



WGC2006 Amsterdam

# *Urban Design for Sustainable Cities*



The IGU Sustainable Urban System Design Competition 2001-3

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*SUSD Competition was  
an unprecedented epoch-making project :*

- Search the transfiguration of the existing various cities of the world over 100years
- Not just urban design by architects and urban planners but design of wide-ranging area related to environmental issues like Green House Gas reduction, energy consumption, conservation of water and trees, changes of urban people's life styles, urban governance, etc
- Seeking the links of energy, environment and spatial planning



*Nine Teams were involved so that each of the world's regions were represented.*





# *Competition Themes*

Proposals on the following points on an existing city with over 100,000;

## **1. Visions on the city for the next 100 years**

Nine teams are requested to propose a new city image with a focus on sustainable growth over the coming 100 years. This was to be based on the viewpoint of whether cities can solve environmental problems, especially global warming

## **2. Evolutionary process of the subject city**

Also requested not to just draw up an ideal image for a city 100 years from now, but to propose how cities can cope with various changes flexibly and how they will change to become such an ideal city;

## **3. Proposals on advanced energy systems incorporating life-cycle principle**

Proposals should be based on life cycle analysis and include study on overall environmental load from production of energy to consumption and to disposal, as well as include makeup of energy and its supply system from the standpoint of construction of a total system and a new economical consumption system with high efficient use of energy



# Vancouver, Canada

*“Lightening, miniaturization and nature-oriented”*

Future trends includes:

Movement of information

Progressive improvement in machine energy efficiency

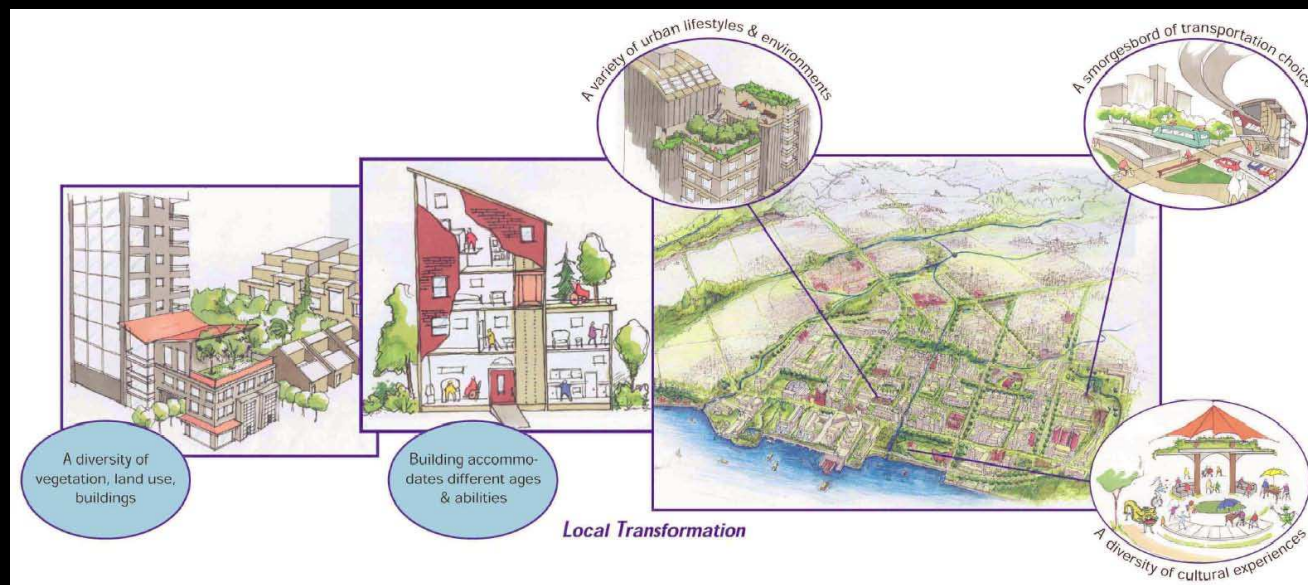
Economies of scope

Progressive lightening

Progressive miniaturization

Discontinuity in manufacturing technique

Transition from carbon content to hydrogen content of fuels



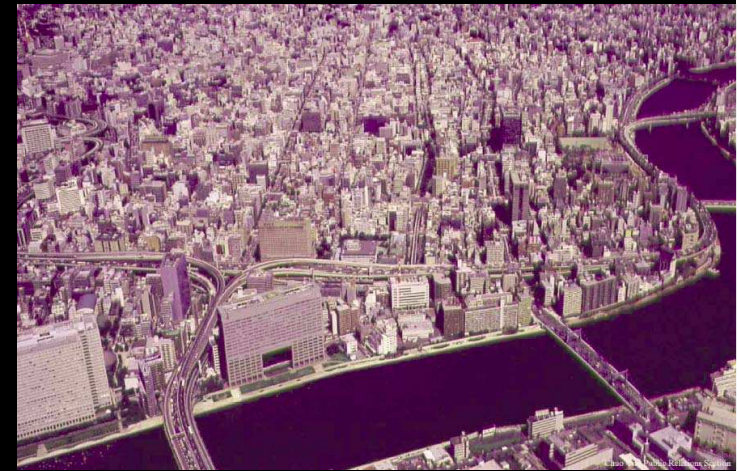


# Central Ward of Tokyo tyo\_e.2003.PRJ, Japan

## *“High-Density Housing with Green”*

New sustainable city was developed in accordance with the following:

