

Study on Ecological Footprint

I'm a powershifter 2014

Raj Prasai

Pratigya Kattel

Tourism Development Endeavors

Contents

Ecological Footprint 1

What is your ecological footprint?..... 3

What does Bio-capacity and Global Hectare means?..... 3

 Bio-capacity..... 3

 Global hectare is: 3

Objectives 4

Data Collection Techniques 5

Problem statement 5

Significance/Output of the study 5

Major Findings of Study 6

 Implications of data 10

Ecological Footprint and Sustainability..... 10

Conclusion..... 10

References 11

What is your ecological footprint?

How many planets would we need if everyone lived like you? An ecological footprint measures the total amount of land and resources used; it includes your carbon footprint but goes further. It accounts for the flows of energy and matter to and from any defined economy and converts these into the corresponding land/water area required for nature to support these flows. The Ecological Footprint is defined as "the area of productive land and water ecosystems required producing the resources that the population consumes and assimilate the wastes that the population produces, wherever on Earth the land and water is located."

Ecological footprint is the world's premier measure of human demand on earth ecosystem, rooted in the fact that all renewable resources come from earth. The total "footprint" for a designated population's activities is measured in terms of 'global hectares.' A global hectare (acre) is one hectare (2.47 acres) of biologically productive space with an annual productivity equal to the world average.

What does Bio-capacity and Global Hectare means?

Bio-capacity is the capacity of ecosystem to produce biological materials useful for people and to absorb waste they generated (CO₂ from burning of fossil foils) using current management schemes and extraction of technologies. Bio-capacity is usually expressed in Unit of global hectares. The bio-capacity of an area is calculated by adjusting the area for its productivity.

Global hectare is:

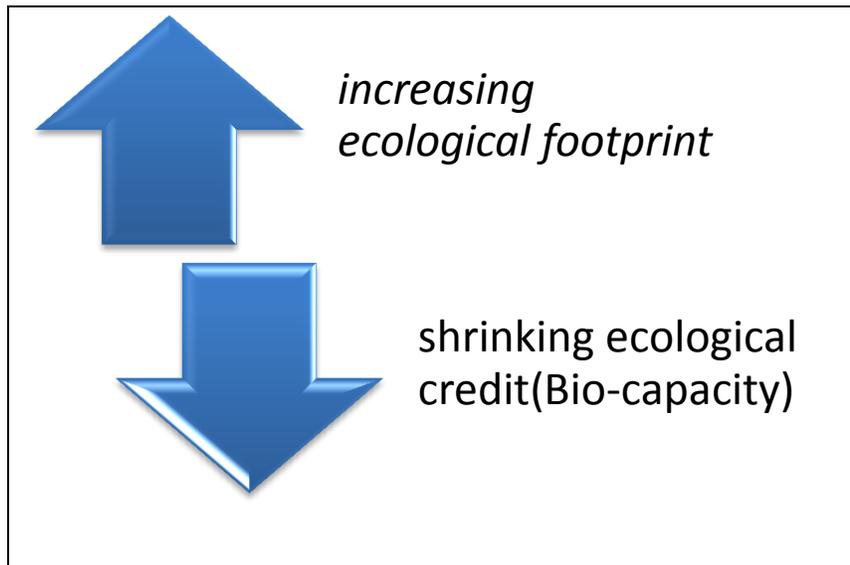
The global hectare (gha) is a common unit that quantifies the bio-capacity of the earth. One global hectare measures the average productivity of all biologically productive areas (measured in hectares) on earth in a given year.

Examples of biologically productive areas include cropland, forests, and fishing grounds; they do not include deserts, glaciers, and the open ocean."Global hectare per person" refers to the amount of biologically productive land and water available per person on the planet. e.g., in 2005 there were 13.4 billion hectares of biologically productive land and water available and 6.5 billion people on the planet. This is an average of 2.1 global hectares per person. Due to rapid population growth, this figure is decreasing.

