Geophysical Research Abstracts Vol. 19, EGU2017-3296, 2017 EGU General Assembly 2017 © Author(s) 2017. CC Attribution 3.0 License.



Soil use in gardens as chance to socially promote the Sustainable Development Goals

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Gardening is a form for citizens to use the ecosystem functions of soils, while simultaneously contributing to the Sustainable Development Goals (SDG) 11, 12 and 15 of the UN. In 2016, 8.4 million people in Germany gardened several times a week and 14.2 million people worked in their garden several times a month*. Furthermore, the "Bundesverband Deutscher Gartenfreunde e.V.", an allotment gardening association, has 947.137 members that use an area of 460 km^2 for gardening**. This shows that gardening is a frequent pastime for many people and thus can help achieve the SDG's.

Interdisciplinary research in six gardening associations was conducted to investigate soil knowledge and soil use in Southern Germany. Questionnaires and interviews with people that chose gardening as a pastime took place in 2015 and 2016. The respondents were interviewed in the respective garden plot to also observe on-site garden management practices. The combination of sociological and ethnological approaches for investigating the soil scientific research question of soil management practices in leisure gardens is useful to start a public discourse on the importance of soil for society. The evaluation showed that soil use in gardens could contribute to the SDG's 11, 12 and 15.

Goal 11 is to make cities resilient and sustainable. Soil use in form of gardening is a bottom-up approach that conserves knowledge on small-scale food production. This is important for the resilience of cities in times of crises, as has been the case during the Great Depression or the World Wars. It is closely connected to Goal 12, the sustainable consumption and production patterns. If gardening activities are sustainable in the use of fertilizers, small-scale sustainability and a resilient soil use that also protects the soil and ground water can be achieved. However, this necessitates cooperation between scientists, gardening societies and the individual gardeners on equal terms.

Gardening also affects the biodiversity in the garden plot and its vicinity and thus relates to Goal 15, the halt of biodiversity loss. Gardeners influence the biodiversity through different plant species that attract pollinators on a small scale. Careful use of herbicides and pesticides also protect the soil fauna. Gardeners already accept and appreciate biodiversity in their gardens. Thus, gardening associations could be the starting point to more social acceptance of biodiversity protection measures, also making soil fauna a subject of discussion.

^{*}https://de.statista.com/statistik/daten/studie/171915/umfrage/haeufigkeit-gartenarbeit-in-der-freizeit/

^{**}http://www.kleingarten-bund.de/de/portrait/zahlen-und-fakten/