Co-funded by the
Erasmus+ Programme
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Project 2017-1-IT02-KA201-036968 - IO3

DAYLIGHTING RIVERS
SCIENCE EDUCATION FOR CIVIC ECOLOGY

Effects of urbanisation on soil loss and water cycle
WORKSHEET 1

Think about your province/region/municipality.

Do you know how big is it (km^2)?
……

Can you give an estimate of the urbanized surface (km^2 or %)?
……

How much is the forested area (km^2 or %)?
……

Do you think that have been changes in the last century? In which areas?
……
……
……
……

How would you calculate the soil loss due to urbanization using two land cover maps, one old and one recent?

Draft the steps of work you would perform.

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WORKSHEET 2

How many land cover classes did you find in your region/province/municipality?

……
……
……
……

How much surface was covered by forests ….. from the oldest land cover map (year……)?

……
……
……

How much surface has been urbanized?

……
……
……

Has the forested surface increased or decreased? How much?

……
……
……

Has the urbanized surface increased or decreased? How much?

……
……
……

List as many as possible negative or positive effects of urbanization on soils. Then, make some reflections.

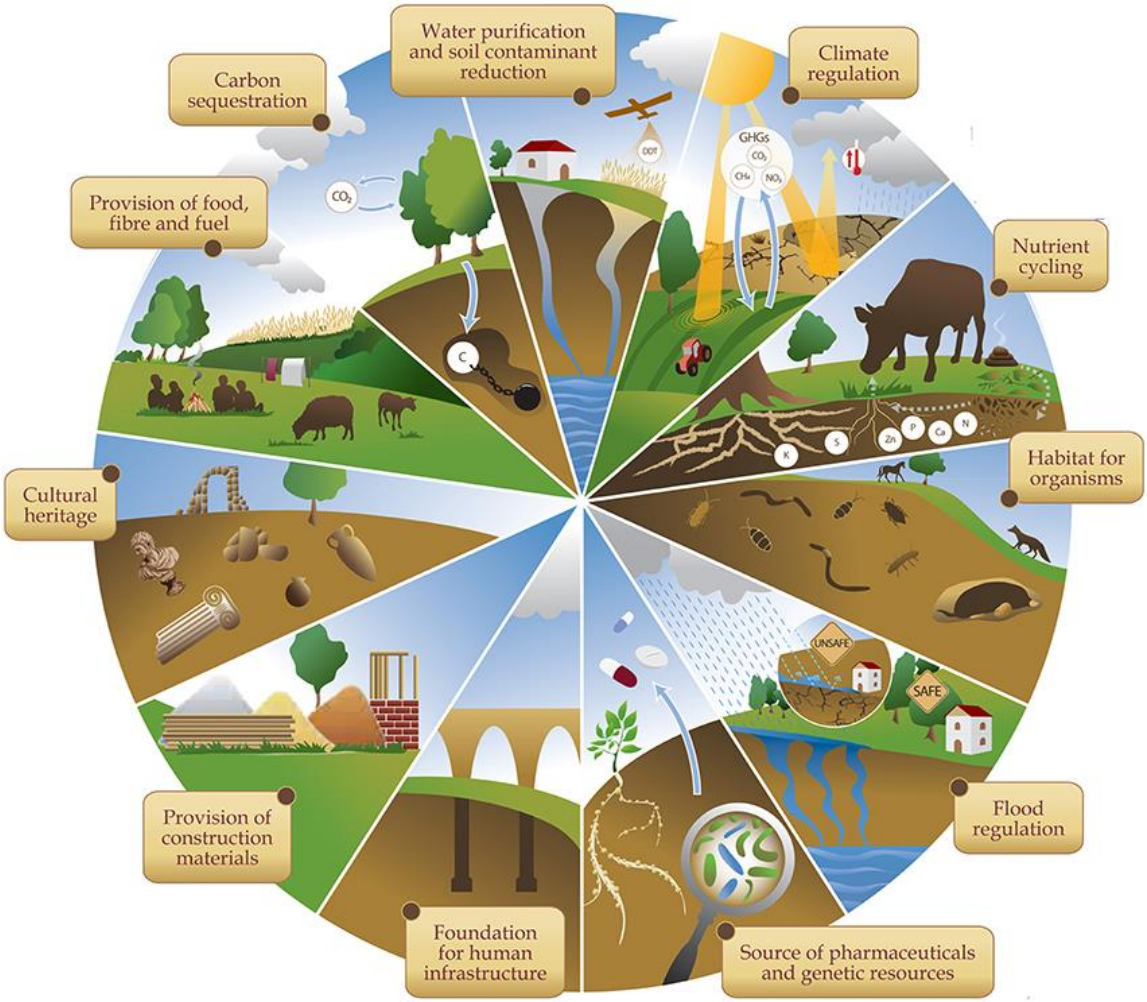
……
……
……

EFFECTS ON THE WATER CYCLE

In case of a storm, raining 100 mm in a few hours on a neighbourhood of 2 hectares with a green playground area of 1000 m², how much rain would go directly in the drainage system assuming that the playground can absorb/infiltrate it all?

……
……
……

Which of the represented soil services to ecosystem are affected by urbanization in your area?



Source: https://www.frontiersin.org/articles/10.3389/fenvs.2016.00041/full