عنوان مقاله:

An integrated method to valuate the function of green roofs in absorbing air pollutants; Case study: Tehran

محل انتشار:

مجله تحقیقات منابع انسانی, دوره 7, شماره 1 (سال: 1398)

تعداد صفحات اصل مقاله: 8

نویسندگان:

Elma Mohammadi - *M.Sc. in Environmental sciences, College of Fisheries and Environmental Sciences, Gorgan University of Agricultural Sciences and Natural Resources*

Seyed hamed Mirkarimi - *Assistant professor, College of Fisheries and Environmental Sciences, Gorgan University of Agricultural Sciences and Natural Resources*

Marjan Mohammadzadeh - *Assistant professor, College of Fisheries and Environmental Sciences, Gorgan University of Agricultural Sciences and Natural Resources*

خلاصه مقاله:

Tehran is the capital city of Iran and its inhabitants are suffering from air pollution.Green roofs can be one of the choices to deal with this problem. In this paper, ability ofgreen roofs in absorbing four air pollutants (PM10, SO2, NO2, and CO2) in Tehran wasvaluated. First, the potential of 1 m2 of a hypothetical green roof in Tehran in absorbingPM10 and SO2 during 1 year was estimated using a dry deposition model. Absorbingpotential of green roof for NO2 and CO2 was taken from other studies. Next, the reductionof each air pollutant was valuated using replacement cost method. Then, results weregeneralized to the total roof areas of the residential buildings in Tehran for the green roofslife span. Estimations showed that value of green roofs covering an area of 94,093,625 m2in reducing PM10, SO2, NO2, and CO2 during 50 years in Tehran will be 506,361,775 $.

کلمات کلیدی:

Extensive green roof, Air pollution, Valuating ecosystem services, Replacement cost method, Dry deposition