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Name Prof. Richard S. Levine

SUSTAINABLE CITIES: A Strategy for a Post-Terrorized World

Richard S. Levine, Ernest J. Yanarella, Taghi Radmard
Center for Sustainable Cities
Lexington, Ky, U.S.A.

Heidi Dumreicher,
Oikodrom
Vienna, Austria

ABSTRACT

When and if the current terrorism crisis abates, the root causes will remain. The world is awash in a growing equity crisis to which there are no globbal solutions. However, this paper posits that there are local solutions – solutions whose individual successes can serve as models to be emulated globbally. Such Solutions will require a change in the way we think about the relationship between ecology, economy and equity, but it will also involve a change in our thinking and practice concerning the role of architecture and urban design.

INTRODUCTION

Sustainable city-regions are places having a sufficiently high degree of diversity and self determination that their citizen stakeholders are able to negotiate amongst themselves their own sustainable way of life whose only limits are the limits of nature, appropriate technology and their own traditions and creativity. Although long term unsustainability is often measured on the national or globbal scales, (i.e. climate change) all contributions to national or globbal unsustainability are produced locally. This observation gives rise to the realization that if a city were able to take itself out of this globbal equation of unsustainability and still demonstrate a vibrant local economy and quality of life, then this would be a model that cities around the globbe could emulate, in their own way and through their own cultural patterns.

The problem with globbal capitalism is that it is designed to fail. A healthy natural environment is the basis and precondition for any society and a healthy society should be the basis and precondition for any economy. Economic systems should exist for the purpose of sustaining a desirable way of life and not the other way around. Because the globbalization paradigm is effectively designed to marginalize social, cultural and environmental values, it also destroys both the underlying basis for its own existence as well as it's own rationale for being. Because it has no embedded structures able to consider social, cultural or environmental effects and concerns, the growing domination of the globbalist economic system systematically degrades the very basis of any economy. Moreover because it robs people of their local culture by substituting western (American?) profit-driven values (or lack of values) for the traditional values of their own cultures - it robs peoples of their identity. Systematic marginalization of culturally embedded religious values is a dangerous pursuit for it robs people not only of their identity in this life but in their

afterlives as well. As we have seen, this perceived cultural genocide is so threatening that it is seen to be worth sacrificing one's own life to defend against. In the events of September 11, 2001 we have witnessed the first major battle in the wars against globalization. These wars will be unlike any previous wars. Like globalization itself they will not be about territory and they will not be waged by nation states. They will be waged by diverse individuals and groups driven by perceived threats against their traditional ways of life under the emerging realization that they have in effect, a common enemy.

Although it is still very much a minority view, there is a growing realization that the dominance of globalization constitutes the most pernicious force in the world today. But even the great majority of those who decry it acknowledge Margaret Thatcher's famous pronouncement, "There is no alternative," counseling that all we can do is to try to resist the juggernaut as best we can and try to moderate its most destructive tendencies. At best these strategies can only buy a little time and if that time is not used to pursue a transition to another way of operating, the ultimate outcome will be the same and any positive efforts will have been wasted.

SUSTAINABLE AREA BUDGET

If issues of equity and human rights are to be respected, every individual is entitled to his/her share of the Earth's bounty on a regenerative basis and its capacity to absorb offences. The current authors have developed this concept as the Sustainable Area Budget (SAB). This means that each individual is entitled to one six billionth of the Earth's regenerative capacity interpreted as land area. A town's or city's working budget is thus the aggregated SAB of its citizens.

Working with these principles and within this budget the research team has developed a participatory design approach, which generates new urban models and architectural scenarios for Sustainable Cities. These principles were initially applied to the evolution of the Sustainable
City-as-a-Hill project at the Westbahnhof in Vienna – a computer aided design process using a modular, participatory approach. The successful implementation of such Sustainable City Implantations and the environmental and cultural economy they reflect, provides a powerful alternative model to the now dominant globalist paradigm.

THE SUSTAINABLE CITY GAME

The proposed program works from an extended definition of the architectural endeavor. A city is not something that is first designed and then built. Its design, construction, maintenance and reconstruction is an ongoing process. When such a process has historically been an organic process, responding to the needs of people and institutions and modifying previous interventions that didn't work or are no longer appropriate, it becomes a process that continually increases the living quality of the environment. If the process of city development is one that responds most directly to increasing speculation responding to globalist forces, then the quality of its urban structure and public life will most certainly deteriorate.

In the Sustainable City Game works with a city-region or a large bounded site within an existing city (a brownfield site as an example) together with its rural partner region. Game players who may be potential stakeholders are assembled and from them a program of needs is developed. Initially it is a shopping list that, because it represents the ideas and desires of diverse interest groups, contains many inherent conflicts and contradictions. Initially a coherent set of specifications for the nature of the future Sustainable Urban Implantation proves to be impossible to put together because of these conflicts. Instead of seeing the design process bog down amidst a flurry of single issue confrontations, the process is separated into several steps. In the first step it is encouraged that any legitimate needs and ideas be placed on the table. In the second step, varied teams of stakeholders

together with designers and other professionals attempt to assemble design scenarios that represent a full spectrum of urban facilities and services, within the initial framework conditions and within chosen urban design strategies. Thus the design and development of the city becomes an empowerment process, engaging citizen stakeholders in the shaping of their common sustainable destiny.

