

# CARBON FOOTPRINT: A MEASURING TOOL FOR NATURAL RESOURCE MANAGEMENT

Dr. Ruchi Pareek<sup>1\*</sup> and Dr. Vandana Kaushik<sup>2</sup>

<sup>1</sup>College of Community and Applied Sciences, MPUAT, Udaipur

<sup>2</sup>Professor, College of Community and Applied Sciences,  
MPUAT, Udaipur

## INTRODUCTION

The environment is complex and amassed of different environments, including natural, constructed and cultural environments. Environment belongs to all the living beings and thus is, significant for all. Environment should be studied to understand the changing processes in water, air, land, soil and organisms which may lead to pollution or degradation of environment. People from all walks of life and from all occupations affect and are affected by environmental issues like global warming, depletion of ozone layer, dwindling forest, energy resources, loss of global biodiversity etc. Appreciation of environmental problems is therefore an interdisciplinary examination of how biology, geology, politics, policy studies, law, religion, engineering, chemistry

and economics unify to update the reflections of humanity on the natural world. Sufficient attention has been given on establishing standards, for safe, clean and healthy natural ecosystem and an equal thought has also be given to issues like safe and clean drinking water, hygienic living conditions and clean and fresh air, fertility of land, healthy food and development, but still country lags behind in achieving desired landmarks of safe environment.

By 2030 it is expected that about half of the Indian population will be residing in urban areas and urbanization accompanies a mixture of problems of water supply, sewage disposal, municipal waste, the lack of open landscaped spaces, air and water pollution, and public



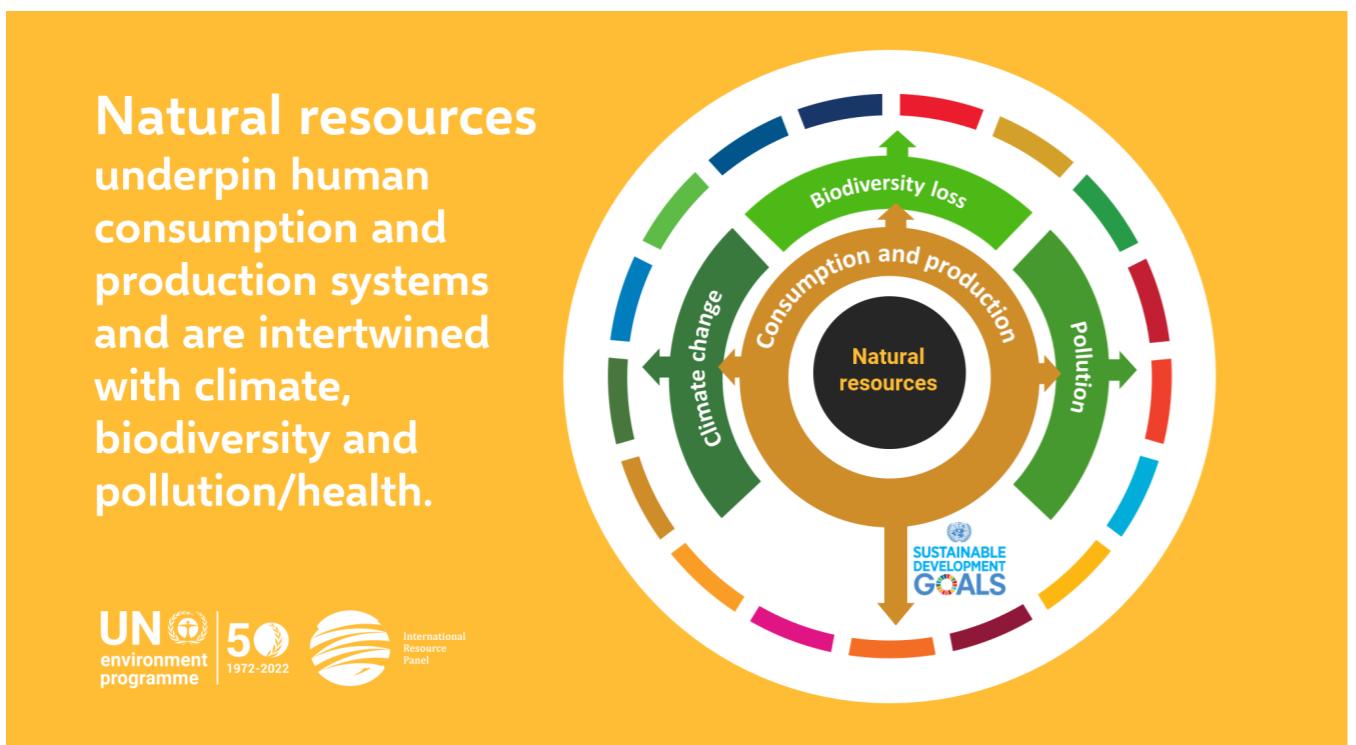
transport, along with others. The impact of rapid urbanization on the environment needs to be studied constantly since urban areas are the major sources of anthropogenic Carbon dioxide emissions from the burning of fossil fuels, industrial processes, transportation of people and goods. These lifestyles are becoming more popular in growing cities worldwide. Understanding and analysing, the issue of carbon emission is essential to study as it is significantly altering and damaging the environment and all its dependents from extinction. The footprint concept has become a popular tool to estimate environmental pressure arising directly and indirectly from the activities of individuals and households. Carbon footprint is the amount of Carbon

