

## EDITORIAL

### SUSTAINABLE DEVELOPMENT PAST AND FUTURE

Throughout most of human history, societies have lived a self-sufficient existence. Their immediate environment was the place from which they harvested or collected their basic needs. They drew water from streams, grew food, used timber to keep warm, cook, and build shelters, and wool from domesticated animals to make garments. The inhabitants took from the land only what was required for their existence. In fact, the available natural resources often determined population size. It was a simple existence, where resources were consumed in measure and the needs of future generation was never at risk. This took place when most communities were rural and agrarian.

The industrial revolution changed all that. When people abandoned farms in search of employment, cities swelled. Those vastly expanded urban hubs could no longer rely on their surroundings to provide their daily supplies, which now had to come from afar. When electricity began to light up cities, the urban population grew dependent on it to power factories and dwellings on their many newly invented appliances. A system and an organization had to be put into place to meet the daily requirements of all the inhabitants—be they food, sanitation or energy. Gradually homes were linked to utilities like fresh water supply and drainage. Food had to be trucked in from the hinterland and landfills needed to be set aside for the growing mountains of industrial and domestic waste generated. The dependence of humans on their surroundings grew to be utterly critical. Severing all supply links became impossible to imagine. Perhaps the greatest manifestation of this dependency was the post-Second World War urban sprawl in the periphery of established cities. Build away from the center, a typical sub-division and its single-family detached dwellings consumed valuable resources during construction and after occupancy. Buildings were built with disregard to the site's natural conditions and the chosen planning and construction practices had very little to do with vernacular paradigms. The community

was dependent on external sources for its entire existence and function.

Things have changed since the mid-twentieth century. It takes, at times, cataclysmic events and ominous signs to remind us that human existence is at the mercy of nature. Phenomena like global warming and climate change, prolonged periods of drought in one part of the world and floods in another, the melting of the ice caps, the depletion of fossil fuel and the sharp rise in energy costs, the increase in the cost of food and the depletion of many natural resources and minerals which were once abundant are some of these aspects. Socio-economic transformations have also brought to the forefront other issues: the widening gap between rich and poor nations, the ongoing global economic downturn, rapid population growth in some places and the aging of society in others.

These natural and social phenomena have forced us to rethink how development should take place. We began reflecting on issues that were once considered marginal – making them of global concern. They have prompted a search for alternatives to the way we currently dwell ourselves and use buildings.

The term sustainable development has become synonymous with a search for a new mindset. Its definition put forward by a United Nations-commissioned report called "Our Common Future," regards the needs of future generations as we conduct our present actions. In its simplest interpretations the report called on society to consume only what is needed and minimize its environmental footprint.

But is this possible? Have we passed a tipping point beyond which we can no longer reverse a course of action that was charted several decades ago? One can argue that it is possible. New technologies, contemporary designs and advanced means of production enable us to put in place an accelerated process that will see the establishment of new paradigms where building consume fewer resources and to some degree even contribute to improving the environment such as net-zero building and those with green roofs.

On a more detailed level design for sustainability may

also be achieved by observing several principles. The path of least negative impact is a course of action that will ensure limited short and long-negative ramifications of the process. To ease the effort and ongoing contributions by all parties involved, a self-sustaining system should be sought. Any method that improves the environment and contributes to social equity would be sought after. If the relationship between the sub-elements is supportive, it will likely reduce costs and improves performance of them all. Finally, a lifecycle approach sees the built environment subjected to an ongoing change and evolution by being flexible and able to easily adapt to various realities

If society is to attain a sustainable existence, one hopes that ideas that are manifested in a single building or idea will find their way into mainstream design and construction. This is in fact, as history demonstrates, the course of evolution. People tend to follow a lead. The cost of products is reduced when more people consume them, and educational institutions incorporate knowledge about them into their curricula. One needs to hope that the process will be swift.

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