The global hectare is a useful measure of bio-capacity as it can convert things like human dietary requirements into a physical area, which can show how many people a certain region on earth can sustain, assuming current technologies and agricultural methods. It can be used as a way of determining the relative carrying capacity of the earth.

A given hectare of land may be measured in equivalent global hectares. For example, a hectare of lush area with high rainfall would be scale higher in global hectares than would a hectare of desert.

It can also be used to show that consuming different foods may increase the earth's ability to support larger populations. To illustrate, producing meat generally requires more land and energy than what producing vegetables requires; sustaining a meat-based diet would require a less populated planet.



Objectives

At the end of the study, the research will be able to provide sufficient background that addresses the following issues.

- To find out the ecological needs by per person.
- To find out how much land is required to meet the demand of people having same lifestyle.
- To find out how we can adopt the eco friendly behavior to reduce the demand per day by individual in practice.
- The major objective of measuring ecological foot print is to know how much resource we are using now and what its adverse impact to the nature is.

Data Collection Techniques

- Basically data is collected in every week from 5 people. We will provide them a ecological footprint calculator form and remind them the day before of its form submission.
- After that we will collect these data and present them in a bar graph for individual and also for the next day same procedure will be repeated.
- We will have a group meeting to discuss and analyze our data that has been collected and also we will note that how much we can improve in our daily behavior to reduce demand of our daily needs.

Problem statement

As we all know we all want high service, lifestyle with much pleasure and advance infrastructure. So people of developed countries and urban people may not believe in changing their advanced lifestyle which leads in more consumption of resources and ecological food print will be higher. If people are more conscious about their resource consumption pattern and can adopt alternatives in their daily lifestyle to save our planet earth we can surely live in our planet for many next years in those available resources.

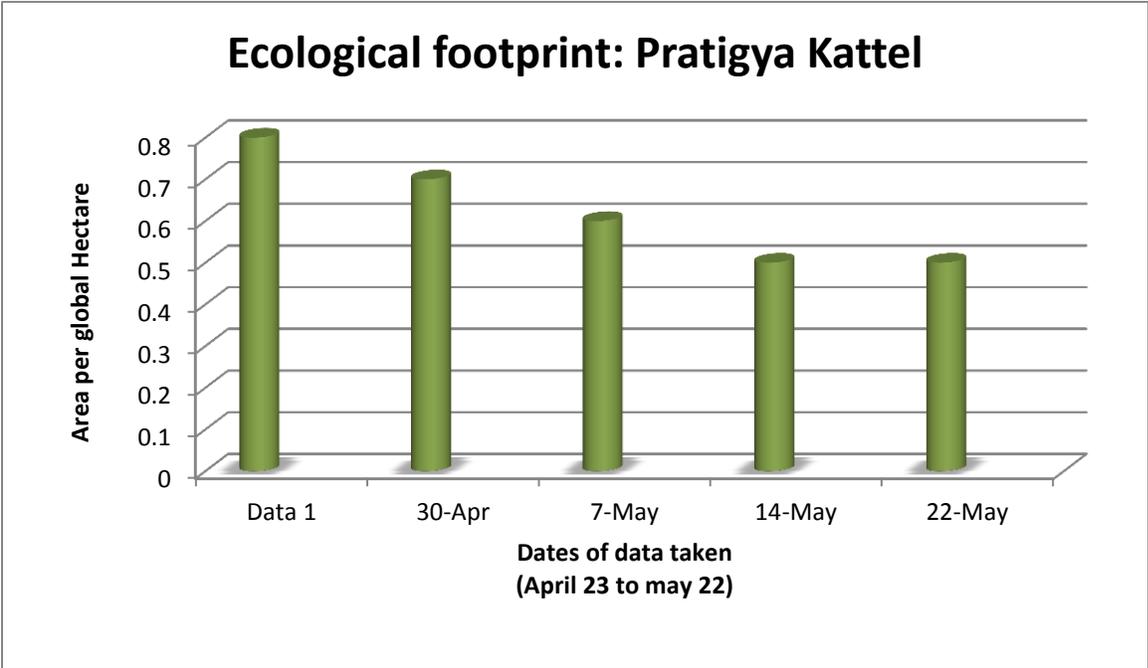
Significance/Output of the study

The study will show how one can reduce their ecological footprint by changing their regular behaviors. This will let us know the differences that small things will make and the contribution of these differences to the environment.

