Pareto's Rule

Pareto's "rule" is based on an observation by a famous economist, Vilfredo Pareto (1848–1923). The rule is:

> *80 percent of the effects typically come from 20 percent of the causes.*
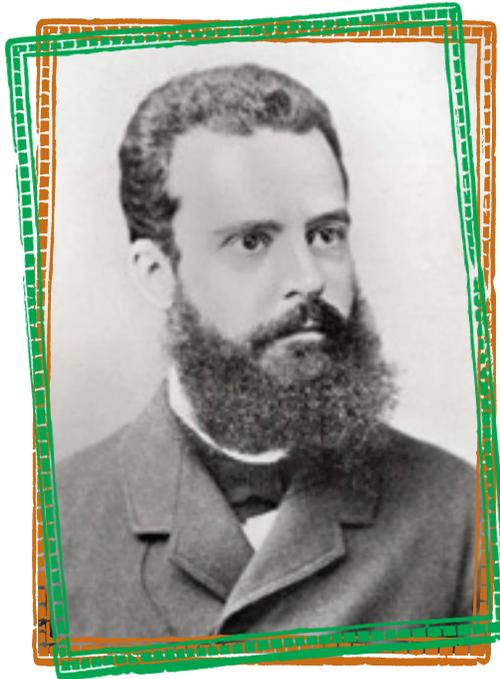
Vilfredo Pareto

I wonder what this means in terms of eco-footprints?

Broadly speaking:
- most people in developed countries have a high standard of living
- most people in developing countries have limited resources.

Activity One

1. People in developed countries use resources at a rate similar to Adena's (see pages **4–5**). If all the people in the world (100 percent) lived like Adena, we'd need 3.6 Earths to support them.

> In 2009, only 1 168 530 000 of the world's 6 778 070 000 people lived in developed countries.

a. What percentage of people live in developed countries?

b. How many Earths are consumed by people in developed countries?

c. How much of Earth's resources are left for people in developing countries?

d. What percentage of people live in developing countries?

e. If everyone in the world lived like the average person in a developing country, at what rate would they consume Earth's resources?

Eco-footprint (developed country) x **Developed population** = **Consumption estimate (developed country)**

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2. Talei wonders if Pareto's rule is a good estimate for resources used by developing countries.

    a.   How much of Earth's renewable resources does Pareto's rule predict the top 20 percent of consumers would use?

    b.   How well does Pareto's rule predict the actual share of Earth's resources used by developed and developing countries?

3. Why might people use a rule of thumb like Pareto's rule even if it's not perfect?

Activity Two

- In 2005, humanity's total ecological footprint was estimated at 1.3 Earths (in other words, we used 30 percent more resources than Earth could renew).
- The total land area of Earth is about 13 056 million hectares.
- At the start of 2009, the world had 6 778 070 000 people.

1. Based on Pareto's rule and the information above:

    a.   If the 20 percent who live in developed countries were using the products of 80 percent of the world's land area, how many hectares would these countries use?

    b.   What would this leave for the 80 percent in developing countries?

2. If people in developing countries need a bigger eco-footprint, what does this mean for New Zealand and other developed countries?

Focus   Using percentages to make comparisons

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