URBAN SPACE, LAND USE AND SUSTAINABILITY
– A DIFFICULT RELATIONSHIP

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Abstract. Buildings must always be considered in conjunction with their surroundings. Factors like landscape, climate, topography, neighboring buildings traffic and infrastructure have an effect on every building plot, and determine the urban context. In addition, architecture, landscape architecture and urbanism are usually incorporated into a complex network of supply and disposal systems. This “networking” covers not just the technical infrastructure, but also social and cultural amenities that guarantee mobility, communication and integration. This is consistent with the technical and economical rationale plus the nature of human beings as “social creatures” that rely on neighborhoods, on social and cultural services. Finally, the high division of labor in employment structures render necessary the need for access to workplaces, trade and industry. Besides planning to suit the location and the provision of technical infrastructure, the efficient use of land is critical for the energy-related optimization of buildings, urban spaces and an increased quality of life.

Keywords: land use, urban space, mixed usage, social integration

INTRODUCTION

The use of land, as a finite resource that cannot be reproduced or repeated, has always been characterized by various interests and the demand for efficient utilization. In terms of land use, buildings and infrastructure have to compete with the production of food and energy, the supply of raw materials, the conservation of nature, the landscape and diversity of species, plus many other functions. Driven by social notions of value, individual and public economic interests, further and future uses of space determine the dynamics of already built-up areas. The key role in these types of spaces and in regard to efficiency is the pattern of development with respect to land use.

MATERIAL AND METHOD

In the towns of Middle Ages, work was carried out on the ground floor of the house and the upper floors were used as living accommodation. Farmers working in the surrounding region were often integrated into the urban structure. Towns grew by transferring operations that required considerable space (farmyards), beyond the town’s borders.

Industrialization and the associated growth in the populations of towns resulted in a rapid increase in the demand for space, which led to dense grid layouts that dominate whole urban districts to this day. In doing so, open and public spaces were reduced to a minimum. This type of small format, high-density urban structures defined by space efficiency did cover housing needs, hygiene requirements were virtually ignored, Fig. 1.

The value of open spaces and recreational functions (“loisir”) became higher and more obvious. The ideal image of living outside the city (as an image and way of life) and in the countryside, initially gave rise to new “garden cities”, and created the first “neighborhood”
centers in the urban spaces. An answer to the high (horizontal) density, overpopulated structures, poor health conditions and lack of open spaces, the slogan “Air, light and sun” became the proclamation of the urban planners, and architects of the 1920s.

Figure 1. “Traditional” urban spaces

For example, clearances between buildings were defined so that all habitable rooms had access to sunlight, and the first courtyard clearances of perimeter blocks took place.

The CIAM (International congress for modern architecture) “Athens Charter” dating from 1933 was an attempt to solve the problem throughout a comprehensive restructuring of towns and cities. In particular the demand for generous open areas for citizens, a strengthening of the individual functions and an increase in the order in the systems formed the basis for urban planning objectives. The neighborhood centers themselves became towns, which were given functional designations e.g. residential estates, commercial and service areas, etc. Figure 2.

Figure 2. Prototypical urban spaces
However, the clear demarcation of uses contradicts the structural concept of urban systems and urban life. Links between individual uses can no longer form, structures have to be doubled, needs met in duplicate. The main result is traffic, and traffic wastes space, time and energy. Secondary effects are the increasing environmental impacts in urban developments and lower quality of life for inhabitants.

RESULTS AND DISCUSSION

The prototypical models of urban spaces, that started to develop from the “Athens Charter” in the 1930s right until the last decades of the XXth century have few “recipes” and condemn cities to be organized along monocentric, polycentric or sectorial lines, the so called “Zwischenstadte” (“neither city nor landscape- Thomas Sieverts), and these provide only initial points of reference, as a break from the dysfunctional models provided by the “traditional urban structures”.

The urban space can only function due to the interaction of building functions, open spaces and the networking with neighboring spaces. Urban spaces are more and more heterogeneous – in terms of both use of land and their supply structures. Strengthening the individuality and heterogeneity of these spaces increases their attractiveness both in terms of usage and social aspects.

CONCLUSIONS

Usage integration – the provision of services is crucial for the sustainable development of urban structures. Mixed usage always has a positive effect on the quality of life because traffic –the plague of modern “rational” urbanism- can be avoided. If a demand cannot be met locally (local traffic), people travel to another urban space in order to meet that demand (regional traffic). Regional traffic in excess of 20% leads to energy, resources and economic strength being lost from a region. In countries such as Germany, through legislation (Federal Building Code), the strengthening of the relationship between inner city zone, and thus users and needs, is strongly encouraged. Open spaces linked to each other help to define an urban area, merge habitats for flora and fauna, at the same time improving the recreation and leisure opportunities for inhabitants.

Social integration- in order to improve the attractiveness of the urban space, certain reactions are necessary with respect to demographical developments and changing social requirements:
- accessibility: barrier free buildings enable all people to use them
- identity: urban spaces and buildings with an individual character promote identity;
- integration: the ever greater segregation within social structures can counteracted by diverse, mixed, adaptable housing and garden styles linked via places for meeting and communication, indoor and outdoor, that encourage social exchange

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