THE SUSTAINABILITY ENGINE™

These scenarios are then modeled as both physical designs and energy and material flow models using the Sustainability Engine™, a utility under development in the US that combines some of the attributes of CAD, Facilities management and GIS software together with systems to become the principal feedback, design and management tool in the negotiation of sustainable city-regions. The practice of architecture in recent years has increasingly gravitated toward the delivery of contract documents in a CAD and/or Facilities Management format. Through embedded databases these formats provide the capability of extracting many sorts of useful information about the virtual building as it has been constructed within the computer program. Material takeoffs of virtually every nut and bolt together with their locations and specifications are easily charted. Maintenance and replacement schedules can be developed and recorded. Changes made in material, size and energy performance are automatically projected through the building model and its database and the reverberations of those changes can be displayed almost instantly.

It is but a small conceptual step from the design and management of conventional buildings to the design and management of sustainable cities. One difference is that in the case of sustainable cities, a lot more information is attached to the components, systems and building blocks that make up the city implantation. Within the Sustainability Engine™ are module libraries of components and building blocks containing many attributes including such things as embodied energy, distance from source, cost, availability within the SAB, labor requirements, recyclability, u-value, land use implications, energy and material flow connections to other regenerative systems and the various inputs and outputs involved in the functioning of the module within the city-system. These modules function as plug-in, "free body" objects that provide inputs and outputs when attached to a larger Sustainable Urban Implantation scenario model. Similarly, the Engine™ contains libraries of regenerative energy modules, agricultural modules and other modules of means and technologies that are particularly supportive of ecological living.

In the playing of the Sustainable City Game, stakeholders together with architects and technicians attempt to assemble a Sustainable City Implantation, drawing on the existing building blocks that most closely meet their needs and desires already developed within the libraries. If no building blocks are suitable, existing blocks are modified or completely new ones developed by the architects. The architects also provide overall urban design strategies, either as modifications of pre-existing ones taken from the library or new urban configurations crafted to suite the particular site conditions.

Because any urban design that represents the needs or interests of only one stakeholder or group of stakeholders will not contain the diversity or complexity of a real town, such a limited model when run on the Sustainability Engine™ will appear in its first trial run as a city-system that is grossly out of balance. The feedback of this gross imbalance becomes an important moment for the stakeholder-players. It indicates to them that in spite of the fact that their immediate needs may have been well satisfied by their preferred urban proposal, still because their interests represent only a portion of the city-system, many other needs must be met in order to be approaching equilibrium. This feedback then supports a significant operational principal of the sustainability endeavor, to wit: any proposition may be put on the table, but in order to be carried forward in subsequent iterations of the Game, the overall city/system scenario in which the proposition is imbedded must be approaching equilibrium. Very quickly it is seen that no matter how beneficial a given proposition may appear to be in the first instance, it must still attach

itself to a network of mutually supportive propositions to form a larger, well balanced scenario in order to remain viable as the Game progresses.

The Game is played through many iterations and at each successive step the scenarios become more sophisticated and more complex. In a similar fashion the game itself and its module libraries would be learning ecologies, becoming more elaborated and accumulating more options and able to provide more sophisticated feedback as the Game learns through its own playing. Because of its growing successes the Game and the city models its playing generates, becomes an attractor of people and interests who are in a position to act upon what they have negotiated to be their preferred form and structure of a locally determined Sustainable City Implantation. As the game becomes sufficiently serious that construction is planned and carried out and people live in the city, the same stakeholder process that has generated the city form and structure using the Sustainability Engine™ continues to be employed as the process by which the city continues its development, modification, maintenance and governance.

CONCLUSION

The "War on Terrorism" as currently formulated by the Bush administration is a war that in its own terms cannot be won. Because its enemy is the very enemy it is continuing to create by its policies of marginalizing local cultures, the war can only continue indefinitely, eroding traditional democratic values, alienating ever larger numbers of peoples by increasing the inequitable and oppressive dominance of the global system. Thus it is a war that creates its own growing enemy. Because there is now only one global superpower and only one dominant economic system, such a war cannot be successfully confronted by alternative forces. There is however, a local alternative. A bumper sticker in the 1960's read, "What if they held a war and no one came?" Perhaps the only way to end this war is to opt out of it. At the individual level this is not an option. As individuals, and interest groups within sustainable city-regions, operating in balance with our ecological budgets, we can create regions that remove themselves from the global unsustainability equation. Such an alternative that builds within local cultures and local conditions, exploiting neither its own territory nor lands far away; exploiting neither its own people nor people in distant places – such an alternative is both necessary and possible.

REFERENCE

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