



INVESTIGACIÓN

Global Warming and Mobilization for Consumer Awareness in Brazilian Higher Education Institutions

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Abstract

Global warming is a consequence of human action which unbalances natural cycles and endangers human life on the planet. Economic, social and cultural changes are urgently needed to address the problem. In particular, unconscious and predatory consumer patterns must be limited, because many greenhouse gas emissions come from the production, use and disposal of consumer items. Higher Education Institutions exert a certain influence on social behavior, and could contribute to raise the awareness of Brazilian society through the implementation of special programs. FOREXP-Extension forum of private higher education institutions- proposes a national movement to promote the Internal Program for Responsible Consumers (IPRC), which has already produced tangible results, as a source of inspiration. The purpose of this paper is to present a study on consumer patterns and the ensuing mobilization against global warming, as well as to present data from the IPRC developed by Unifacs, a private university in Bahia, in conjunction with REDE, a nongovernmental organization.

Keywords: Global warming, Continuing education programs, responsible consumer patterns

Resumen

El calentamiento global es un fenómeno de la actividad humana que genera un desequilibrio en los ciclos naturales y pone en riesgo la vida humana en el planeta. Con objeto de contrarrestar este fenómeno se necesitan cambios económicos, sociales y culturales. Uno de estos cambios es limitar el consumo predatorio e inconsciente, pues la produc-

ción, uso y desecho de estos artículos produce algunos de los gases que provocan el calentamiento global. Las instituciones de educación superior pueden servir de ejemplo para crear conciencia entre la sociedad brasileña, ya que es un estrato social con gran influencia sobre las masas. El Foro de Extensión de las instituciones privadas de Educación Superior (Forexp), propone un movimiento nacional en torno a este tema, para promover el Programa Interno del Consumidor Responsable (PICR), el cual, a través de sus propios resultados concretos, puede llegar a ser como fuente de inspiración. Los objetivos de este artículo son presentar el estudio sobre los patrones de consumo y el movimiento para contrarrestar el calentamiento global, así como presentar datos del PICR, desarrollado por la Unifacs, una universidad privada con sede en la ciudad de Bahía, junto con la ONG REDE.

Palabras clave: calentamiento global, extensión universitaria, consumo responsable

Since January 2007 with the publication of the fourth report of IPCC (Intergovernmental Panel on Climate Change) we were left with no doubt that the increase in the temperature of the planet by 0.8 degrees in recent decades was a result of human action.¹ The view of two thousand and five hundred researchers from 193 countries who comprise the IPCC agreed that if urgent measures are not taken, the changes already observed (melting of polar ice caps, increased number of hurri-

canes, more frequent and severe droughts and floods, atypical temperatures in summer and winter, increasing sea level, etc.) will make human life on earth increasingly unviable.

There is a consensus in the publications of respected institutions that deal with the environmental issues, such as World Watch Institute, Greenpeace, or the *Instituto Akatu*, among others, that profound behavioral changes in society will be necessary to address the current challenges. History teaches us that generally changes in ways of life begin with changes in behavior arising from opinion-formers, such as people working and studying at Higher Education Institutions. In view of reaching this huge audience of students, educators and staff, the Forum of Private Extension of private IES - Forexp, set a priority action in the coming years of a broad national campaign to avoid generating waste on daily basis.² This campaign aims to raise awareness and impart conscious practices of consumption within colleges and universities as this audience has the power to be a multiplier in the behavior of consumption in society.

The initial model of the FOREXP program was developed at University Salvador – Unifacs, in Bahia, where the environmental aspect of its Citizen Engagement Program is called “Internal Consumer Awareness Program”. This program won a Top Social Award in 2007 and this article is based on the methodology and results obtained at Unifacs since 2006. This model is being discussed in meetings with

¹ IPCC. The Fourth Assessment Report (AR4), 2007.

² Nunes, Débora. Aquecimento Global e Consumo Consciente nas Instituições de Ensino Superior Brasileiras. revista *Diálogos*, núm. 10, Universidade Católica de Brasília, 2009.

institutions all over the country and aims to encourage them to enter the national mobilization in an attempt to assume social and environmental responsibility of higher education and be an example to Brazilian society.

