

## The Industrial Revolution

Industrial Revolution (17th-19<sup>th</sup> century) - a period which rural societies in Europe became industrial and urbanized.

### What Happened?

- This marked a shift into special purpose machinery
- Factories and mass productions occurred
- Jobs were created
- Improved transportation/ efficient ways of communication were being developed

### Why was Britain the birthplace?

1. Resources: coal, steel, iron
2. Population growth

### Factory Working Conditions

- Low wages
- Unskilled workers were easy to replace
- Highly hazardous tasks = health risks

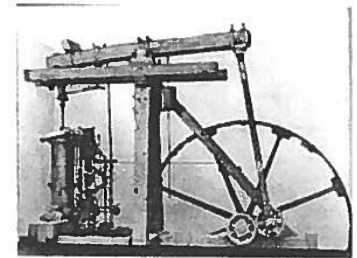
### Before The Industrial Revolution

- Manufacturing was done in homes (simple machines)
- Cottage industries a.k.a. small-scale goods produced (ex. Cloths)
- Life revolved around farming
- People resided in small rural communities

\*As goods increased new methods of production were needed\*

### Technology

- The Spinning Jenny (1764)- created by James Hargreaves
- The Steam Engine ( 1769)- created by James Watt



Steam Engine "www.pixshark.com"

### Diffusion Phases

The diffusion of the Industrial Revolution occurred slowly and caused core-periphery patterns

#### 1<sup>st</sup> Phase (1760-1880)

- Industrial Revolution moved to France, Germany, the Netherlands, U.S., and Belgium
- Places tied to England by economic activity/ trade

#### 2<sup>nd</sup> Phase (1880-1950)

- Moved towards Japan, Canada, and Russia (western places/ semi-periphery countries at the time)
- Industrial hubs developed in primarily agricultural places

#### 3<sup>rd</sup> Phase (1950- Current day)

- Continuation of countries from phase two
- Israel and Pacific rim countries becoming increasingly industrialized

\*For more information see pages 298-300 of textbook\*

# Economic Sectors

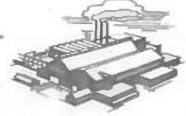
All industries can be placed into one of five **economic sectors**—sections of the economy devoted to producing similar goods or services.

## Primary Sector



- Focused on the extraction of natural resources
- Most basic sector—LDCs typically have more people employed here
- Examples of primary industries: agriculture, mining, fishing, logging

## Secondary Sector



- Focused on manufacturing or processing raw materials
- Typically what you think of when you hear the word “industry”
- Examples of secondary industries: auto manufacturing, textile manufacturing, breweries

## Tertiary Sector



- Focused on providing nontangible services to consumers
- Quaternary and quinary sectors are branches of this sector
- Examples of tertiary industries: restaurants, hotels, hair salons, legal services (quaternary), medical care (quinary)

## Quaternary Sector



- Branch of the tertiary sector focused on transportation, communication, and information processing

## Quinary Sector



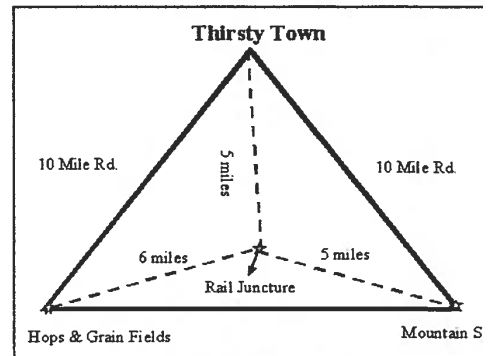
- Branch of the tertiary sector focused on research and innovation

## LOCATION MODELS

<http://teacherweb.ftl.pinecrest.edu/snyderd/APHG/Unit%207/weber/>

### *Weber's Least Cost Theory:*

- Created by Alfred Weber (1868-1958)
- Creates a "triangle" of raw materials, business, and market
- Accounts for location of manufacturing establishments
- Developed for **secondary industries**
- Focuses on **minimizing** three major costs:
  - Transportation (**most important**) - Must have lowest cost of moving raw materials to factory and finished products to market
  - Labor - Cheap labor can make up for added transport costs
  - Agglomeration - Clustering enterprises overcomes other costs



### WEBER'S ASSUMPTIONS:

- Uniform Plain (**isotropic**)
- Manufacturing involves single product sold in single market
- Inputs involve **raw materials** from multiple sources
- **Labor** is available everywhere, but is **immobile**
- **Transportation** routes are not fixed but need to take the shortest path

