995). Brazilian population totals around 170 million, and it is as diverse as the environment, particularly regarding the ethnic origins. Over the last 60 years the country has experienced fast reversal of land use trends, with the urban population jumping from 20% in 1950 to more than 80% in 2000 (Camara and Santos: 2002). These 'newly urbanised' people display some of the attitudes typical of the 'frontier mentality, as mentioned by Thiele (1999: 4) when describing past century worldviews of early American settlers. For many in Brazil, the rivers, the forests and the soils will never reduce thus all resources are available for exploitation. This sense of impatience and discrepancy between everyday life and the urgent need for cultural change is coupled with incoherence between the country's laws and the practiced customs. On paper, Brazil has one of the world's best sets of environmental legislation, but it has become one of the world's environmental disaster areas nonetheless (Shankland 1992). This contrast is reinforced by the bold proportion of these natural resources present in the country, such as almost half of all major rivers in the world. As demonstrated in their recently published report, Camara and Santos (2002: 23) agree that some danger signs are clear about the consequences of fast industrial development, internationalist capitalism, debt and a succession of military and neo-liberal governments. Modernity has put some of the most significant treasures of the natural world under serious threat. As complex as the environment and the population may be, the need for examples of practical solutions to revert this trend is a demand shared by several sectors of Brazilian society.

The complexities of Brazilian ecological and political realities call for truly innovative approaches to social and environmental education. There is a need for concrete application of new technological models that could meet basic human requirements for a valuable existence (Freire: 1992). Further, there is a public demand for solutions to the crisis of inappropriate agricultural practices, unjust distribution of land and shortage of appropriate technologies to supply the basic human needs (Freire 1992). Permaculture groups based throughout Brazil decided to take on the challenge by creating demonstration centres where communities and government could access information and innovations on sustainable practices. Strategies for broadscale impact on these issues began with the choice of a location for a centre and spanned to a nation-wide educational effort. The core group was formed by a small number of Permaculture graduates that concentrated on developing a reference centre for the tropical

rainforest in Manaus. This group organised a number of 'seeding' courses throughout Brazil. With funds from United Nations Development Fund - UNDP, one member of this core group trained more than 2000 "recruits" in permaculture, according to the syllabus proposed by Mollison (1988: 2). From this initial group of trainees a momentum was gathered to start the development of other centres as a strategy for five major ecosystems in the country. The overall plan required that each major ecosystem be equipped with practical examples of land and water care, natural architecture, renewable energies and community organisation. One such centre was the *Instituto de Permacultura e Ecovilas do Cerrado* (IPEC) situated in Pirenópolis, a world heritage town in the state of Goiás in the heart of Brazil. This centre was later nicknamed Ecocentre IPEC.

### **Ecocentres as Models for Change**

Ecocentre IPEC was strategically located at 160 kilometres from Brasília, the capital of Brazil. The town is a popular weekend tourist destination for politicians and policy makers working in the nearby Capital District. It seemed like the ideal place to educate bureaucrats whilst demonstrating the viability of a sustainable model to the general public (Board meeting minutes, 1998:2). According to the mission statement, IPEC was founded in July 1998 to support sustainable lifestyles on a local level from a global perspective. Henceforth, programs were designed to inspire the desire for cultural change with practical examples, educate with appropriate and complete information and to demonstrate the viability of sustainable systems with a series of practical solutions for the common problems in the modern Brazilian society. Fien and Whelan (2001) state that environmental education programs need to do more than raise awareness. Whelan (2002) further suggests that education require guidelines, examples and models, as well as the practice of new skills and competencies. The methodologies used at the Ecocentre were based on an experiential learning model through volunteers sharing knowledge, skills and practical investigation. In time, an educational model program was formed. Economic and environmental sustainability was pursued through educational efforts.

The importance of ecocentres as catalysts for change, serving as educational hubs for technological development and social organisation is well demonstrated by the widely successful experience of the Centre for Alternative Technology (CAT), in Wales ([www.cat.org.uk](http://www.cat.org.uk)). CAT's achievements reach far and wide, such as the astounding number of more than 100 thousand visitors a year, including many schools, and the participation of CAT's consultancy team on several European planning committees. A number of other initiatives in Europe, Australia and the United States have characterised a wave of new environmental demonstration centres (Pietrasanta: 2003). Such centres have the potential to mobilise efforts and multiply models for sustainable living. They can support full-scale test sites for sustainable, scientific and economic development, contributing in a practical way to address the environmental and developmental challenges of this century (Pietrasanta: 2003). In the context of Brazilian modern society, particularly within the observed social groups that are part of IPEC's sphere of interaction, one may notice a concealed demand for models of social and environmental synthesis. Such models could be emulated in the construction of ecocentres. IPEC's board members agree that original inspiration was on early models such as CAT (Board meeting minutes, 2000:3). In Brazil, an ecocentre with a practical framework could contribute to galvanise a number of scattered projects operating in the country.