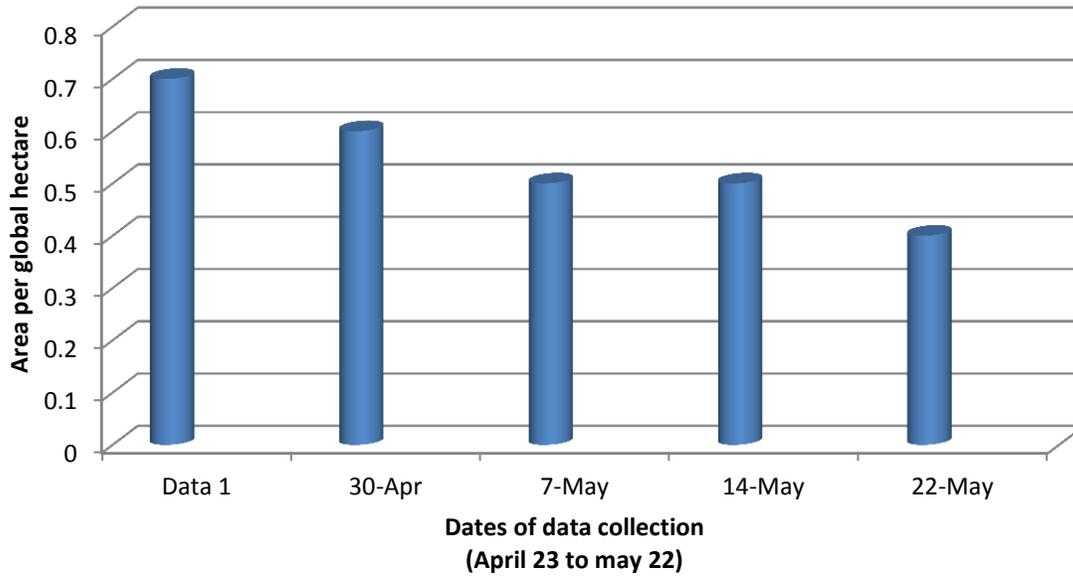
The participants filling the form will come to be familiar with the components that the ecological footprint deals with. The final result will be documented. This will also be outreached through social Medias. We believe this will open the eyes of many. The promotion and reaching to the aware population will at least make them little more conscious towards the environment and let them rethink towards their daily lifestyle.

The small research in this limited time with limited number of participants will prove to be worth as this will further encourage other rising researchers to conduct in a larger context.