### Weight-Losing Case:

- Finished product is **lighter** than raw materials (less cost to transport)
- Business will locate closer to raw materials
- Ex: Toothpicks, potato chips

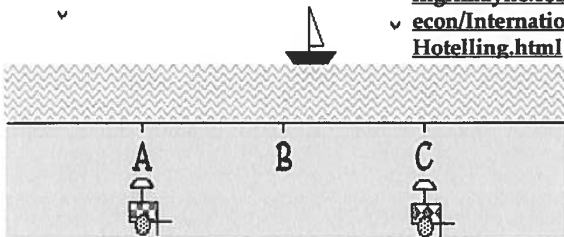
### Weight-Gaining Case:

- Finished product is **heavier** than raw materials (more cost to transport)
- Business will locate closer to market
- Ex: Cars, beverage production



### The Hotelling Beach

<http://ingrimayne.com/econ/International/Hotelling.html>



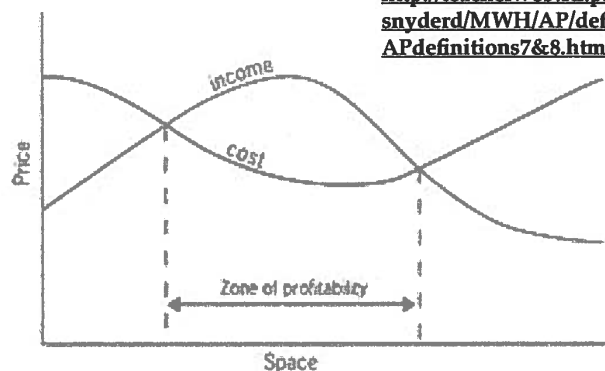
### Locational Interdependence Theory:

- Developed by Harold Hotelling (1895-1973)
- Industries will try to **maximize** profits by maximizing consumers they have
- Lots of competition with other industries
- Industries will continue to compete and shift business until they are back to back in the **middle**
- Shown by the beach model (ice cream vendors will both locate at Point B)

### Zone of Profitability:

- Developed by August Losch (1906-1945)
- Income will outpace costs at **multiple places**
- Firms will identify a **zone** of profitability (not just a single point) where income *exceeds* costs
- Based on **TWO** Factors:
  - Consumer **demand** for product
  - **Spatial** Impact
- **OTHER COSTS TO CONSIDER:** Energy, Terrain, Climate, Personal Preferences, Product Being Sold

<http://teacherweb.ftl.pinecrest.edu/snyderd/MWH/AP/definitions/APdefinitions7&8.htm>



## Measures of Development

### Gross National Income (GNI)

- The collective income of an economy generated by its production and its ownership of the factors of production.
- Expresses the total value of goods and services produced by the country.

*Ex: Apple has manufacturing plants in China in which the profit earned is counted as US's GNI.*

### Infant Mortality Rate (IMR)

- The number of children that is expected to die before the age of 1 for every 1,000 live births
- Higher IMR means poor living conditions such as healthcare
- IMR is usually high in Less Developed Countries (LDC) than More Developed Countries (MDC)

*Ex: Afghanistan has the highest IMR of 115.08 or 115 deaths for 1,000 living*

### Total Fertility Rate (TFR)

- Average number of children a woman is expected to have in a certain place in her childbearing years (15-36)
- Replacement Level: The TFR needs to be 2.1 in order to replace its parents
- 2.1 and not 2.0 due to Infant Mortality Rates

*Ex: USA has a TFR of 2.06 as of 2016 which means 2.06 children will be born per parents, in other words 206 children will be born for every 200 parents.*

### Human Development Index (HDI)

- A summary measure of average achievement in key dimensions of human development: a long and healthy life, being knowledgeable and have a decent standard of living.



### Access to Healthcare

- Higher access to health care and better health care in MDCs
- Ex: United States have higher quality health care compared to LDCs such as Pakistan.*

### Economic Sectors

- Primary  
Uses the Natural Resources.  
*Ex: Mining, Forestry, Fishing*
- Secondary  
Manufacturing the Primary Sectors, or Natural Resources.  
*Ex: Metal works and smelting, automobile production, textile production, shipbuilding.*
- Tertiary  
Provides Services to businesses and the people.  
*Ex: Transportation of goods from Manufacturing plants to Store, Entertainment (Radio)*

### Gender Inequality

- The Gender Inequality Index (GII) compares inequality between men and women.
- The Gender-Related Development Index (GDI) replaced the GII in 2010. Shows Gender equality and Inequality but replaces the GDP per capita with income.

