

Footprint Hierarchy: A Public Health Issue

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Objective

To answer the questions

- 1) Does a hierarchy exist between different footprints?
- 2) What is the impact of the footprint hierarchy on public health?
- 3) To introduce the lens of framework of ability expectation to the footprint discourse

Introduction

- Footprints are measures; they link the creation and consumption of goods and services to environmental costs
- The environment is a known social determinant of health (WHO)
- Ableism: the sentiment that certain abilities are perceived as essential (5)
- Depending on ones ability preferences and desires one perceives certain footprints as more worthy of attention than others(4)

Method

We looked at the visibility of different footprints in various newspapers from Canada and Asia (frequency analysis) Procedure: We accessed the sources as follows (the Canadian Newsstand Proquest online database (provided by the University of Calgary), the New York Times (NYT.com), China Daily (http://www.chinadaily.com.cn), Google, Google Scholar, and Malaysia The Star online (http://thestar.com.my/)

References

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Results

Table 1: Hit count frequency of footprints in NYT, Globe and Mail, Google Scholar, China Daily, and The Star online

	NYT (since 1981) from nytimes.com	Globe and Mail	Google	Google Scholar	China Daily	The Star online (Malaysia)
Footprint	2 868	446	76 200 000	380 000	1511	584
Ecological Footprint	23	19	1 270 000	25 500	56	17
Water Footprint	9	1	403 000	2 640	1	3
Carbon Footprint	624	67	29 300 000	22 300	399	218
Eco Footprint	5	2	432 000	883	13	1
Plastic Footprint	4	0	35 700	9	0	0
Environmental Footprint	57	11	1 270 000	7 810	51	17
Energy Footprint	6	0	137 000	1 550	8	4

Table 3: Chemicals found in plastic and the effects on human health

Chemical	Where it is found	Effect on health
Styrene	Packaging; disposable drinking cups	Irritation of the respiratory system; Hinders the nervous system
Bisphenol A (BPA)	Food and beverage packaging; infant bottles; medical devices	
Vinyl chloride (i.e. chloroethene, ethylene monochloride, etc.)	Pipes; vinyl sliding for houses; plastic coatings	Irritation of the central nervous system; loss of consciousness; death
Phthalates (such DEH, DEHP, and DDP)	Food packaging; automobiles; toothbrushes; nail polish; etc.	Full effects unknown, likely causes antiandrogenic effects (suppression of male hormones in the body)

(Friis, 2010)

Table 4: Solvents commonly found in water and the effects on human health

Chemical	Where it is found	Effect on health
Toluene	Nail polish; paints; adhesives	Nausea, confusion; high-level exposure can cause death
Tetrachloroethylene	Dry cleaning industry; metal degreaser	High exposure causes neurologic effects, loss of consciousness, death
Trichloroethane	Degreasing products; household cleaners	Dizziness, loss of consciousness; one form (1,1,2- Trichloroethane) is a carcinogen
Trichloroethylene	Grease-dissolving product; paint remover	Low-level exposure causes dizziness; High-level exposure can cause death
Acetone	Nail polish; cleaners; paint	Irritation, vomiting, loss of consciousness
Benzene	Plastics, resins, synthetic fibers	Low-level, short exposure causes depression of the nervous system; High-level, long-term exposure can cause death

(Friis, 2010)



Figure 2: Water consumption patterns

Table 2: Hit count frequency of footprints in Canadian Newspapers

	Calgary Herald (Alberta)	Edmonton Journal (Alberta)	Vancouver Sun (British Columbia)	Star – Phoenix (Saskatchewan)	Winnipeg Free Press (Manitoba)	Cape Breton Post (Nova Scotia)	The Gazette (Quebec)	Toronto Star (Ontario)	Ottawa Citizen (Ontario)	The Daily Gleaner (New Brunswick)	Whitehorse Star (Yukon)	National Post (Canada)
Footprint	614	631	675	230	1335	42	410	674	494	170	98	566
Ecological Footprint	42	15	51	20	38	4	18	22	13	10	2	17
Water Footprint	0	0	1	2	2	0	0	1	0	0	0	0
Carbon Footprint	104	108	127	45	229	0	61	134	58	52	18	94
Eco Footprint	13	2	7	0	1	0	2	4	3	0	0	1
Plastic Footprint	0	0	0	0	0	0	0	0	0	0	0	0
Environmental Footprint	53	40	39	13	88	1	24	19	20	10	6	26
Energy Footprint	0	0	1	0	3	0	0	1	1	0	0	1