The Permaculture model offered the framework for development within IPEC's programs. According to Mollison (1988: 4) Permaculture is a design strategy for the establishment of cultivated ecosystems, integrating plants, animals and technologies within a self perpetuating system providing its own need's and those of the people in it. IPEC's founders looked towards the permaculture methodology for guidance. Henceforth, the establishment of reference systems for basic human necessities reflected this design strategy. The permaculture philosophy also provided an ethical base to remain on target, and this is an issue regularly debated by IPEC's management team. From this moral base, priorities were set from the start, and moved into applying design principles for cultivated ecosystems, integrating human and environmental needs and outputs. Corresponding, a strategy of popular education based on empowerment could set the scene to foster change towards a sustainable praxis in the Brazilian culture.

## Outcomes and lasting changes

Today IPEC is organised in a number of programs that denote its complexity and far reaching possibilities. Through dissemination of information, IPEC has achieved some outstanding results that are now adding to the national context of actual progressive changes. Some sectors of the Brazilian government are now promoting a concerted effort to replicate IPEC's strategies in other regions. The Ecocentre has a visitor's program, receiving up to five thousand people a year. The centre demonstrates the viability of some well-adapted technologies such as the tropical composting toilet, which is being reproduced as a reputable solution for rural communities in drought affected areas. Other solutions are being implemented on a regional scale, such as the rainwater capture systems and a homemade model of solar water heater.

The educational program is currently known as *Ecoversidade* or *Ecoversity*. This program has appeared on government agenda as a consequence of the success with UN sponsored first year courses. Popular education is now a leading strategy implemented at the centre. A calendar of courses and events is organised annually. Programs are designed to feedback on individual's own interpretation of reality and applied on practical experimentation. The intent is to offer the opportunity for personal empowerment, in a sense of unlocking one's own power to understand and to act. (Bobo, Kendall and Max 2001 & Freire 2001). IPEC's educational strategy can be seen as the embodiment of Freire's theory of education for autonomy (Freire: 2001). The method of inter-cultural communication is based on a community oriented movement called the constructivist approach. *Conscientisation* means action based on critical reflection. This method is open and dialogic (Scheper - Hughes 1992). More specifically, the strategy is to offer opportunities for disadvantaged people to reflect upon their place in the wider social system, realise the structures of oppression that may be present and build these problems into solutions. The issues are understood from many viewpoints. Solutions are sought and built into the premise of practical sustainability. Henceforth, many courses at the centre are consequences of demands expressed by the target population. As such, courses seek to offer a possible bridge between education and advocacy (Whelan: 2002), preparing students to act, with appropriate skills and understanding their roles and power to change themselves and their surroundings. Education also takes place within the internship program. IPEC hosts people from all regions of Brazil, attempting a 'mentor model' (Whelan: 2002). Mentors direct learning through experiential participation in environmental regenerative work.

The *Ecovilas* program is the communitarian arm of IPEC. This demonstrates how the involvement of the greater community of approximately ninety families can result in economic and environmental benefits. The concept of Ecovillage ([www.ecovillages.org](http://www.ecovillages.org)) is aligned to progress at the centre. This aspect of IPEC's work is best described by Norberg-Hodge (1996:2). Rather than educating the young for ever-greater specialisation in a competitive, 'jobless growth' economy, people seek to equip their children with the knowledge and skills for a diversified economy that depends primarily - though not exclusively - on local resources.

Other strategies recently developed by IPEC include a publications department that organises and distributes a national Permaculture magazine - *Permacultura Brasil*. The magazine includes the translated works of Bill Mollison and more recently published works of Latin American activists. Latest developments have demonstrated the commitment of IPEC to be adapted in a variety of settings. For instance, a soon to be published work by a team member presents permaculture as a viable strategy to be applied in primary schools to foster participation on community food production. This early tactics found sounding support once the new national government was in place. IPEC now is part of a task force designed to implement the concept of school habitat and community gardens in a massive program to reach more than two hundred thousand schools in the country.

Consequentially, demands are rising for IPEC to present profile to national and international audiences as it was at the 'Bioneers conference' held in San Francisco - USA (2002) and 'Build Here Now' gathering in Taos -USA (2001). As a reformer agent IPEC's representatives participate in many local and national committees. The centre appears to influence on a personal and non-threatening level, as it was demonstrated on a recent convention promoted

by the national agricultural research organisation - EMBRAPA (2003). Here IPEC was publicly acknowledged as a model of sustainable land use in the Cerrado ecosystem.