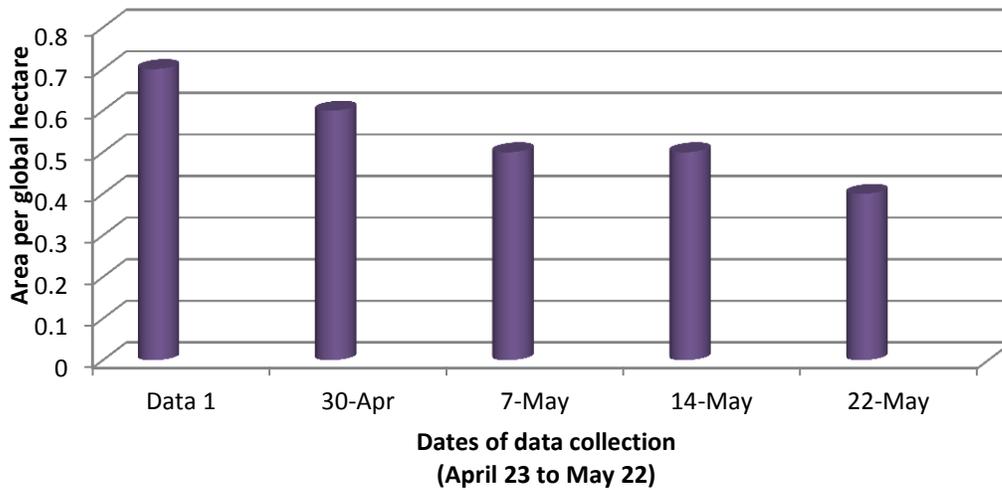
Major Findings of Study



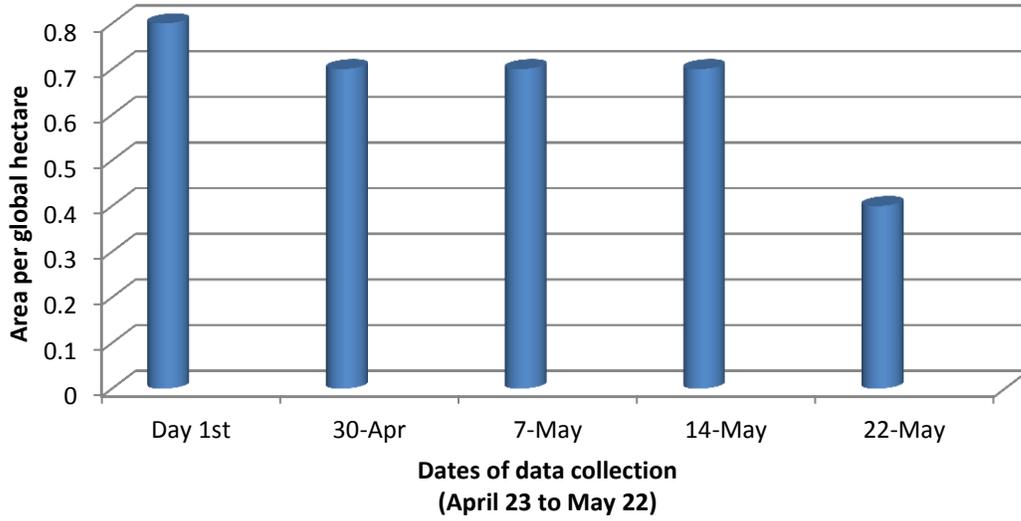
Ahana's Ecological Foot Print



