

Ideal Grand Design for Enclosed Coastal Seas

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Grand design is not only the superficial aspects of a product such as shape, color, decoration, and pattern, but it is a design perspective which considers the correlation between the product and the environment or space in which it is to be used. In the future, this perspective will be incorporated into not only enclosed coastal seas planning but also into environmental planning in general, and will serve to promote adequate use of the environment. Furthermore, it is expected to play a role in mediating messages between the developer and the residents. Such a case study will be introduced later.

Design Concept and Activities

The definition of the word "design" has never been thoroughly discussed. Rather, it has repeatedly changed according to the evolving design activity itself and responded to the social state of affairs. However, today it does not just refer to the external decoration of a product such as its shape, color, and pattern. In the "Design Policy for the 1990's" report, released by the Ministry of International Trade and Industry of Japan in 1988, design is expressed as a creative activity which attempts to create a harmonious artificial environment that will best satisfy the various physical and mental aspects of the human being.

Standpoint of Grand Design

As mentioned above, the fields relating to design are gradually becoming more diverse. Because of this, design now requires a set of values that differ from the previous one of "the external decoration of a product such as its shape, color, and pattern", which was also perceived to require a special occupational ability. That new set of values is "grand design". Grand design considers the correlation between the product and everything from the environment to the space in which it is to be used.

Environmental Preservation and Design

Today, various activities aimed at environmental preservation are being carried out. However, there seems to be one fundamental problem that remains unresolved. That is, there is a general lack of understanding on where necessary things must be located.

For example, most rivers have wide level ground on both sides and water overflows the embankment onto the land once every few years. This level ground is useful to human beings, as it diffuses the water which overflows the embankment and diminishes the effect of flooding. Also, it retains a large amount of precious topsoil which would have otherwise flowed out into the sea. However, I'm afraid we don't fully understand this useful process. City planners construct roads on this low land by the river because it is the easiest location on which to carry out construction work. Next, they build houses and factories by the road, and then an embankment to protect the buildings. They use the reservoir of flooded water for a different purpose, and make the topsoil flow out into the sea, destroying the habitat of wildlife and farmland. Thus, a flood is turned from something useful into something harmful.

City planners think first about what to do in order to build facilities, often failing to think about the desirable location for



Urban Ecological Planning Study
for the City of Nishinomiya -
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sensitivity in their creative work. However, anyone can get information on design today, and any design can be bought if one is willing to pay for it. So, the design is no longer a thing people just accept; it is something they select and utilize. The days when designers could trade solely on individuality and sensitivity are over.

Instead of individuality and sensitivity, the following are required of designers. One is scientific knowledge--knowledge which is necessary in order to understand the function and structure of nature and society. The other is philosophical understanding. In the "Urban Ecological Planning Study for the City of Nishinomiya", which I conducted with students of the Osaka University of Arts, Environmental Planning Department, we sought this philosophy in ecology. The object of the study of ecology is a system known as the "ecosystem". Ecosystems are very complex systems, and one needs to systematically understand the relationships between various fields including geology, atmospheric science, land use, as well as biology and botany, etc. Through this study, a common awareness for "Design with Nature" was formed. Below, I shall introduce a case study using this as an example of grand design.

Case Study of an Urban Ecological Planning in an Enclosed Coastal Sea

The "Urban Ecological Planning Study for the City of Nishinomiya" is a study the object of which was to develop a policy to improve urban amenities, and to designate areas in which to carry out the policy. To do this, first we made a list of all the factors that seemed important to the current urban environment. Next, we drew transparent maps for each item on the list, colored it according to the effect of each factor, such as wildlife, the supply of subterranean water, forest deterioration and soil erosion, recreational values, and appearance, etc. Then, we overlaid all of the maps and decided which areas were appropriate for carrying out the urban policy at the least social cost.

those facilities. They tend to fall into this trap because they are professionals, i.e., the more knowledgeable a professional becomes in his profession, the more alienated he becomes from other professionals and other information.

As a result, city planners and developers present plans which seem to the residents to have come out of the blue. Today, talented people who can participate in such plans as representatives of the people are needed. In response to this, I personally think that with current design extending into the environmental field, designers face a new responsibility for the environment.

Design and Ecology

Then, how should designers make suggestions about environmental preservation? Up to now, most designers have relied on individuality and

As a result, we found that in Nishinomiya, it is necessary to take stronger measures to increase the amenities of the area over what is currently designated for urbanization. Especially, in some areas of the coastal region, commitments to strong measures such as the restoration of the natural beach are necessary. On the other hand, land suitable for recreational use with certain limitations was found in suburban green conservation and scenic areas.

Some may argue that from the point of economic efficiency, it is inefficient to simply give top priority to natural values. However, I assert that this idea is not designer's sentimentality, but instead the result of giving the highest priority to overall social interests, which includes economic interests.

For example, if houses are built on an area percolated by rain, the number of sewage septic tanks under the residential area will increase. That is inefficient for society as a whole, because it involves increases in such expenses as the social cost of cleaning the water and medical care.