dioxide created by human activity. The Carbon dioxide emission is mainly responsible for climate change (global Warming) that means changes to temperature on and around the Earth's surface, which cause long term shifts in weather patterns. Climate change isn't limited to one region; it impacts the whole orb. It is causing polar ice sheets and glaciers to melt and sea levels to rise. Extreme weather events such as typhoons and hurricanes are becoming more common in some regions of the world, while other regions experience more punishing droughts and heat waves.



Most of the human activities are directly and indirectly releasing green house Gases into the atmosphere by exploiting fossil fuel at a very high rate. Meeting cooking energy requirement through fuel wood by cutting down and burning of forests in rural and slum area, is a chief source of releasing green house gases. Day to day human activities are dependent on coal based electricity, diesel and petrol for vehicles and LPG for cooking in kitchen, all of this energy is derived from fossil fuels. The emission generated by households through consumption of electricity is usually more complex than that of the other fossil fuels which are directly consumed in using process of heat, as the production process of electricity itself, consumes a lot of fuels and has been recognized as one of the main source of carbon emission.

The future of living is highly dependent on consumers' beliefs and attitudes toward more sustainable and environmentally friendly habits. In future, people's lifestyles will probably not change drastically. However, people will adopt new technologies that help them in their everyday lives increasing their overall wellbeing, a society in which innovation, high living standards and sustainable economic development will be obtained without straining the environment too much. Further, regulation imposed by authorities could encourage people to make sustainable choices.



To reduce their carbon footprint practitioners of sustainable living often attempt to alter methods of transportation, energy consumption, and diet. Relevant sources, sinks and storage within the spatial and temporal boundary of the population, system or activity of interests of a defined population, system or activity are considered as a measure of the total amount of carbon dioxide (CO<sub>2</sub>) and methane (CH<sub>4</sub>) emissions. Land clearance and the production and consumption of food, fuels, manufactured goods, materials, wood, roads, buildings, transportation and other services could be the reason of greenhouse gas (GHGs) emission. It is often expressed in terms of the amount of carbon dioxide, or its equivalent of other GHGs, emitted for simplicity of reporting.

Suggesting a global relationship between expenditure and emissions that holds across several orders of magnitude difference on the global level, 72 per cent of greenhouse gas emissions are related to household consumption, 10 per cent to government consumption, and 18 per cent to investments. Food accounts for 20 per cent of GHG emissions, operation and maintenance of residences is 19 per cent, and mobility is 17 per cent. Food and services are more important in developing countries, while mobility and manufactured goods rise fast with income and dominate in rich countries. The importance of public services and manufactured goods has not yet been sufficiently appreciated in policy. Policy priorities hence depend on development status and country-level characteristics. Researchers assessed the environmental impact of household consumption in 2016 by analysing the environmental impact of household consumption in terms of the material, water, and land-use requirements, as well as greenhouse gas (GHG) emissions, associated with the production and use of products and services consumed by the households. The study highlighted the importance of environmental pressure arising from households with their consumption

contributing to more than 60% of global GHG emissions, with wealthier countries generating the most significant impacts per capita, the footprints are unevenly distributed across regions. Elasticities suggest a robust and significant relationship between households' expenditure and their environmental impacts, driven by a rising demand of non primary consumption items. Across the environmental footprints mobility, shelter, and food are the most important consumption categories. Globally, food accounts for 48% and 70% of household impacts on land and water resources, respectively, with consumption of meat, dairy, and processed food rising fast with income. Shelter and mobility stand out with high carbon intensity, whereas the significance of services for footprints relates to the large amount of household expenditure associated with them.

## CONCLUSION

The footprint theory has become a well-liked contrivance to estimate environmental pressure arising directly and indirectly from the activities of individuals and households. It is important because households are eventually the main consumers of land, water, food and other goods and services that increase consumption. The choices individual makes in their households-indoor and outdoor, travel, the food they eat, buy and throw away, all influence household's carbon footprint. The computation of footprints to see the level of consumption of these resources and then using them rationally can ensure a stable climate for future generations. Individual habits influence decisions and actions in their daily life, which further affect environmental resources through their activities. Calculating household carbon footprint shows exactly how choices in homes and purchases, impact on environmental resources. Footprints give an estimate of how much carbon emission occurs to sustain lifestyle of a person's choice.