

WAYS TO REDUCE THE ECOLOGICAL FOOTPRINT

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Abstract

In the present paper, we analyse some local ecological footprint applications that have produced results for various bio-productive areas and how to intervene sustainable development policies to achieve a carbon footprint. Local policies on sustainability need to address this impact. The environmental footprint, effectively used to monitor progress towards sustainability, must take into account the need to support local activities. Because of its intuitive and ease of computation, it has quickly become a method of assessing human pressure on natural resources and ecosystem services. Because it is perceived as an instrument that helps to set an agenda for local policies, it must produce a reliable picture of what is happening on their territory and this includes both the impact of citizens and production.

Key words: ecological footprint, biocapacity, sustainability.

INTRODUCTION

The World Environment and Development Commission, through the Brundland Report (1987), draws attention for the first time to the governments of the countries to address environmental issues without harming the economy. The main objective of the Brundland report was to help define shared perceptions of long-term environmental issues and the appropriate efforts needed to successfully solve environmental problems.

The Earth Summit in Rio in 1992 officially put the issue of a sustainable future on the international agenda by establishing the aspirations of signatory states on economic growth, social equity and environmental protection. To make sustainability a reality, we have to determine tools to measure in some way or other humanity's energy and resource throughput. (Wackernagel, 1999)

The concept of ecological footprint was introduced for the first time by the professor William E. Reese in the paper: „Ecological footprints and appropriated carrying capacity: what urban economics leaves out”. Reese defines ecological footprint: „total area of land required to sustain an urban region”. (Reese, 1992)

The ecological footprint is a measure of how much area of biologically productive land and water an individual, population or activity requires to produce all the resources it consumes and to absorb the waste it generates,

using prevailing technology and resource management practices. (Global Footprint Network, 2018)

MATERIAL AND METHOD

Biocapacity is the total amount of productive countries. The difference between ecological footprint and biocapacity shows whether a country is a debtor or ecological creditor. An ecological deficit occurs when the Ecological Footprint of a population exceeds the biocapacity of the area available to that population. (Global Network Footprint, 2018)

According to World Wide Fund for Nature, the economic growth of the European Union has doubled the ecological impact on the planet over the past 30 years. Although it holds only 7.7% of the global population and 9.5% of the planet's bio-capability, the EU is responsible for 16% of the global ecological footprint. In next table is presented the Ecological deficit/reserve of European countries.

Table 1

Ecological deficit/reserve of European countries

Country	Ecological deficit/reserve	Country	Ecological deficit/reserve
Austria	-2.9	Italy	-3.4
Belgium	-5.8	Latvia	+2.4
Bulgaria	+0.1	Lithuania	-0.8
Croatia	-0.6	Luxembourg	-10.9
Cyprus	-3.1	Malta	-4.3
Czech Republic	-2.9	Netherlands	-5
Denmark	-2.7	Poland	-2.3
Estonia	+2.7	Portugal	-2.4
Finland	+6.8	Romania	+0.1
France	-2.0	Slovakia	-1.2
Germany	-3.2	Slovenia	-2.4
Greece	-2.7	Spain	-2.5
Hungary	-0.9	Sweden	+3.1
Ireland	-1.3	United Kingdom	-3.8

Source: made by authors according whit: <http://data.footprintnetwork.org/#/>

Whit a few exceptions, (Bulgaria, Estonia, Finland, Latvia, Romania and Sweden) the E.U. countries face a deficit of natural resources. If only a generation ago, Europe was an eco-creditor and used less resources than it was discerning, at present the consumption of Europeans far outstrips existing resources.

In 1961, european ecological footprint was 1.29 (Number of Earts) and became 2.79 Number of Earts in 2014, whit a top in 2007, when the footprint was 3.07. (<https://www.footprintnetwork.org/resources>)

In next table are presented Number of Earths needed if all people on the planet had the Footprint of an average resident of the european countries.

Table 2

Number of Earts needed			
Country	Number of Earts	Country	Number of Earts
Austria	3.1	Italy	2.6
Belgium	4.3	Latvia	2.2
Bulgaria	1.7	Lithuania	2.4
Croatia	1.9	Malta	2.5
Cyprus	2.4	Netherlands	3.6
Czech Republic	2.8	Poland	2.4
Denmark	4.3	Portugal	2.6
Estonia	2.8	Romania	1.4
Finland	3.1	Slovakia	2.1
France	2.7	Slovenia	2.6
Germany	2.6	Spain	2.3
Greece	2.5	Sweden	3.7
Hungary	1.6	United Kingdom	2.6
Ireland	3.2		

Source: made by authors according whit: <http://www.wwf.eu/?229870/EU-continues-to-run-an-ecological-deficit-says-new-Living-Planet-Report>

Belgium has one of the world's largest Ecological Footprints per person, requiring an equivalent of 4.3 Earths. In the same time, Romania has the lowest Ecological Footprint in the EU, at an equivalent of 1.4 earths. The challenge for Romania is to advance economic prosperity and human development significantly without expanding its footprint.

RESULTS AND DISCUSSION

In this condition is compulsory to find ways to reduce ecological footprint of european countries. Europa can do this by investing in innovations in areas of food, heath, nature management and to build transport and a city infrastructure that can facilitate transition to a sustainable future. (<https://www.greenbiz.com/news/2005/06/15/european-union-releases-first-ecological-footprint-report>)

Other solutions to protect resources would be: use of soil cultivation techniques and more efficient irrigation systems, reduction of waste and food waste and use of renewable energy.

The fourth dimension of sustainable development, culture, must become a priority. The relationship between culture and sustainable development was highlighted in the World Summit of Local and Regional Leaders, 3rd World Congress of UCLG held in Mexico City. Through the Network of Excellence "Sustainable Development in a Different World,"

the European Union interprets culture as key element of new sustainable development strategies. (Principles for a Positive Urban Future, 2014)

CONCLUSIONS

The ecological footprint of humanity exceeds by 30% the planet's ability to regenerate. Over the last 50 years, mankind's pressure on the planet has doubled. This pressure has two main reasons: demographic growth and increasing individual consumption due to rising living standards.

Accelerated demographic growth depletes the ecosystem and waste accumulates in air, water, soil and subsoil. Massive deforestation, lack of drinking water, biodiversity loss and climate change caused by greenhouse emissions lower the natural capital of the planet.

In these conditions, the states of the world need to unite their efforts in order to answer the new challenges, local leaders need to optimize their public investment projects, but, in same time, each individual must understand the impact that his actions have on the planet.

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