1. Creation of a light life through a shift away from mass consumption
2. Development of high quality urban environments in harmony with nature
3. Establishment of a highly efficient and self-sustaining energy supply system that continues to renew itself in accordance with changing situations







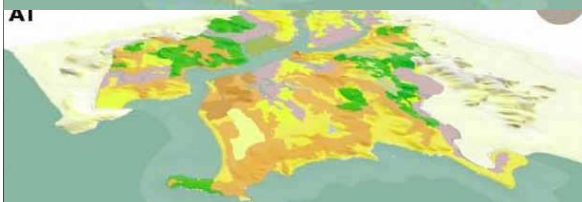
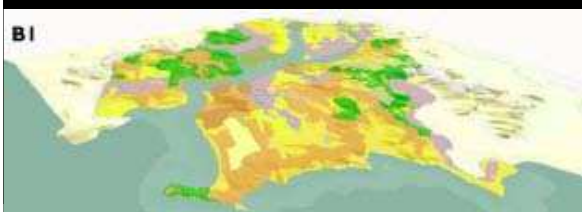
# Goa: Western Coast of India

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## *“Balance between the urban and the rural”*

Business as usual scenario leads to economic and population growth, massive immigration, poverty and resource overshoot, generating cancerous urban sprawl and collapse of environmental services. Instead, a Sustainability Transition in dynamic balance with its region, state, nation and the world, responsive, robust, evolutionary and sufficiently complex to withstand changes in population, business cycles and social transformation can allow 120 million people to live on India's western coast meeting people's basic needs without endangering biodiversity.

Sustainable cities in India have to be secure and self-sufficient for urban water, which is only about 15% of total water use. With the Sustainability Transition, Greater Panjim will import food from its region, providing goods and services in return. But the overall food footprint of the region shall stay within its boundary. Respecting water earmarked for irrigation shall create rural-urban partnership





# San Diego & Tijuana, United States

## *“An optimistic, scientific and artificial city”*

### Design Goals

1. Sustainable Energy Resources and Practices
2. Ecological Urban Form and Function
3. Community-Based Resources Management
4. Land Use Optimization
5. Social and Economic Parity







# *Results that were obtained.....*

- **Warning about wasting energy:**

Each team was critical in its appraisal of the present-day consumption of energy and warning about wasting resources such as fossil fuels and water was brought up.

- **Compact urban image:**

Urban image that was painted on the basis of restrictions of energy and water negates the construction of the present type of huge suburbanized and massive cities. The compact urban image is clearly one of living and working in a small community without automobile dependence.

- **Formation of urban social solidarity:**

As for the future image of the citizens who use the urban space, resources and energy of the city, importance to the city's inherent local culture and the pleasure of urban living was shown. The 21st century requires all cities to have an urban image of racial harmony that is completely different from that of the 20th century with its violent population flows and different rates of increase for each race.



*The future trend of population increase is something that needs to be noted.*

*The Canadian team made the following interesting estimates concerning this point. They say that the global population at the end of the 20th century was six billion but that will become ten billion by 2050 and then decline to six billion. If that is true, our ultimate issue will be how the cities of the world will cope with this maximum global population that will occur fifty years from now. The time for making cities to protect the global environment is not long and it is limited. In this way, the international competition this time showed a serious topic that nobody was able to clarify.*



# *Next Step:*

## ➤ **Energy and Cities: Inseparable Links**

It gave us the understanding that energy and cities have an inseparable relationship. Selecting energy and developing infrastructure affects significantly the way cities ought to be. Conversely, city structure and lifestyle has impact on the way energy system should be run.

## ➤ **Collaboration among Experts and Citizens' Participation**

Collaboration among experts and citizen's participation is extremely important in building new cities. To make the city a more sustainable existence, it is important to always hold a sense of crisis from a long-term and wide-ranging viewpoint. What is being sought is collaboration among experts on energy, cities, and those from other different areas such as citizens, autonomous bodies, and various regional organizations.

## ➤ **Global efforts to address the collective Sustainability Crisis of Humankind**

It is indispensable to tackle crises common to human beings from both a local and a global point of view. It is important to take measures against worldwide issues, such as global warming, from the standpoint of meeting local characteristics. On the other hand, an alliance formed among many cities focused on how the cities can contribute to the solution will make it possible to take even more effective measures.