### Income Distribution

- How income is divided between groups or individuals.
- Income inequality is a ratio of the richest and the poorest earnings.
- Gini Coefficient is a measure of statistical dispersion intended to represent the income distribution of a nation's residents.
- Several Factors contribute to income distribution and inequality such as individuals (skills), society (circumstances), and policies (tax, immigrations, labor).

### Literacy Rate

- The percentage of the population over 15 years that can read and write in their native language.  
*Developed Country has over 90% literacy rate while developing countries have around 60%.*

<http://www.undp.org/content/undp/en/home/>

For More Information see pages 67-70, 72-73, 275-279 of the textbook.

# Rostow's Stages of Economic Growth

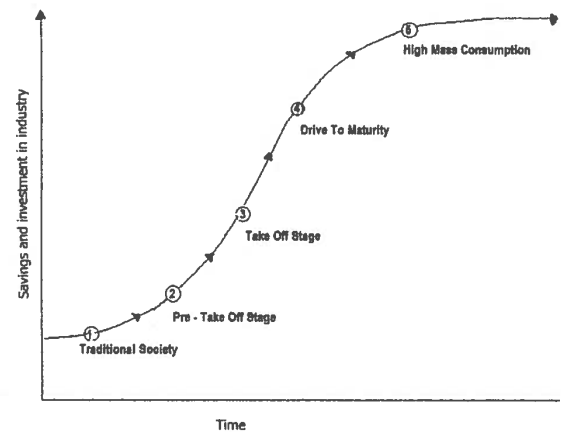
## 5 Stages:

- Stage 1: Traditional**
  - The economy is based on subsistence agriculture and has little to no infrastructure
  - Includes trade by barter and is hierarchical
  - Production is labor intensive and expensive
  - Ex: Congo
- Stage 2: Pre Take-Off**
  - Surplus, beginning of a commercial class, rising spirit of openness, increase in productivity, specialization
  - Some urbanization is taking place and a centralized government is forming
  - A modern society is being introduced but is not yet widely accepted
  - Ex: Venezuela
- Stage 3: Take-Off**
  - The economy has officially shifted from traditional to modern
  - Surge of technology, rapid expansion, entrepreneurial class and capital for profit
  - Manufacturing has expanded due to the surge of new technologies, and is bringing in profits.
  - Ex: Vietnam
- Stage 4: Maturity**
  - Technology has spread to all sectors
  - Urbanization fueled by a sustainable economy, less dependence on imports
  - Influential industrial leaders and the expansion of progress
  - Ex: China
- Stage 5: High Mass Consumption**
  - Service sector dominates (majority of the population is now working in this sector)
  - Higher incomes
  - Creation of a new middle class, causing a shift to suburbs
  - Social welfare, more resources provided towards the military and security, and increased acquisition of consumed goods
  - Ex: USA

Rostow assumed that countries passed through stages while their economy was developing.

## Criticisms:

1. The model assumes that all countries begin at the same base economic level
2. The model does not consider possible aid a country receives or the possible debt from the assistance
3. The model assumes that practices that worked in western countries will work for other countries around the world



## Rostow's Stages of Growth

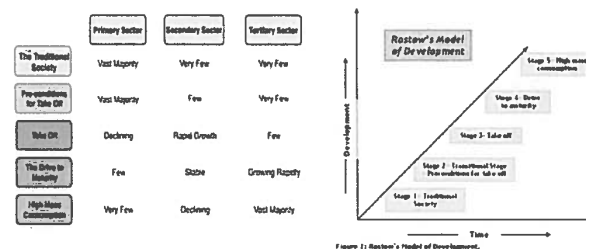


Figure 1: Rostow's Model of Development.

For more information, see pages 280-281 of the textbook.

<http://slideplayer.com/slide/8626139/>  
<https://geogyourmemory.wordpress.com/unit-2/>

# Wallerstein's World Systems Theory

- Created by Immanuel Wallerstein in the 20th century.
- proposing that social change in the developing world is linked to the economic activities of the developed world.

Divided into 3 groups:

**Global Capitalism**

causes

**International division of labor**

1. Core

1.1. Core states have high levels of development, capacity at innovation and a convergence of trade flows. Only a small part of their workforce in in the primary sector.