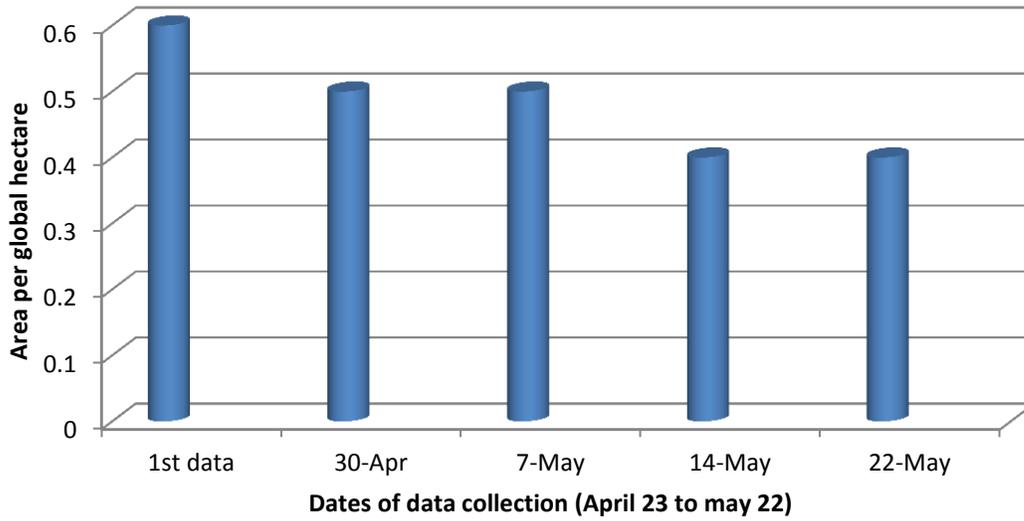
Sagarika's Eologootprintcal Footprint

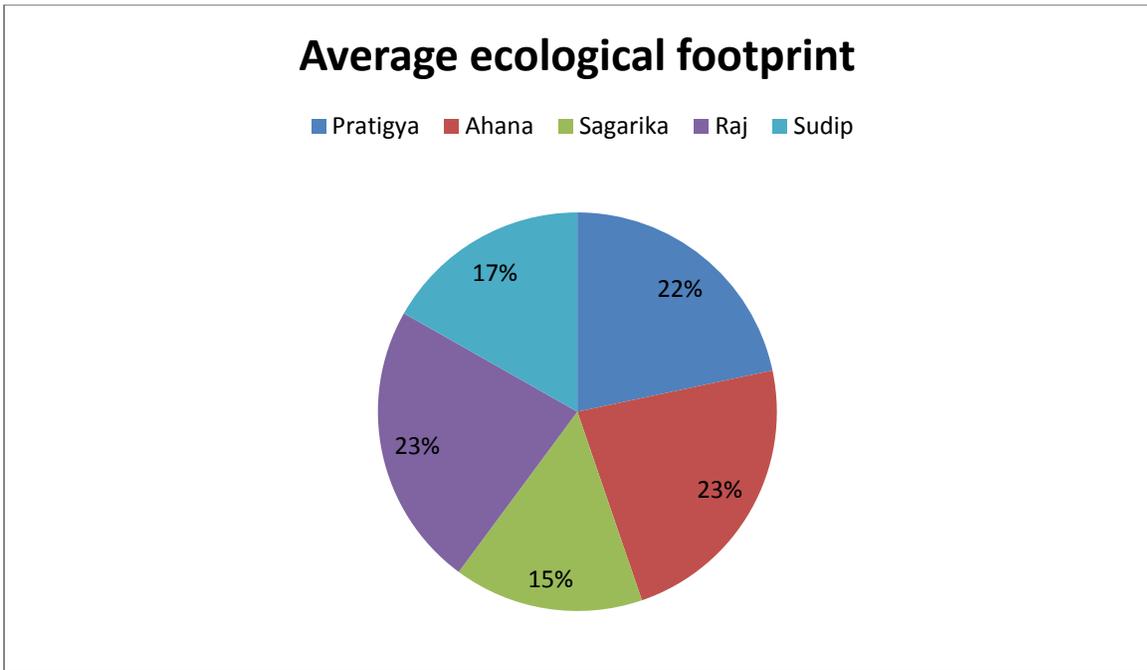
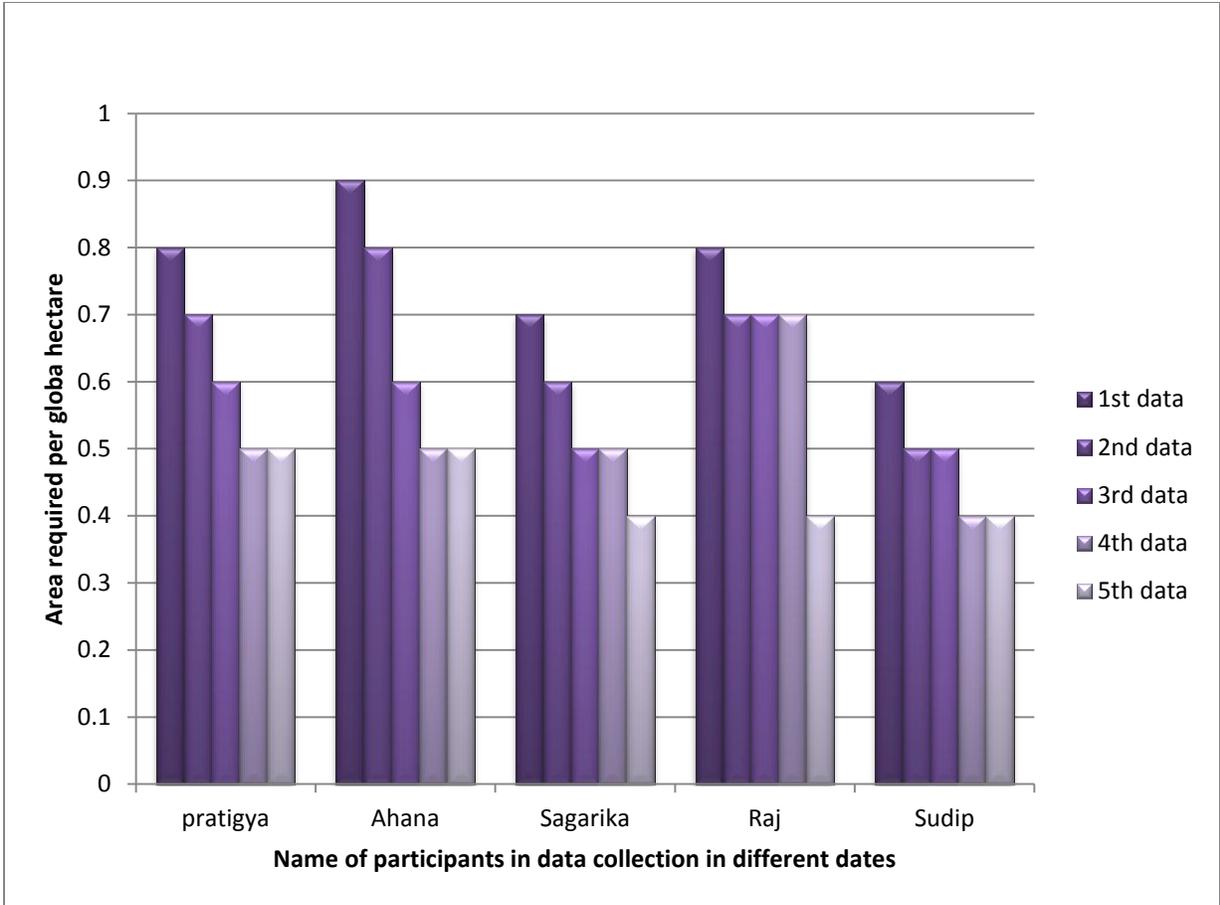