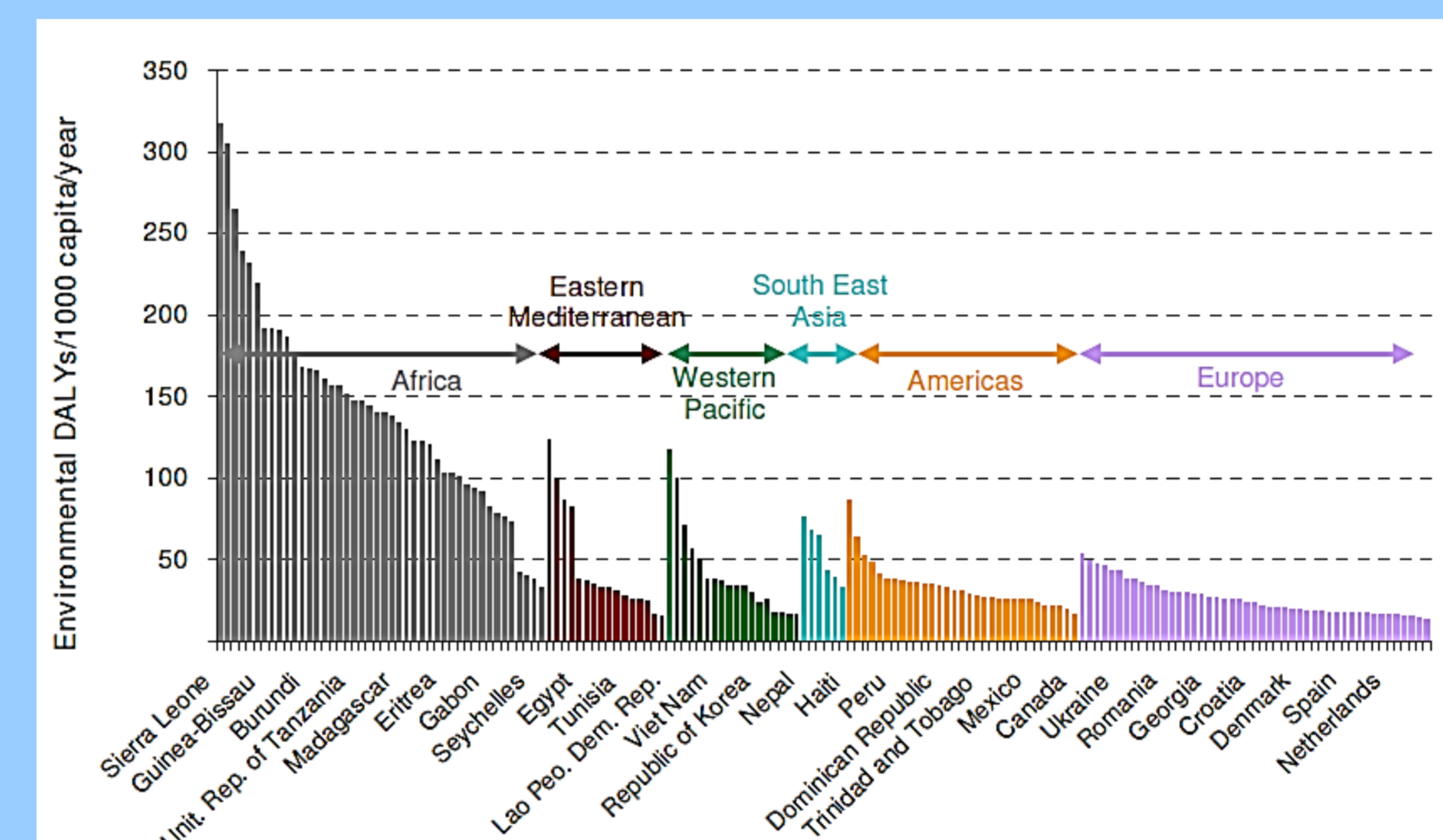


Figure 3: Environmental DALYs per capita, by country, year 2002 (Prüss-Üstün, Bonjour, & Corvalán, 2008)

