Urban construction and the environment

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The sectors relating to the construction industry in Spain have made a firm commitment to the application of the principle of sustainable development. Professionals in these sectors have come to comprehend that the only manner to allow our environment and our planet to once again 'breathe easy' is to get back on track as regards a general recovery of ethical values in construction and city planning based on the respect for nature.

A country's environmental policy must contribute to the conservation, protection and improvement of the quality of its environment, guaranteeing the protection of natural resources and their prudent and rational use. This must all be carried out in accordance with the principles of prevention and precaution, which comprise the framework of a policy directed towards sustainable development.

The requirement for environmental conservation and protection should form an integral part of the planning and zoning of any town. It should be an essential element of the definition of regional development plans and programmes, economic programmes and territorial planning regimes. Such action is considered basic in sectors such as transport, energy, telecommunications, agriculture, forestry, tourism, and, obviously, town planning.

In view of the impact that certain plans and programmes may have on the environment, strategic environmental assessment is carried out on the same in order to facilitate and guarantee that the competent authorities have the appropriate information to enable them to adopt decisions in this regard, and to ensure that they are fully informed of the possible significant impact on the environment. In this regard, the procedure for evaluation of environmental impact is a key instrument in environmental policy and is specifically addressed in the Fifth Community Programme for policy and performance in environmental and sustainable development matters of the European Union (adopted in 1993).

Hence, all environmental policy must be based on the principle of prevention and, as a result, an environmental assessment must be carried out prior to approval or authorisation of any proposed plan, programme or project. The need to implement such assessment has been expressed by, among others, the World Bank, the World Commission on the Environment and the United Nations Conference on Environment and Development (UNCED). This initiative has led to the development of the Strategic Environmental Assessment (SEA), which serves as a tool to include environmental considerations in the planning and decision making processes prior to approval or implementation of any specific project.

Consequently, any such project will first require the corresponding detailed Environmental Impact Assessment. In this regard, it is important to ensure that the two phases of assessment of the environmental consequences of any specific action on a given territory not be confused.

At the same time, the principle of precaution emerges in the area of environment as a need to guarantee a high level of environmental protection and the wellbeing of human, animal or plant life in those cases in which the scientific data available does not permit a complete evaluation of the risk. Hence, the essence of the principle of precaution is that society cannot wait to receive all of the answers before taking steps to protect our health or the environment from potential damage. Consequently, in order to meet the basic requirements for the application of the principle of precaution there must be a lack of scientific certainty and a threat of damage to the environment or to the wellbeing of human, animal or plant life.

As regards the principle of sustainable development, it is important to realise that we live on a planet with finite resources. This is in profound contradiction with the current economic model, which is based on infinite economic growth. Hence, both are unsustainable in the medium term. As a result, there is a need to apply the principle of sustainable development in a coherent manner and for the economic model to acknowledge that there are certain limits to growth imposed by the limited capacity of the planet to renew its natural resources and to absorb contaminating emissions. This conflict gave rise to the Declaration of Rio de Janeiro of 1992 and constitutes the basic reasoning behind the need to establish sustainable development strategies.

As a consequence, the application of the principle of sustainable development must be based on a horizontal plan of action affecting different sectorial policies and must be able to rely on clear political resolve to carry it out. A lack of conviction at a political level to change unsustainable activities and to work towards sustainable development, would only serve to defeat the purpose. In this regard and by way of an example, where there are large scale government plans for the construction of infrastructures with important sustainability problems due to their incompatible nature with the conservation of the environment, these plans shall be destined for failure and shall only result in frustration.

We should likewise point out that one of the basic stalwarts of sustainable development is transparency and social participation in the preparation and subsequent implementation of the policies created for that purpose.

In short, the principle of sustainable development should be complied with, as defined in the context of the Report of the World Commission for the Environment and Development under the heading Our Common Future (the Brundland Report), which in amazingly plain language summarises in a few words the rule of conduct for agents making decisions in the different sectors, including naturally real estate. Sustainable development is defined in the Report as that which "seeks to meet the needs of the present without compromising the ability of future generations to meet their own".

Our world has changed at an accelerated rate ever since the environment has gained the consideration of the greatest problem faced by a planet with limited resources. The understanding that there are no longer frontiers in almost any field of knowledge goes hand in hand with the certainty that there are likewise no more unlimited fields in which to experiment from scratch.

In this regard we have come to realise that our actions have important environmental consequences and that we are living in a world that is destroying its resources at a greater rate than ever before in history, in addition to causing profound social imbalances and injustices.

This awareness of the planet's limitations has given rise to a certain consciousness of the need to reconsider the predominant development model from different standpoints and to propose solutions that would generate more optimistic perspectives as regards the future of our civilisation. Nonetheless, it is also necessary to define the parameters of this new paradigm and to specify what is understood by more sustainable development, inasmuch as we run the risk of trivialising these concepts in such a manner as to perpetuate the traditional development model which is based on unsustainable premises from an environmental standpoint and which relies on distorted terminology.

As a result, it is correct to refer to sustainability as an intrinsic quality of certain actions that guarantee that the wellbeing of the ecosystems, of which human life and economy form part, have been taken into account, without ignoring the impact that monetary reasoning has on the processes of the physical world.

Consequently, and based on the foregoing, extensive urban development must be urgently replaced by the paradigm of sustainability in its broadest sense, this being achieved through territorial planning, urban planning, and construction techniques that are responsible as regards the maintenance of resources and the equity of the solutions adopted.