1.1.1. Example Areas: West Europe, United States, Canada, Australia

2. Semi-Periphery

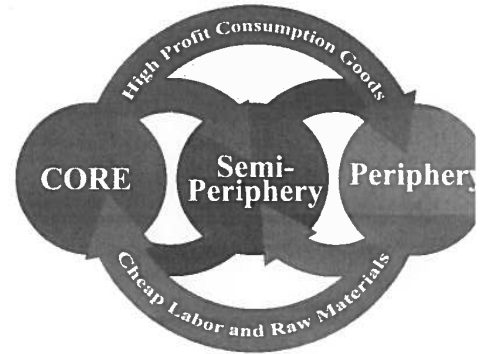
2.1. Semi-Periphery states have factors of both core and periphery states. They have some economic diversity. They are the balance in the world's economy.

2.1.1. Example Areas: Brazil, Mexico, South Africa, India

3. Periphery

3.1. Periphery countries usually have less development and are poorer countries. Most of the workforce is in the primary sector. These countries were/are most likely colonies

3.1.1. Example Areas: Iran, Iraq, Most of Africa, Eastern Europe, Russia



Wallerstein's World System Theory Model



For more information, see pages 282-284 in your textbook.

# UN Millennium Development Goals and Sustainable Development Goals

## Millennium Development Goals

### (MDG)

#### Where were they made?

- Made at the UN conference at the Millennium Summit in New York

#### When were they made?

- September 2000

#### Why were they made?

- To help other countries develop
- To fight poverty
  - They coincided with **Poverty-Reduction Theory**

#### What were they?

1. Halve extreme poverty and hunger
2. Achieve universal primary education
3. Promote gender equality/empower women
4. Reduce child mortality
5. Reduce maternal mortality
6. Combat the spread of different deadly diseases
7. Ensure Environmental sustainability
8. Create a global partnership for development

#### Summary:

- Set to be completed by 2015
  - Progress was made, but the goals were not fulfilled
- Ex: Albania's poverty reduction methods are linked to the MDGs

## Sustainable Development Goals

- In 2015, when the MDGs were not fulfilled, the UN met up again.
- They established new goals to be met by 2030
- These included eradicating poverty and hunger, improving education, health, equality, and partnerships, etc.

For more info, see pages 285-288 in the textbook



<http://www.un.org/en/africa/osaa/peace/mdgs.shtml>

<http://news.gtp.gr/2015/09/28/travel-tourism-welcome-new-un-sdgs/>



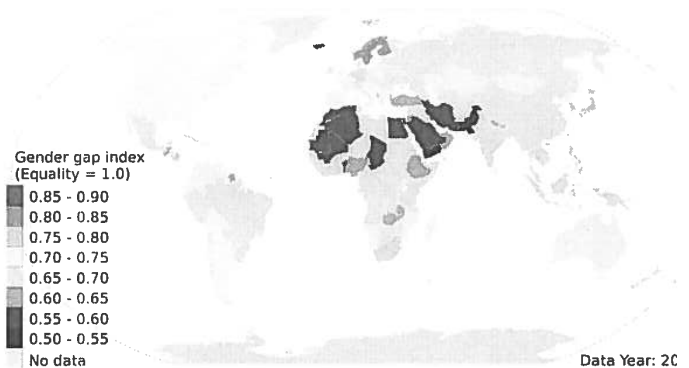
## Women and Economic Development

### TFR and Education

- As women become educated and high-skill labourers, they focus more on careers
  - Translating to having fewer children, later in life, and being more active within the workforce instead
  - This lowers the Total Fertility Rate(TFR) of the country, leading towards stable population and into the late third stage of the Demographic Transition Model(DTM)

### Economic Measures, and Inequality

- The Gender Inequality Index(GII), A measure of income inequality, a score of one represent perfect income equality, with lower scores indicating women underperforming men, a score higher than one representing women outperforming men.
- The Gender Empowerment Measure(GEM). Another measure on gender equality, taking into consideration income and participation with government and high level business, a score closest to one meaning high levels of equality, lower scores representing gaps.