Raj's Ecological Footprint



Sudip's Ecological Footprint





Implications of data

The global average availability of bio-productive land + sea per person is 1.8 global hectares / person, we have the highest ecological footprint measured in our research is 0.9 at first date. Though we are living in developing country, national water system is sufficient to feed our population if we managed it properly, have lots of greenery and agricultural land, we noticed that we have much lower ecological footprint than the developed countries like USA and Canada.

Also above data shows the variations with the date, we all are students and conscious about our current practice, we collected data in every week for continuous 5 week by changing our feeding, living and travelling behavior. We reduced our meat consumption rate, least amount of money spent in clothing and travelled in public vehicle, and for short distance we've walked. Over the period of 35 days we totally change our daily behavior so we can assume that what if everyone will live like us.

Ecological Footprint and Sustainability

The ecological footprint attempts to answer one central sustainability question "how much of the bio-productive capacity of the biosphere is used by human activities?" Footprint accounting answers with that question by translating all humans demand on the biosphere in to the amount of productive area required to support these demands, either through producing resources or assimilating wastes. This can be then compared to the total biologically productive land available at global level or within specific region. (MC Intyre and peters, 2007)

Conclusion

Ecological footprint figure confirms us about the degree of sustainability of our lifecycle from the environmental perspectives. It demonstrates how much resources we have and how rapidly we are using them for our present existence. It illustrates either we are on right track by maintaining the balance or we are living on environmental credits, burrowing our resources from future generations.



References

1. <http://www.slideshare.net/ShakilURP06BUET/ecological-as-a-sustainability-indicator-14964789>
2. <http://www.slideshare.net/ShakilURP06BUET/ecological-as-a-sustainability-indicator>
3. <http://www.slideshare.net/drsuneel/ecological-footprint-11736726>
4. <http://footprintnetwork.org/en/index.php/GFN/page/calculators/>