Case Study of an Island in Enclosed Coastal Seas

A standard for environmental preservation in enclosed coastal seas may be found by considering questions such as natural production in the coastal region, tide, the relationship between fresh water flow and the tidal flow of salt water in the brackish region, sedimentation elements in coastal seas, the location of primary sedimentation, the extent of sedimentation progress, the main element and concentration of trophic salt flowing into coastal waters, the water property standards which guarantee a normally functioning ecosystem in enclosed water, and the relationship between human activities (land use) in neighboring collective waters and coastal water properties. Having started from these questions, the "Ecological Regional Plan for Awajishima Island" was drawn up and set up in sea areas suitable for marine industry. The plan was designed via factors like surface running water, lost running surface water (water level), erosion and outflow, (BOD, floating substances), trophic materials, basic salt, polluted water, and waste in Osaka Bay and the Seto Inland Sea.

Design to Promote Citizen Participation

Thus far, I have discussed the idea of grand design in development, but we must not forget the design's role of mediating messages between the entrepreneurial-administration and the people. There are diverse areas in which the design must participate. Such areas include correct plan enactment, ways to create comprehensive reports on environmental effects, ways to hold briefing sessions and public hearing sessions, and ways to promote plan understanding among citizens. In the study of city planning in Nishinomiya, we conducted a survey from which we decided which of the values constituting city amenities

Ecological Regional Plan for Awajishima - Suitability for Marine Industry



(history, culture, recreation, sightseeing, etc.) should have top priority. In this study, the survey was conducted only once, but when this technique is actively put into practical use, the result of the first survey may be published and then the survey may be repeated so that citizens can look at general survey tendencies and revise or unify their ideas. Also, it is important to provide a place for studying policy. Workshops provide excellent opportunities, where the audience has a chance to speak and exchange opinions, instead of just listening to the lecturer. In some cases, it is feasible to select and edit a city's sightseeing pattern, and then to discuss its validity in a symposium. Another possibility is to make the citizens check the influence their lifestyles have on the environment, and events could be held where citizens discuss the results of the survey.

The attached chart is an environment chart for coastal residents that is currently being prepared for research. By having residents create such charts, we aim to have citizens determine for themselves how much they burden the environment in their daily lives. At the same time, we aim to gradually influence designers to reflect these concerns in their products in order to preserve the environment.

Region and Design

In "Grand Design", it is important to keep in mind that not only that the design is important for the region, but also the region plays an important role in the design. Certainly, the design might uplift the region's industry, life and culture in various ways, but as can be seen from the above-mentioned, all these must be considered

CHECKLIST
 -Examining our daily lifestyle with regards to the environment-

<Fill in the chart>
 -For each item, fill in the number of lifestyle points that apply to you.
 -Complete the chart every other month.

<How to read the chart>
 -The more positive the number, the lesser the burden on the environment.
 -The more negative the number, the greater the burden on the environment.

comprehensively under the theme of grand design. It is important that the regional elements be integrated into the concept of the grand design. Otherwise, it is impossible for the design of each product to harmonize with the environment and the area in question. To speak in more concrete terms, the synthesis must include the incorporation of the design into the regional industries, as well as the various "cultural resources" necessary to stimulate the design creation, the animation of citizen fraternization as symbolized by "festivals" (matsuri), the activation of traditional industrial arts, and the promotion of regional culture.

Needless to say, "a

Item	Lifestyle	Inspection			
		Points	Date	Date	Date
Laundry	Using petrochemical detergent.	-5			
	Using soap.	0			
	Using soap and washing large quantities of laundry at a time.	+3			
Shampoo	Using petrochemical shampoo and rinse.	-3			
	Using soap-based shampoo.	0			
	Using soap-based shampoo sparingly. (Quantity dependent on the condition of hair.)	+3			
Detergent	Using petrochemical detergent.	-5			
	Using soap and separating oily dishes.	0			
	Wiping off oils before washing.	+5			
Waste Water	Poured down the drain after the second or third use.	-5			
	Using coagulants after second or third use and disposing with burnable trash.	-3			
	Absorbing with paper after second or third use and disposing with other burnable trash.	-2			
	Disposal via used oil collection after second or third use.	-1			
	Attempting to use up all the oil, and then disposing the remainder via the used oil collection.	0			
	Using up all the oil	+5			
	Using a disposal device.	-5			
Miscellaneous Waste Water	Draining of left-over soup and oils.	-4			
	Trying to avoid leftovers.	0			
	Disposing of waste water within the household.	+5			
Bath-Washing	Using petrochemical detergent.	-3			
	Using soap as needed.	0			
	Cleaning with a sponge and scrubbing brush after use.	+5			

region" is created by the will of its countless residents. The important thing is to sharpen the residents' views on the region and to nurture discerning residents. To achieve this, the concept of the design must take root in the minds of the region's residents first. That brings about the improvement of the region, and eventually leads to the advancement of the overall design including everything from the products to the environment.

The designer's role in the above process is to make common ground for the administration and the citizens, and mediate as a communicator on such common grounds. At the same time, the designer must help the practical creative group in carrying out the design.

In closing, the above is a tentative plan, from a designer's point of view, and I imagine that various professionals may find some points lacking. I welcome any comments, criticisms, or encouragements.

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