However, before starting with a more detailed report of our data, the issues of consumption and global warming as a way of framing the debate around a broader approach will be addressed. Moving from a catastrophic vision –a tragedy which seems inevitable– to a realistic view, which understands the most profound mechanisms of what is going on with the planet is necessary, given the immensity of the problem.³ When there is little data and little understanding of facts, some people become paralyzed by ignorance and fear, others by the fear of the unknown or the immensity of the problem. Understanding the problems and possible actions to take is the most sensible way to be prepared to face them.

The matter of consumption

Consumption is one of the most natural and oldest human activities. We understand the verb consuming as the act of incorporating into the body or everyday life, objects and services that come from outside. For example the wearing of clothes is an act of consumption of an object used since primitive times. Another example is the employing of services of experts such as ancient Egyptian priests

or *pajés* of indigenous Brazilian tribes, i.e. remote consumption from the beginning of human civilization.

The act of consumption was not always linked to payment, direct exchange or barter. It was not a common practice in the early days of civilization. While all members of Mesopotamian or pre-Columbian civilizations, for example, wore more or less the same clothes, the leaders had different clothes and accessories, which distinguished them symbolically.⁴ Consumption was linked to basic needs, on the one hand and on the other the symbolic logic of differentiation of very few individuals with very few objects and privileges related to the functions performed by them in the community.

Throughout history consumption has differed according to categories of power and the wealth of individuals and human groups. Social differentiation has become increasingly tied to property, particularly land, and thus gradually symbolic consumption, usually luxury objects and privileged positions began to be available to people who could pay for it, not only those who had power. These rich families, thus, consumed the best products made by craftsmen, while other families made their objects themselves, or exchanged objects like glasses, furniture or clothes, with neighbors or at fairs. These handmade goods made from natural materials, were personalized, took a long time to make and lasted well. For millennia the pattern of consumption was: a minority con-

³ Sachs, Ignacy. A terceira grande transição: da era petrolífera para a biocivilização. Envolverde/IPS, 2008. Available on www.edco2.com.br/artigos_02.php?id=20; Baranski, Laurence e Robin, Jacques. *L'Urgence de la Métamorphose*, Paris: Edição Des Idées et des Hommes, Collection Convictions Croisées, 2007.

⁴ Bairoch, Paul. *De Jerico a Mexico*. Mexico. Trillas. 1990.

sumed sophisticated products in material and quality on a small-scale, while most consumed strictly simple objects made by hand,⁵ with little environmental impact.

Technological development, which accelerated after the Industrial Revolution, further restructured consumption with technical sophistication. Before this status was linked mainly to the materials from which the object was made (for example, linen for the poor and silk clothes for the rich) as well as the technical quality of the craftsman. Now the technological innovation intrinsic to the object became a way for people who could afford it to consume differently. A clock made by the best craftsman using the best material and the latest technology was accessible to the few who could pay.

With the Industrial Revolution mass production and consumption appeared. By making the cost of objects affordable and with jobs for many, industrialization increased the availability and accessibility of these objects to a growing number of families and individuals. Industry therefore started to produce on a large scale identical items such as glasses and metal cups. Industrially manufactured goods would be seen in home of people with the same income. In this same period the population boom began due to improvements in health, sanitation etc. There was thus mass production and mass consumption and the conflict between production and environment started to emerge: the regenerative capacity of ecosystems faced with human activity begins to decline.

What the twentieth century witnessed was increasing consumption of objects by a growing number of people, the so-called ‘consumer society’.⁶ This coincides with the consolidation of a middle class, composed mainly of top-level professionals or skilled workers with wages higher than those of the working class, able to consume increasing quantities of goods. Competition inherent in capitalist society also led to continuous technological innovation, resulting in products becoming more varied and sophisticated.