### Within The Workforce

- Women compose **43%** of the Agricultural workforce globally, Sub-Saharan Africa at **80%**
- Women compose **75%** of the service workforce in over **50 countries**, most as at-home workers
- **60%** of working women in Less Developed Countries(LDCs) work in the informal sector
  - Primary employee at maquiladoras and EPZs due to ability to be underpaid

**WOMEN**  
Like men,  
only cheaper.



### Investment and 'Microloans'

- In many LDCs, there are loan groups that collect donations and choose to reinvest in local members of the communities once more. Lead by women, loan to women largely
  - Microlending, are giving small, low interest loans(<\$2K) to people in developing countries as a way of providing aid, relief, and helping to advance the country's development
    - Microlending typically favours women as recipients to aid in establishing gender equality

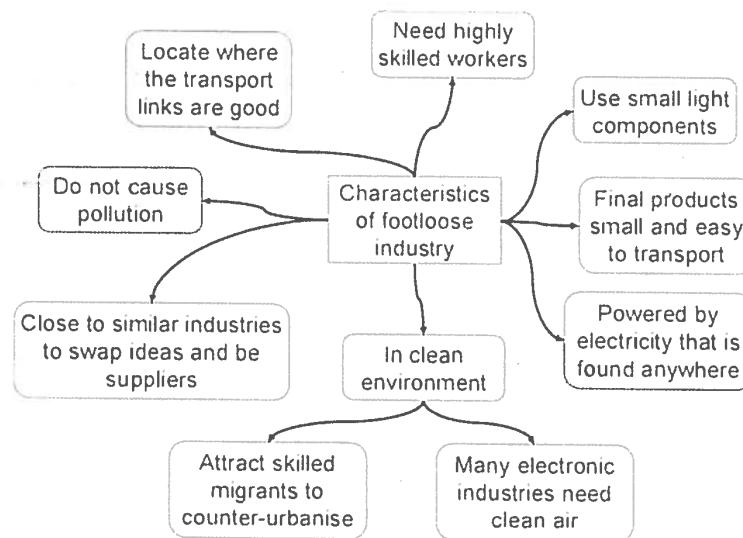
See pages 316-318 and 269-273 in book for more info



## International Trade

CAUSES	EFFECTS
<ul style="list-style-type: none"> <li>• <b>Price Advantages:</b> Different countries produce more/less of various items based on access to resources and labor.                             <ul style="list-style-type: none"> <li>➤ Prices of items made in some countries are cheaper than prices in other countries.</li> </ul> </li> <li>• <b>Complementarity:</b> Two regions can benefit each other in different ways through trade.</li> <li>• <b>Comparative advantage:</b> Ability of one country to produce goods/ services for comparatively cheaper prices than other countries.</li> <li>• <b>Cheaper labor:</b> Outsourcing and other methods of hiring cheaper labor from foreign countries to do typically low skill labor.</li> <li>• <b>Fewer regulations:</b> Regulations on minimum wage, tariffs, workers' rights, etc. vary from country to country.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Deindustrialization of core:</b> Core states are militarily strong, have diversified economies, and have a high-skilled labor force.                             <ul style="list-style-type: none"> <li>➤ International trade causes loss of diverse economies through globalization.</li> </ul> </li> <li>• <b>Outsourcing:</b> When a company transfers work to another country to reduce labor costs.                             <ul style="list-style-type: none"> <li>➤ typically a secondary economic activity</li> </ul> </li> <li>• <b>Maquiladoras:</b> Foreign-owned manufacturing plants that receive duty-free import materials, assembles and processes them, and then exports them.                             <ul style="list-style-type: none"> <li>➤ Associated with Mexico, "EPZ with single factory." Industry has struggled since 2000.</li> </ul> </li> <li>• <b>Special Economic Zones:</b> Export processing zones established in China to make more open economy, developed experimentally, larger than EPZs</li> </ul>

- **Footloose Industries:** Industries that can be relocated and not be affected by factors such as transportation, they don't have to be located near resources.
  - Costs are spatially fixed, i.e. the costs of the products don't change matter where the product is assembled.
  - Examples: Diamonds and computer chips.



