

## City-Bearing Geology

CARVALHO, E. T. GEOLURB, BELO HORIZONTE, BRAZIL

Urban geology is a branch of applied geology. There is great lack of awareness about actual extent and significance of relations between cities and geology. "City-bearing geology" doesn't replace "urban geology", but emphasizes city dependence on geology. Urban planners conceive city as a two-layer set of interdependent elements: superstructure and infrastructure. Really both lie on the geological system, geological *platform*, that provides sustainability to all cities.

Factors of sustainability are grouped: Global geodynamics; atmosphere; mineral resources, including water; physical bearing conditions; environmental impacts absorption ability; special scenery bearing ability. The first is free from destructive action and generates the others, all mayor geological subjects for sound planning and management, deeply dependent on geological approaches.

Conventional and real structure of cities are presented: Conventional city has superstructure (buildings), and infrastructure (streets), both lying on an unspecified terrain; real city, geo-supported city, has superstructure and mesostructure lying on real infrastructure, its geological basement or platform.

In conventional city, role of geology is not structurally recognized. Use of geologic knowledge is incidental, thematically circumscribed and frequently *post-mortem*. In real city, role of geology is structurally recognized. Use of its knowledge is continuous, because it plays an important role in decisions and execution.

City-bearing geology, the same as urban geology, is a very distinct branch of applied geology. It includes common abilities of general geologist, hydrogeologist, engineering geologist, and essentials of urban metabolism from the phenomenological approach in spacial-time dependence of city on geology.