In the term ‘consumer society’ there is also an in-built exacerbated symbolism of the objects acquired, especially from the second half of the twentieth century. What used to be an activity primarily linked to need obtained an increasingly symbolic connotation, and in many cases today the symbolism is more important than the utilitarian original function of the item of consumption. This has afforded growing power to marketing which provides the symbolic links that drive further consumption. A particularity of the dominant mode of production is called “planned obsolescence”, which ensures that a product has limited durability and needs replacing after a short time. Computers and cell phones are clear examples of this. Likewise “symbolic obsolescence” has also been introduced where a product in good condition is no longer used because it is seen as outdated i.e. out of fashion.⁷ Planned and symbolic obsolescence are inherent in the capitalist mode of production. They are prominent examples

⁵ Huberman, Leo. *História da Riqueza do Homem*. Rio de Janeiro: Editora Guanabara, 1986.

⁶ Baudrillard, Jean. *A Sociedade de Consumo*. São Paulo: Civilização Brasileira, 2007

⁷ Leonard, Anne. *A História das Coisas*. Documentário produzido pelo Free Range Studios, 2005. Available on www.portalcab.com/solidariedade/meioambiente/historia-das-coisas.php - 26k -

of an innate irrationality in an economic-social system that shapes the society in which we live. The citizen who consumes uncritically perpetuates this system.

Affordable products, planned obsolescence and the symbolic function of consumption are some bases of the consumer society. This has become a challenge for humanity: we harvest raw materials and energy to create objects which are quickly discarded creating further pollution, threatening the already precarious stability of the environment. Today we know that since the mid-eighties, the world no longer has the ability to repair itself and maintain the Earth's regulated climate.⁸ The climatic events of recent years show the effects of this. It is clear that ongoing devastating climate changes are, ultimately, due to the current mode of production and consumption in force on the planet.⁹

However, we should remember that the consumption of poor people is very different from the consumption of the rich. While the poor spend most of their resources on food and basic living expenses, they generate less waste and less garbage. The rich people though few, generally consume more and more wastefully discarding much more than the poor, who are much more numerous. This applies to people as well as countries. The U.S. population is a negative example: They represent 5% of the world's population, but consume 35% of the world's

energy and produces around one third of its waste.¹⁰

Conscious consumption means being aware of the effect that this act has on the environment and on humanity and to understand waste as a sort of "environmental crime". To contribute to the improvement of environmental and social conditions of the planet, the conscious consumer identifies his/her minimum consumption, enough to live well on and chooses products which are environmentally and socially correct, giving priority to recycling, reuse and sharing of goods. A simple example in a tropical country is illustrative: drinking coconut water instead of a soda is good for your health, gives resources to the local economy and avoids industrial processing, plastic packaging, etc.

Looking critically at today's consumption patterns, the consequences of each person's consumption construct the future of everybody. This issue is exemplified by the hummingbird fable: the bird takes as much water in his beak as he can carry to extinguish the fire in the forest, doing what is in his power to contribute to solve the problem. The concept of 'ecological footprint' was created to measure our impact in terms of energy and raw materials that every human being, every institution, or the whole population consumes and leaves as a mark on the planet like a sign of existence.¹¹ It is also known as our carbon footprint. If everyone looks at how much they spend on water, electricity

⁸ WWF Brasil, Relatório Planeta Vivo 2006. Editor responsável: Chris Hails. Available on: <http://www.wwf.org.br/informacoes/biblioteca/index.cfm?uNewsID=4420>.

⁹ IPCC, *op.cit.*, 2007

¹⁰ Huberman, Leo, *op.cit.*, 1986

¹¹ Rees, William e Wackernagel, Mathis. Our Ecological Footprint: Reducing Human Impact on the Earth. Ed: The New Catalyst Bioregional Series, 1995.

and fuel, food, clothing, hygiene products and beauty, paper, etc...they can find opportunities to reduce consumption and therefore reduce their footprint. We can also compensate for our footprint by, for example, planting trees, because of trees have the capacity to absorb CO₂, a gas that is warming the atmosphere.

Patterns of conscious consumption are within the reach of ordinary citizens and can be seen as a lasting habit with progressive effects. Lasting because rarely do people and institutions undergoing a change of consciousness, go back to the same consumption as before. Progressive, because this is a change that can spread from one sector to another in a person's life, and it can also radiates from a person to his/her family, friends and co-workers and so on. Citizens who consume consciously can change the world.