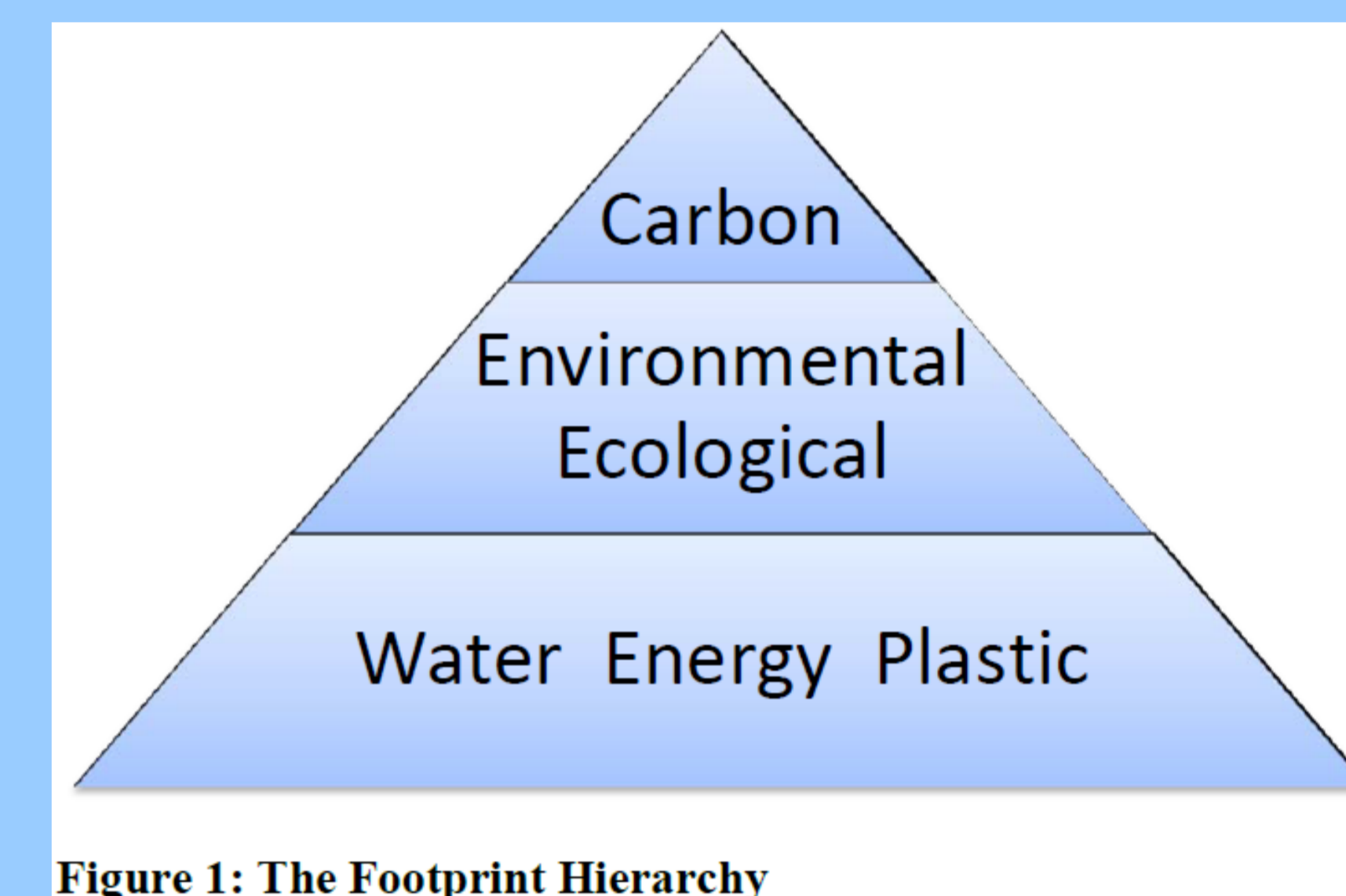


Figure 1: The Footprint Hierarchy

Conclusion

- A hierarchy is apparent amongst footprints; carbon being most visible (Table 1,2 & Fig. 1)
- Implications for health can be seen in the impact the less visible footprints have (Table 3,4)
- Environmental DALYs per capita show the current strain on health due to substandard environmental conditions (Fig. 3)
- Pollution can be caused by heat, light, sound, radiation or radioactivity, and other forms of energy. This pollution is hazardous for both human health and the ecosystem (6)
- The water footprint of consumer goods is unknown to most people(4); part of the solution could be to add water footprint information to restaurants menus (Fig. 2)
- Using an ableism lens, it is possible to analyze the motivation for undertaking certain actions such as dealing with environmental issues (4)
- Some highlighted the sales pitch of competitiveness, an ability, to generate acceptance and interest for environmental issues stating: “During the Dutch EU chairmanship in 2004, the eco-efficiency discourse was successfully coupled with the Lisbon project of revitalizing the competitiveness of the European knowledge economy, in which environmental issues were pushed as economic opportunities.” (4, 7)

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