Source for graphic: <http://revisionworld.com/gcse-revision/geography/industry/footloose-industry>

## Growth poles

### What are growth poles?

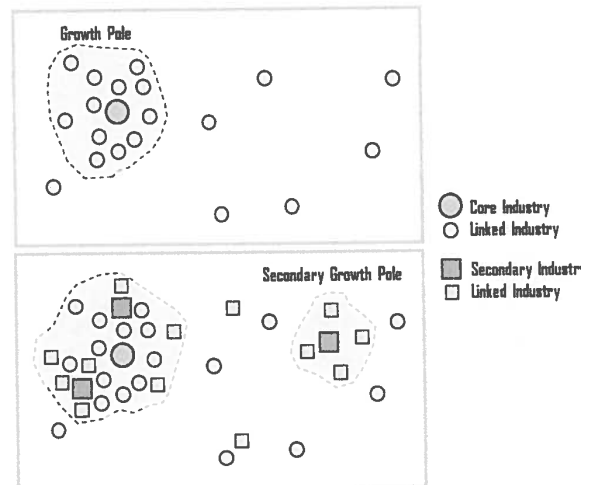
- Growth poles represent the idea that economic development takes place under a specific pole rather than equally everywhere.

### What kind of economy are growth poles found in?

- Growth poles are most commonly found in *postindustrial societies* where they have transferred to a *knowledge based economy*.
- *Knowledge based economy* - skilled workers are favored and jobs are usually specialized.

### Why are growth poles formed?

- Growth poles are a way to increase development in a place that has experienced job loss.
- In some cases growth poles are formed to attract new people to a location thus improving the economy.
- Capitalize on *agglomeration* or the spatial clustering of like industries.



### What are technopoles?

- Technopoles are growth poles made specifically for research, design, development, and/or manufacturing for high-tech industries
- Technopoles are not limited to MDCs, however sometimes government planned initiatives allow for technopoles to form in the developing world.
- Countries that take on technopoles have to have a nice location, money for new enterprise, and infrastructure that supports high connectivity.

### Examples

California's *Silicon Valley* and the *Research Triangle* of North Carolina are perfect examples of technopoles. This is because of their large agglomeration of technology companies and their large amount of educated workers.

# Sustainable Development

## What is sustainable development?

An approach to resource use and management that meets economic and social needs without compromising the resources for future generations.

## Why is sustainable development important?

- Focuses on the environmental, economical, and social aspects of development.
- Attempts to protect resources that aren't renewable so that future generations can access them.

In order to understand why sustainable development is more reliable you must know why it is different from conventional development.

## Conventional development

Favors economic and social gains, but does not pay attention to the impact these gains have on the environment, resource use, and consumption.

<b>Conventional (conflicts)</b>	<b>vs.</b>	<b>Sustainable (solutions)</b>
<ol style="list-style-type: none"> <li>1) Natural resources               <ul style="list-style-type: none"> <li>• Overuses non-renewable natural resources (coal, fossil fuels, and natural gas)</li> </ul> </li> <li>2) Mass consumption               <ul style="list-style-type: none"> <li>• Resources have a high demand because of massive populations</li> </ul> </li> <li>3) Pollution               <ul style="list-style-type: none"> <li>• Cost: often more inexpensive than sustainable</li> <li>• Effects: health issues within populations, climate changes, flora/fauna are endangered</li> </ul> </li> <li>4) Climate               <ul style="list-style-type: none"> <li>• Global warming, rising ocean levels, dangerous gases in atmosphere such as carbon monoxide (links back to pollution).</li> </ul> </li> <li>5) Social and economic inequality               <ul style="list-style-type: none"> <li>• Institutionalized racism, gender inequality, segregation</li> </ul> </li> <li>6) Poverty               <ul style="list-style-type: none"> <li>• Low wages, less job slots available, unstable areas.</li> </ul> </li> </ol>	<b>vs.</b>	<ol style="list-style-type: none"> <li>1) Natural resources               <ul style="list-style-type: none"> <li>• Specialized use of renewable resources (wind, water, solar energy, biomass [plant-based material])</li> </ul> </li> <li>2) Mass consumption               <ul style="list-style-type: none"> <li>• Regulated demand for resources</li> </ul> </li> <li>3) Pollution               <ul style="list-style-type: none"> <li>• Less harm to environment</li> </ul> </li> <li>4) Climate               <ul style="list-style-type: none"> <li>• Emphasizes on protection of green spaces</li> <li>• Protects lakes and bodies of water</li> <li>• Flora/fauna are preserved tremendously and helped thrive</li> </ul> </li> <li>5) Social and economic equality               <ul style="list-style-type: none"> <li>• Equal income distribution between men and women</li> <li>• Equal rights</li> </ul> </li> <li>6) Micro-lending               <ul style="list-style-type: none"> <li>• Small loans to people in need</li> <li>• Slightly lessens money issues within poorer populations.</li> </ul> </li> </ol>

\*For more information see page 263 of the textbook