The transformation of the individual's mode of consumption must be accompanied by changes in public policy: for individual conscious consumption to become a collective movement, institutions have to encourage everybody to take part and not overly penalize those who are doing their part. Governments need to massively support producers and consumers to instill the practices of conscious consumption, reuse, recycling, and exchange individual solutions for collective solutions. Improving public transport and implementing selective collection of rubbish are good examples of such policies. Establishing post-consumer legislation requiring companies to be responsible for the durability and

disposal of their products and packaging is another step. Society must put pressure on government to build these alternatives.

The global warming

Global warming refers to the increase in the surface temperature of the earth and sea and particularly the poles, where there has been a three degree increase in recent decades. This is a trend that, experts say, tends to perpetuate and deepen, with various estimates suggesting an increase of up to six degrees on the global average temperature in coming decades, today at around 15° C (WWF Brazil, 2006). This temperature increase is caused by increase greenhouse effect, which is a natural phenomenon of average retention of about 15% of solar radiation reaching the planet, maintaining life on Earth in conditions as we know.¹²

The expansion of greenhouse gases to dangerous levels has been accompanied by the imbalance between production and absorption of greenhouse gases, mainly carbon dioxide (CO₂) and methane (CH₄), causing an increasing concentration of these gases in the atmosphere. These gases are present in the air we breathe. The simplest source of CO₂ is ordinary human exhalation and the expiration of plants at night, while methane is generated by waste gas coming from the degradation of organic matter such as waste fuels, biomass (organic waste, plants), the human and animal flatulence, etc. It turns out that industrial processes,

¹² Oliveira, Gilvan Sampaio de. *Mudanças Climáticas: ensino fundamental e médio*. Brasília: MEC, SEB, MCT, AEB, 2009.

deforestation and car exhausts send tons of greenhouse gases into the atmosphere that can not be fully absorbed by natural mechanisms such as photosynthesis of plants and algae, responsible for “fixing” the carbon necessary for growth. Moreover, the degradation of the marine and terrestrial environment further affects this balance between emission and absorption / fixing, worsening the situation.

This imbalance between sources of emission and absorption of greenhouse gases is causing global warming which is consequence of the *way of life* of human beings. As experts say, the “bio-capacity of carbon sequestration,” present in CO₂, CH₄, among others, has been disrupted by the expansion of emission sources and the reduction of forests and marine organisms that mostly absorb these chemical compounds.¹³

The ongoing discussion about how to proceed to deal with this problem covers many aspects including media attention - given the important position of Brazil on the issue - the replacement of petroleum-based highly polluting fuels to less polluting and renewable bio-fuels such as ethanol and biodiesel¹⁴ to name a few. Mobilization of the general population to take simple measures that can be implemented every day should ensure that lack of awareness and apathy will not delay urgent actions that need to be taken.

The case presented below follows this line in awareness raising in higher education institutions.

The case study: the Internal Program for Consumer Awareness (PICC) at the University Salvador UNIFACS

This University Salvador – UNIFACS, located at Salvador – Bahia – Brazil, was created by professors in 1972 and have today about 10,000 students and 500 teachers. Together with the NGO REDE, the UNIFACS included PICC in its outreach work through the creation of a Monitoring Committee of the program officially recognized by the President of the University. This Commission is composed of educators, staff and students motivated to develop environmental awareness and willing to act voluntarily. In twice weekly meetings, the Commission discussed the structure of the program and immediately went to investigate the consumption of all items used in the daily life of the institution with the support of the administrative sector of the UNIFACS.

One of the first steps to convince the academic community to engage in the program was the negotiation with the management of UNIFACS to assure the commitment that part of the resources saved from behavior changes and the reduction of waste would be used to expand the environmental achievements in the day to day running of the institution. The adhesion of the university community to PICC was certainly influenced by the information that the efforts to change behavior would be used in a series of investments to further

¹³ Rouer, Maximilien e Gouyon, Anne. Réparer la Planète. La révolution de l'économie positive. Paris: Edição Jean Claude Lattès/BeCitizen, 2007.

