University of Zabol
Graduate school

The Thesis Submitted for the Degree of M.Sc
(in the field of Geography and urban planning)

Feasibility Study and green City approach with an emphasis on reuse of renewable water resources (Case study: Zabol city)

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Abstract
Today, urbanism bears socio-economic as well as environmental consequences. Therefore, many modern geographical and urban planning theories have focused on environmental principles as a fundamental issue. In the meantime, the concept of green city is going to create an environment-friendly city in urban communities. As urban population (including population of Zabol) is increasing, available water resources are increasingly being consumed. If these resources are used up or not recycled, citizen's lives will face many problems. Thus, the aim of the present research was to explore the ways to provide water resources for Zabol through urban sewage treatment as one of the most important indicators of a green city and a main source of optimally recycling drinking water. The present descriptive-analytical research was based on library resources, documents and field observations. This research examined the possibility whether Zabol has the potential to become a green city by using renewable water resources from urban sewage. To measure this possibility, we collected all indices that affect a green city based on EIU standards. The indices include 8 main components and nearly 40 sub-indices of various dimensions of green city and we examined them using fuzzy inference system. The results of this research showed that by installing suitable treatment systems, of total sewage produced in Zabol (4.110.000 cubic meters) 3.493.500 cubic meters healthy, potable water can be returned to the consumption chain of citizens; this amount comprises more than 30% of water consumed by households of Zabol (3.150.000 cubic meters). Consequently, the index of Zabol urban sewage plays an important role in creating green city of Zabol and in resolving water problems in the region. Using fuzzy inference system, it was proved that apart from other effective indices, the index 'urban sewage' is not able to realize 50% of features of green city and all effective indices should be enhanced together so that a green city can be realized.
Key words: Zabol city, green city, urban sewage treatment, fuzzy inference system