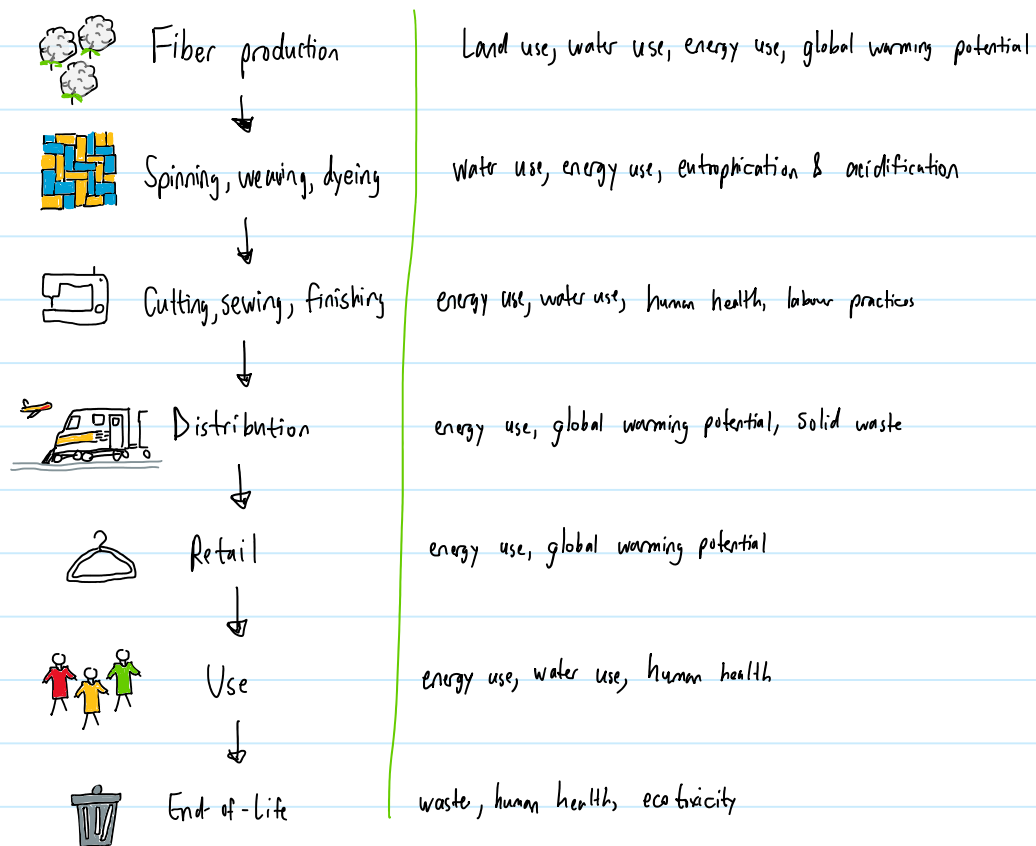


4.1.1 Introduction

► Supply Chain

- sequence of activities leading to delivery of a product or service to an "end user"
- includes resource extraction, material manufacturing, transport, information transfer, services related to producing and delivering product to, service for an end user

• Sample supply chain for cotton clothing



• Question: What makes a sustainable supply chain?

5.1.2 Decoupling Material Consumption

- Amount of materials extracted has **doubled** since 1980
 - ↳ 2010: 72 Gt
 - ↳ 2030 (projected): 100 Gt

- Materials consumption driven primarily by :
 - ↳ construction materials (36% of OECD materials consumption by weight)
 - ↳ fossil fuel energy carriers (28%)
 - ↳ biomass for food & feed (20%)

- Economic growth in OECD are gradually being decoupled from natural resource consumption
 - > ex. phone batteries: 50% warranty increase \rightarrow 50 million devices avoided \rightarrow $\frac{1}{3}$ of generated waste avoided

- Dematerialization requires:
 - 1) Policies at all government levels (i.e. federal, provincial, Indigenous, & municipal) such as:
 - > promoting integrated life-cycle-oriented approaches
 - > fees for the use of resources
 - > charges for environmental damage
 - > supporting longer product lifespans such as through increased legal minimum warranty periods

 - 2) New business models linked to improved resource efficiency of production processes and realize that "less material" can mean "more value"

 - 3) Greater consumer awareness of the role we each can play and contribute through better product choices & behaviour, for example:
 - drive internal combustion engine vehicles much much less frequently
 - significantly reduce air travel
 - buy less stuff

5.1.3. Take-Away Messages

- Economic growth beginning to decouple from per-capita consumption
- Continued use of natural resources (& consequent biodiversity loss & GHG emissions) continue due to population growth