¹⁴ Nascimento, Elimar Pinheiro do e Vianna Joao Nildo (Organizadores). Dilemas e Desafios do Desenvolvimento Sustentável no Brasil. São Paulo: Editora Garamond, 2007.

reduce consumption and the environmental impact of academic activity.

The PICC Monitoring Committee developed a participatory methodology to follow the savings obtained by UNIFACS. With a support of specialists of environmental, administrative and statistical areas on the teaching staff of the institution, a methodology was created collectively. A second step was the implementation of activities to raise awareness in the academic environment. Among these actions, one of the most important was to mobilize the courses and educators, because they have legitimacy inside the community and particularly among the students. In the case of UNIFACS, undergraduate courses included relevant disciplines which discussed the issue of consumption, to meet every professional challenge. On the psychology course, for example, the causes and psychological consequences of consumerism were examined, on the Advertising course social marketing campaigns around the idea of Consumer Awareness were drawn up and in Civil Engineering raw materials waste on construction sites was examined with a focus on minimization.

Another action that promoted awareness to avoid waste was by gluing stickers scattered around all the buildings, inviting the academic community to reflect on how to consume consciously. The labels were placed permanently in front of switches, valves, monitors, printers, etc., exactly the places where consumption takes place, to remind people to use appliances and other items in the most economical way possible. These labels also helped to popularize the brand of the program.

The mobilization of staff was another important strategy as they control much



Main Label Citizen Commitment Aware Consumption



Social currency the grain

of the consumption. Several meetings and workshops were held with the public to highlight environmental issues, and one of the powerful tools was the exhibition of films such as “An Inconvenient Truth” by Al Gore. The participatory preparation of a booklet named “Consumer Awareness”, where officials discussed in a group what they could do to avoid waste and help reduce the contribution of UNIFACS to the environmental degradation was significant – both to who prepared the booklet and to the public that have used it.

The mobilization of academics and students - and their representative bodies - has been a constant challenge to the Monitoring Committee and the sectors of Extension and marketing of the institution because of the large and widespread number of people involved. One strategy was to incorporate the issue in major annual events of the institution, such as the inaugural class, Environment Day and Social Responsibility Day, organized nationally. The largest of these events, “University Week” has been addressing issues related to the PICC, directly or indirectly since 2006: Global Warming and Con-



Brechó Eco-solidary 2006. Photography: Emerson Sales



Brechó Eco-solidary 2006. Photography: ES

sumer Awareness are notions which we have to grasp the magnitude to make the behavioral changes needed in the coming decades. As a result of this strategy, the support of the Central Directory of Students (DCE) and the Association of Teachers (APFACS) has been growing.

Several other actions were taken, including the distribution of booklets to 5,000 students; ongoing involvement in the biannual discussion events with student leaders, the publication of PICC news-

letters with the participation of students called “Be Aware”; the delivery of 300 glasses for people who work in the offices of the institution to avoid using disposable cups; an agreement with a selective wastepinstitution collected from each office; artistic recycling workshops; uniforms for staff with fabric from recycled PET bottles; a distance course on global warming for students, educators and staff and improvements on its website, adding text on the subject to serve as a source of research and preparation of gifts such as trash-bags for the car and reusable plastic cups to use inside a bag.

A big annual event, Brechó Eco-solidary, which encourages reuse of goods by exchange, has been held successfully since 2006 and demonstrated the way forward for a society seeking to overcome consumerism. Students, educators and staff are invited to exchange unused and unwanted goods in good condition at the institution for a social currency, the “grain”.¹⁵ At this event, people bought what was useful to

¹⁵ A video of the Brechó is available on You Tube: <http://www.youtube.com/watch?v=r9nVphd48zg> (Part I) and <http://www.youtube.com/watch?v=PtseDXZ99ts> (Part II)

them with grains and could also donate the rest to a fund for other cultural and social activities in the same event. Since 2008 the event has been held in public spaces in the city of Salvador, in partnership with several other public, private and community universities as well as NGOs, showing the strength of the idea departing from an academic setting. This year the event will be realized in October, together with an international event named “*Dialogues en Humanité*”¹⁶, showing its increasing importance to the society.

