

P302

Which Ecological Information Do We Need to Restore the Degraded Urban River?

Lee Chang-Seok

Faculty of Environment and Life Sciences, Seoul Women's University, Seoul 139-774

In oriental countries where people live on rice, most floodplain of rivers and/or streams were transformed to rice fields in the past and banks were constructed nearby waterway to prevent damage from flooding. Therefore, widths of most rivers and/or streams were reduced sharply. Furthermore, much of those rice fields were not only again transformed to urbanized areas including residential area but also meandering and complex channels were changed to straight and monotonous ones in urban areas. In such continuous transformation processes, riverside communities have been greatly degenerated or destroyed by tree cutting, the introduction of exotic species, the diversion and channeling of water for agriculture, and the use of river beds and shores for cultivation or even as roads. But urban area necessitate restoration of the nature including river to buffer environmental stress occurred from excessive land use. Habitat types and vegetation structure in several semi-natural or natural rivers chosen as reference rivers were investigated to get ecological information necessary for restoration of urban river degraded by excessive artificial interference. Habitats in anatural channel were divided into nine types by environmental characteristics including micro-topography. Each habitat holds specific organisms to each site and thereby the number of plant communities, and of species of benthos and fish increased as the kinds of habitat types increase. Vegetation of semi-natural or natural rivers showed different stratification and species composition depending on topographical position in relation to disturbance frequency. Plant species to be introduced in each microhabitat, where is different in ecological characteristics including disturbance frequency, to restore the degraded urban river were suggested by synthesizing ecological information obtained from semi-natural or natural rivers.