



WEEK 1

THE ORIGINS OF SUSTAINABILITY

**Managing Sustainability
BMA6105**

Exercise: Paul Erlich's IPAT equation

$$I = P \times A \times T$$

'I' stands for 'Impact' of humans on the environment

What do the P, A and T stand for?

Paul Erlich's IPAT equation

$$I = P \times A \times T$$

Impact = Population x Affluence x Technology

For example:

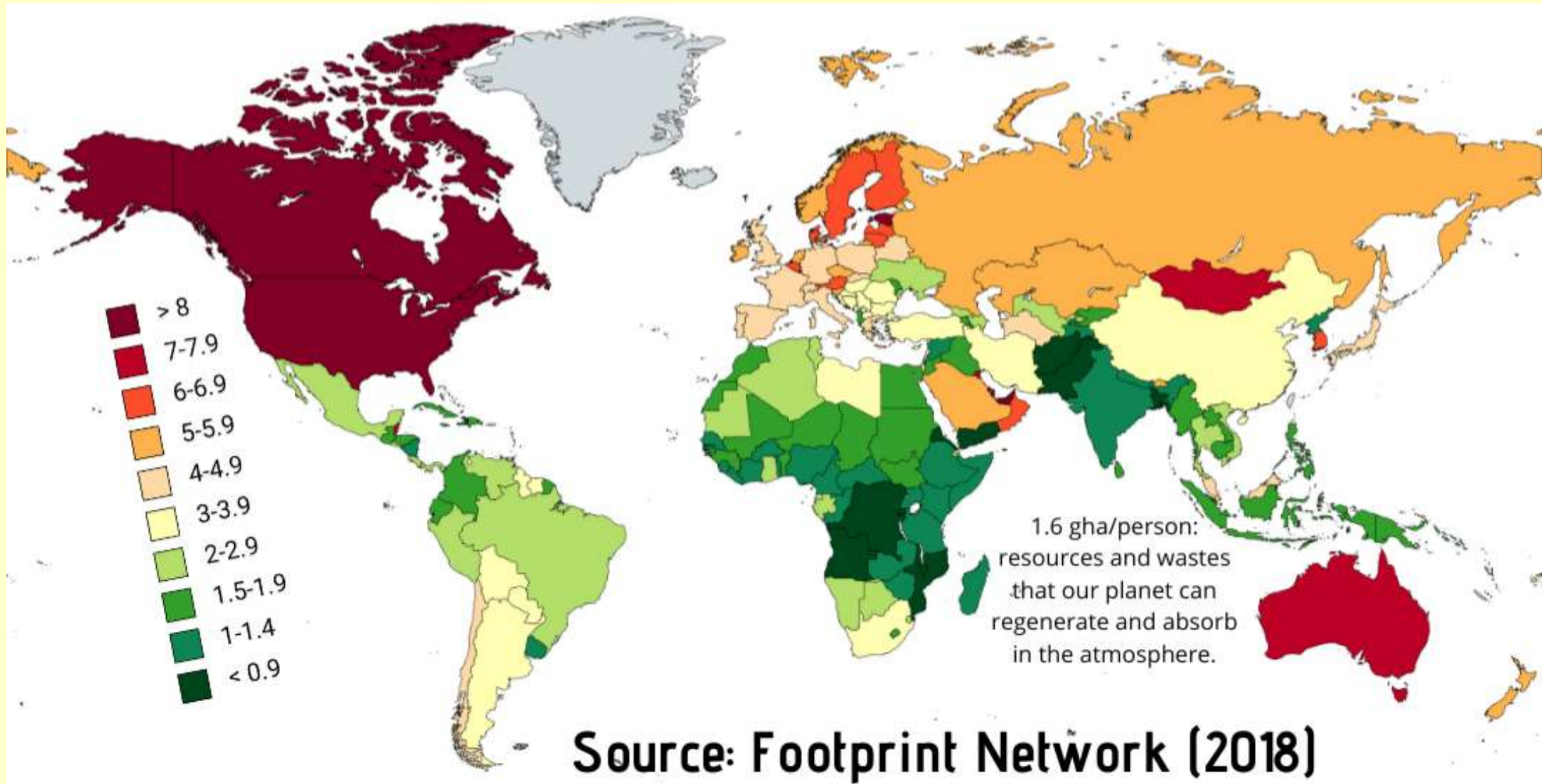
Quantity of waste = (number of people) x (number of goods per person)
x (quantity of waste created per good)

Exercise:

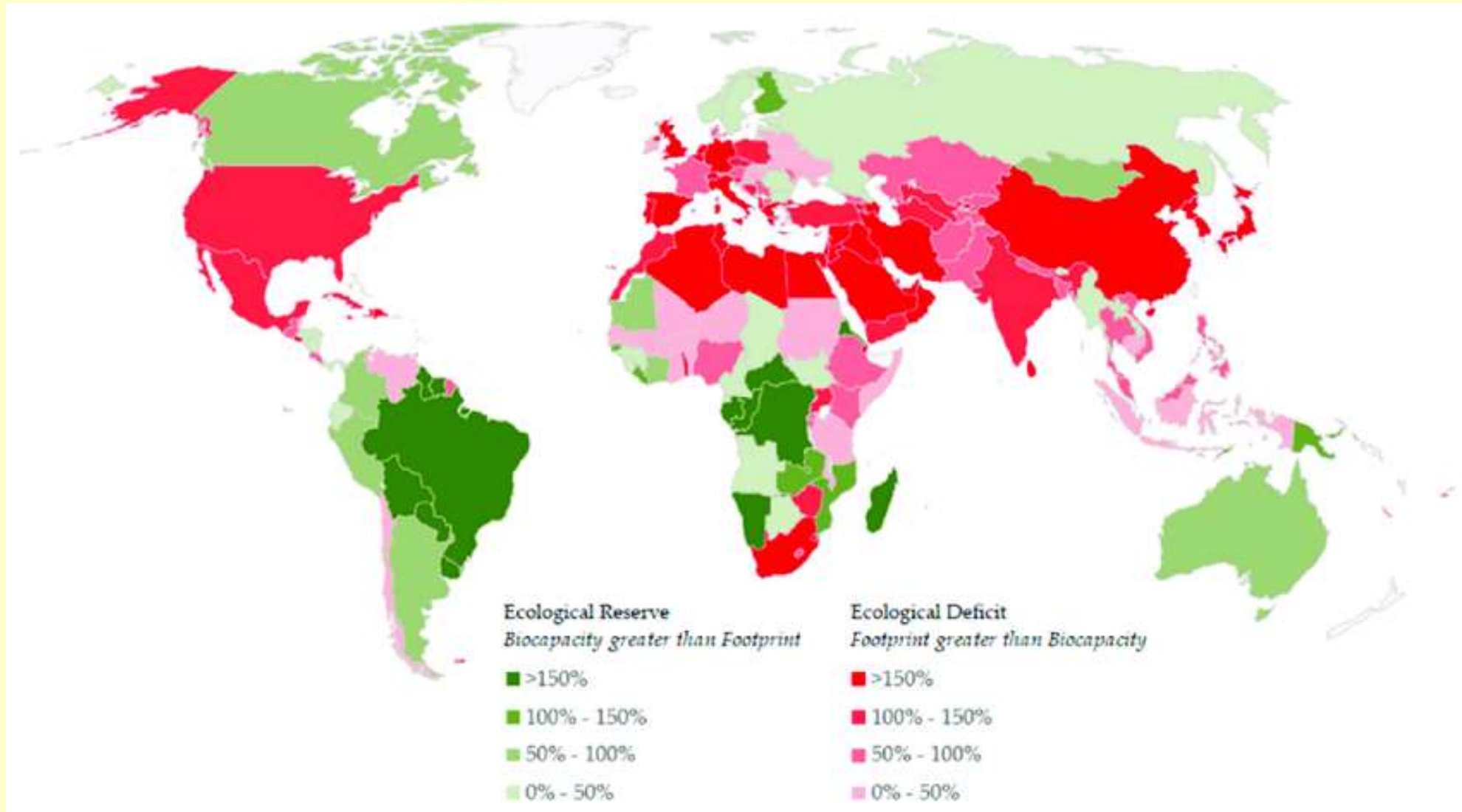
Globalisation: 'Check a label' exercise

- A key theme of sustainability is the connection from local to global.
- Where do your clothes come from?
- With the help of others in your group, check the 'Country of origin' label for the clothes you have with you. Assemble a list:
 - How many different countries are represented?
 - Who makes the most/largest/commonest items?
 - What materials are used most? Which are most/least valuable in your view?
 - What is the future for these clothes and materials?

1. Ecological footprints: Global hectares/person



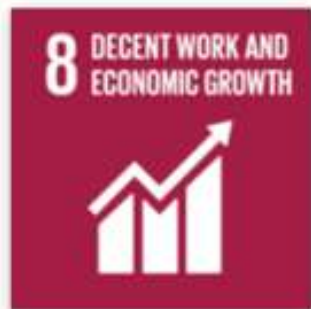
2. Ecological footprints: National surplus and deficit



Exercise: Ecological Footprints: National or global use of resources?

- With the global human population, an ecologically balanced footprint would be around 1.6 ghas/person; it is currently around 2.8 ghas/person
National footprints: USA (8.1 gha) UK (4.2 gha) Brazil (2.6 gha) India (1.2 gha)
- Should the UK come down to 1.6 ghas/person? How could we try to do that?
- Should countries consume only within their national biocapacity? (see map 2)
- If countries exceed their national biocapacity, what should be done about that?
- What is a fair level of consumption? Per person, and per country?
- How should this be determined? How can it be determined?
- What is the role for business in addressing a balanced ecological footprint?

Exercise: Sustainable Development Goals



SDGs: Stage 1: ACHIEVABILITY BY 2030

- Achievability:
- Rank the 17 SDGs in order from highest to lowest achievability by 2030
- ie. how far can we get in realising these goals?



SDGs: Stage 2 – ACTION TIMELINE

- Action timeline
- Order the SDGs into a timeline for delivery:
- What is a priority for action?
- What needs to happen next?
- Are some goals reliant on achieving others?



SDGs: Stage 3 – PROJECT TEAMS

- You have at your disposal four UN project teams to help support work on the goals
- Group the SDGs into four clusters so that you can assign one cluster to each of your project teams
- Which goals seem to fit together?



SDGS: Stage 4 – IMPACT AND REACH



- Which SDGS are most affected by the following initiatives
- (identify the SDGs affected and rank them by size of impacts):
 - 1. Global adoption of hydrogen fuel cell vehicles by 2040
 - 2. Enabling universal access to internet connectivity by 2035
 - 3. A £10 billion investment in solar-power through to 2030
 - 4. A global forests replanting programme (increasing forested land surface cover by 10% by 2035)