



Ecohydrological Perspective of Addis Ababa: Opportunities and Challenges for Sustainable Development

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Water resources at the basin scale are the result not only of climatic conditions and geomorphologic structures, but also biological growth and succession. However, the current hydrological system analyses ignore the biological aspect and emphasize on the mechanistic approaches. These over-engineering solutions of anthropogenic modification of the hydrological cycle further aggravated degradation of biological structures and increase the frequency of extreme hydrological events and decline global freshwater availability. Historically, Addis Ababa had good natural vegetation cover with different indigenous tree species that belongs to Afro-montane forest and woodland. With the long year of civilization, most of the Vegetation covers of Addis have changed to asphalts and building. Particularly, with the last one decade with massive infrastructures development, the land cover changed as a consequence the hydrological system radically changed. Addis Ababa, the capital city of Ethiopia with its total land area of 520 km², has a downward topography in north-south direction with elevation ranges from 3200 m.a.s.l at the highest peak to 2200 m.a.s.l at the lowest point. Annually, it receives 1100mm a mean rainfall with 10.7oc -23.3oc mean temperature. The vegetation system at hillsides around the city, wetlands and green parks in the mid of the city and the cultural cemetery systems can be a good base of the city green solution development. In addition, the country constitution, water sector and urban development policies are supportive for sustainable city development. However, it is challenged with technical, environmental, socio-economical and institutional challenges that needs integrated urban development plan and design to excel the opportunities over challenges.

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