The methodology and the quantitative results of PICC

For better understanding, the methodology of PICC was divided into four stages: The first step is the collection of data of all items consumed at the university. At this stage we found several discrepancies in the data, due to the fact that most items generally are not measured in quantities, only paid. Data on population (students, academics and staff) were collected to calculate of the *per capita* consumption of the items considered. Note that, normally administrative data are not *per capita* however, to identify behavioral changes a comparison of the consumption of the population was required to avoid distortions that would result from the fluctuation of the number of people at the University. During this, methodology construction many different sectors, particularly the administrative and teaching staff were involved.

It quickly became clear that a committee of volunteers supported by the ad-

ministrative sector would not be able to monitor all items of consumption at the University and, after several revisions, the Commission chose the following items to focus on: electricity, water, A4 paper, photocopier toner, paper towels and plastic cups. These items were chosen based on of their financial impact from the unit cost of the product or the amount consumed (i.e. toner and paper towels), the environmental impact caused by pollution in the production and disposal item (i.e. A4 paper, electricity, water), and the symbolic impact, which would be the importance of the item to demonstrate the commitment of each person to conscious consumption (i.e. disposable cups).

The second step was to organize the data per item and per capita on a spreadsheet, quarterly, and show the total consumption for the period before the campaign and after, for analysis, conference reports, and release of data in graphs and tables. This mechanism showed a seasonal period of consumption (periodic changes due to holidays, examination periods, seasons, etc.) and showed that we could not compare a quarter against the previous quarter, but the same quarters of each year to meet annual seasonal changes.

In the third phase, numerous actions from the Internal Conscious Consumption Program were implemented. The formula used to compare the change in behaviour was as follows: Total consumption / Annual population, for each item. Then we calculated the difference in consumption for 2005 and 2006 to iden-

¹⁶ <http://dialoguesenhumanite.free.fr>

tify the percentage reduction achieved. From 2007 onwards the same procedure was used.

The results can be seen in the graphs produced by the Monitoring Committee of the PICC /UNIFACS below. They shows a steady decline in the consumption of disposable cups (strips of 100 units), A4 paper (500 sheets / ream), toner printer (units), printer cartridges (units), paper towels (bundle of 1250 sheets), electricity (kwh) and water (m³/month).

In the fourth step, the calculations in the local currency (“real”) were made for the consumption of each item, to calculate the amount owed to the Consumer Awareness Fund because of decreased consumption. To this end, we developed the concept of average annual expenditure, which means the average amount paid for the item, from the average price prevailing during the year divided by the total quantity of the item. For comparison with the previous year the current average price of each item was considered, to offset the effects of inflation. The amount paid annually per capita and the annual cost of consumption for the total population was revealed. To determine the gain in the change of behavior of the academic community, we multiplied the total cost per capita for the entire population each year, but the comparison has to be done as if the population is constant.

The results achieved by the UNIFACS academic community generated resources that enabled the institution to invest on two fronts: in more sustainable materials and equipment and communications activities designed to increase awareness in the academic community. Among these are:

the adoption of recycled paper (or certified paper) in all institutional activities, changing water-taps for models with automatic shutdown, the installation of fixtures and equipment with better energy efficiency. Among the communication activities was the newsletter “Se-Plante” and funding of the Brechó Eco-solidarity event.

Conclusion

The Internal Conscious Consumption Program resulted in a decrease in consumption of raw materials and energy and therefore reduced the ecological footprint of institutional activities saving financial resources. A virtuous circle able to concatenate joint actions beneficial to all involved was set in motion. This circle benefits the institutions, the academic community, the society and the planet. It is a “win-win” situation that has great incentive potential. Similar actions have spread to other universities in Bahia and have attracted the attention of many higher education institutions throughout Brazil. The methodology requires further tuning to more accurately reflect ongoing changes. It also encouraged interaction between the educational and administrative sectors of IES.

This method has been implemented in pilot projects in public schools in Bahia, and is being improved by various Higher Education Institutions, and being spread throughout Brazil. It is one of many initiatives underway in Brazilian educational institutions to raise awareness among young Brazilians to face the pressing problems created by consumerism in the 21st century and its effect on global warming. 