The real estate world must be capable of considering new forms of city regeneration, typologies that respond to the needs of the inhabitants, public spaces focused on integration that serve to bring citizens together and which respond to their needs, human scale equipment and meaningful buildings that integrate cultural values into everyday life. Sustainable design projects in architecture with plurality in the lines of strategic environmental action will encourage cities to develop their own identity by way of an environmental culture and the defense of environmental values.

The design, construction and maintenance of buildings have a great impact on the environment and on natural resources. The homes we live in, our places of work and our leisure spaces are a source of pollution. Nonetheless, this damage to the environment can be reduced considerably if certain guidelines are followed in the construction of new buildings.

At present, new constructions still constitute a significant source of pollution, negatively affecting air quality in urban centres and favouring climate change. In light of the situation, one of the greatest challenges for today's developed societies is to construct buildings that use the least possible amount of non-renewable energy, cause less pollution, and are healthier, safer and more comfortable for those that live or work in them.

Although the construction sector is one of the most important sectors of any country's economy, we cannot forget that it causes a serious impact on the environment, from the extraction of aggregate or the manufacture of cements, to the proliferation

of dumps. The construction sector is a great consumer of non-renewable resources and an important producer of residues and air, land and water pollution. Approximately 22 million tons of debris are produced each year in Spain, surpassing the almost 15 million tons of urban waste produced. This waste is often deposited in illegal dumps or badly managed by unqualified personnel. Furthermore, the extraction of aggregates also moves enormous amounts of land, particularly along river banks, thus provoking alterations in the biological cycles of the inhabitants of these ecosystems.

In order to establish appropriate policies in this regard, it is not only necessary to deal with the end result of the process, but also to control the initial stages of the same in such a manner that we are able to manage all stages from the standpoint of environmental legislation. This is due to the fact that, from the moment in which construction commences, there is already significant environmental damage derived from obtaining the materials to be used in the same.

According to different studies, almost 80% of Spanish homes could not be defined as 'healthy'. This is largely due to the higher cost of this type of home, the price of which is estimated to be 15% higher than conventional homes. The construction of buildings and commercial establishments is normally carried out rapidly, giving relatively little consideration to the wellbeing and health of the people that will live in the same, or use them for work or leisure purposes. As a result, and in light of the recent advances in this field in the EU, Spanish constructions are starting to be controlled through binding and directly applicable legislation.

It is important to bear in mind in this analysis that the principles of prevention, precaution and sustainable development are going to collide head on with the ever more vertiginous and buoyant construction sector, which is one of the principal motors of the Spanish economy, and also one of the most common pulsimeters used by economic analysts to evaluate Spain's financial and economic health.

The exponential growth in the sectors of tourism, new-home construction (in some cases second homes) and real estate investment that has been witnessed in Spain over the past years represents a clear risk to the environment of the majority of urban areas of our country and may even put at risk the ecosystem itself, directly affecting the flora and fauna of the same.

One of the main problems posed in Spain in the past years is the progressive specialisation of some areas related to the tourist sector, thus causing the abandonment of other types of productive sectors. This growth in the 'business of tourism' has catapulted the expectations of local, national and international real estate operators. As a result, there has been a substantial increase in the categorisation of land, policies which are developed on an autonomous basis by the different municipalities in Spain in a race to attract the biggest possible portion of the potential tourist market.

The awareness of the constantly deteriorating environment of our planet forces us to protect and care for our natural and built heritage, as if they were the two faces of the same coin. The architecture of the 21st century must contemplate these and other questions if it does not want to become an accomplice to the construction of an artificial or virtual landscape, dubiously consistent with the habitable legacy of the planet. In many parts of the world, once we lose the concept of construction in agreement with our surroundings, identity is likewise lost and culture disappears, devastated together with the environment on which it was dependent.

When projected in a responsible manner, urban planning constitutes a source of values that help to care for our habitat, to improve civic behavior and the quality of life of all humanity, in addition to affording great complexity and diversity. Hence, urban planning must be specific to each case, place or environment, and must adapt to the particular social, cultural and economic circumstances.

In short, it is about developing and building whilst at the same time improving our quality of life, meeting the needs of the present without compromising those of the future, as stated in the definition quoted above, and without necessarily losing sight of the economic factor. Environmental protection may not, and I see no reason why it should, mean that urban development should cease to be economically viable or that important sectors such as tourism be affected.

Architecture considered in terms of sustainable development must maintain a logic that is aimed at the adaptation and positive utilisation of environmental conditions during the whole process of the project, the construction and the life of the edification, in addition to the use made thereof by its inhabitants, without sacrificing the quality, functionality and esthetics of the construction. The relationship between buildings and their environment is complex and any environmental evaluation must contemplate the whole process, from the extraction of materials to their replacement.

There now exist new techniques and materials that permit us to take on new challenges, for which reason it is necessary to maximise our sensitivity, care and consumption of natural resources in this process of technological adaptation, down to the smallest detail of each constructive element. In effect, this century's constructions will have to be impregnated with new and old questions, treated coherently under the global umbrella of adaptation to the general objective of saving the planet. This, and no other, is the fundamental change with which we are faced today when evaluating whether there exists a criteria for sustainable building.

This article should not end without a brief reference to a key instrument of environmental control, namely environmental taxation. Damage to the environment is sought to be redressed by using the revenues from such taxes to repair environmental damage, or by imposing taxes on activities or products which affect the environment.

The use of tax measures for environmental purposes calls for regulation at a national level rather than the application of local taxes.

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