Considering IPEC's location, the opportunity was well seized to effect an impact as an ecological model for grassroots application at 'arm's reach' of policy makers. As a revolutionary educational program, IPEC appears to be fulfilling its mission. Coover, Deacon, Esser and Moore (1977:143) state that revolutionary education should expose contradictions so that people can reflect and act upon them. The number of people with attendance in the courses and events has been growing steadily since its foundation. Also one can notice a growing reflection from a 'students' activism' into the wider sphere of NGO's activity, with reports and media accounts of ex-graduates achievements. The Brazilian political scene appears to be well supplied with professional reformists advocating democratic pragmatism (Dryzek, 1997). In this country, the results of this good work can be sound policies that sometimes meet no model or are not effectively implemented (Shankland: 1992). As a predictable result, some good policies remain only on paper until enough momentum is gathered to test them in the practical field. One positive reform was the implementation of a national law for certification of organic produce, which IPEC was instrumental to its design. The expectation that policy makers would come informally to test new ideas about to be included in federal policy is being fulfilled. Indeed many national government officers visit the Ecocentre, and new progressive changes are a growing reality. Implementation of these new policies can be checked around IPEC's neighbourhood, such as a larger number cooperative business and further efforts of conservation.

### **Looking to the future**

There is a clear reality of infrastructure limitations on services and resources. As some observers understood it, the new political climate that was in the making some years ago was characterised by growing popular support to a truly representative government. This generated ripening conditions for the authentic inclusion of public participation in the planning of developmental strategies to be adopted in the country (Shankland, 1992). IPEC's experience was built over the enormous diversity of cultural expressions and biology akin to this tropical country. Obstacles are real and the will to overcome them appears to be parallel. IPEC's attempts to meet the challenges of a sustainable future are still in their infancy, as the organisation recently completed four years of formal existence. However, its results appear to reverberate well into the governmental and private debate about environmental policy and educational practices.

In the visitor's policy and through observations one can notice IPEC's role as a change catalyst, born from the intention to dialogue with the wider community. There is an intense traffic of neighbours and associated organisations. IPEC's team enjoys a high level of confidence on decision-making exercises in the community. Many of the technologies are multiplied in the region. It appears that staff, volunteers and students use a "hard on the problem, soft on the person" approach suggested by Peavey (1986:57). This characteristic could be more a reflection of a national culture of 'gentle empathy' than the specific result of particular training. To date there are no accounts of any formal training on listening skills or strategic forms of dialogue (Peavey, 1995). However, the choice of an educational approach is central to the overall strategy to sensitise the general public and reactions have been largely positive.

Regarding a national orchestrated expression through a network of sustainable models, the Brazilian permaculture scene is not unlike that in Australia, where personalities tend to dominate the quest for air space. In strategic meetings and informal gatherings at the Ecocentre one may notice the general perception of the team about the struggles and difficulties. Most concerns and internal jokes appear to reinforce the warning dispensed by Peavey (1986: 55) that opposition and even bitter fighting often comes from factions of the same movement. This seems to be partially resolved by a shrugging of shoulders and further commitment to grassroots action in preponderance to theoretical discussions. Apparently some key team members are well aware of the importance of IPEC's proposed models and its timely placement in the national context.

The Ecocentre IPEC is increasingly more visible in the radars of political decision and public awareness. As a social movement, permaculture in Brazil shows some characteristics of a 'take off' stage, with several voices of support appearing from unlikely sources (Moyer: 2001). However, within the core group some perceptions of failure surface at times, and these could indicate progress or confusion. Perhaps the constant demands of an intense schedule oblige the centre to focus in its immediate and localised action, somehow neglecting the necessary follow up with graduates and visitors. An extension program to follow up on ex-students achievements could open new avenues for scrutiny of results, offering more possibilities to evaluate outreach capabilities. Complementary to available formal educational opportunities, the Ecoversidade program is offering a popular pedagogical model with real life examples. The visitors leave satisfied and often come back. Most students judge the experience as an invaluable resource, contributing to community empowerment and participation. The educational model appears to meet some essential requisites for an innovative program, such as a realistic curriculum that emerges from daily life and a methodology focused on collective experience (Whelan: 2002). The innovative style of merging educational programs with localised technological models and ongoing community participation within one accessible and widely visible place may prove in time to be a successful approach to cultural renovation.

### **Conclusion**

In spite of rampant urban sprawl, deforestation and pollution, Brazil still remains guardian to some of the largest ecological treasures of the world. The country's progressive laws are increasingly mismatched by cultural practices (Camara and Santos 2002). One sees that a national culture does not change as fast as the country's laws. Dramatic political changes have occurred in Brazil and a popularly elected president with a vast majority vote has been forecasted in the social media over the last few years. It was predicted that if the Workers Party was successful, as it was in 2002, this could be a major breakthrough for locally controlled community development in Latin America (Altrows 1989). In light of those forecasts, IPEC has been preparing to undertake its change agent role as a model for possible reproduction on larger scale. The current state of national affairs points to potentialities in local development aided by a newly elected progressive government (Shankland 1992). From a defined set of principles and ethics IPEC was formed as part of a strategy to model appropriate development and technologies. In this context one may see the possibility for a model that could function as reference for appropriate development. The audacious sustainable work strategy was to teach and learn by doing. The organisation's prolific allies span from national policy makers to children and international foundations. IPEC provides a rough model that, once well groomed, could operate coherently and help in the shaping of a viable future.

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