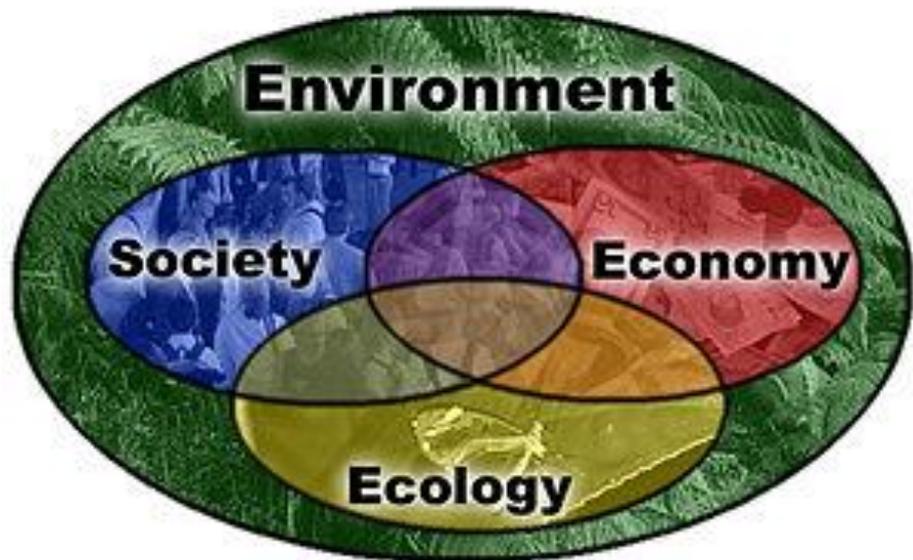


Form 5 Option

Unit 3 Sustainable Development



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Form 5 Option

Sustainable Development: managing of waste; control of pollution; sustainable use of natural resources; efforts to control global warming/climate change; the choice of a way of life that is good for one's health; consumer education.

- The definition of sustainable development.
- Methods which lead to sustainable development (reduce, reuse, and recycle).
- Managing waste: methods of disposal (managing integrated waste, the rubbish dumps, the incinerators); education and knowledge.
- Pollution: forms of pollution (air, light, waste, noise, visual, radioactive, thermal water, soil contamination, acid rain); sources and causes of pollution; effects of pollution on people's health and the environment; managing the environment (control of emissions and effluents in the air, water and soil).
- Sustainable use of natural resources: the depletion of limited natural resources (for example, deforestation, quarries and large mines, the depletion of agricultural land).
- Global warming: the causes of global warming, efforts to control global warming, more use of public transport, renewable energy, more efficient systems of heating and cooling, maintaining vehicles in good condition.

More information to be found in Social Studies – Understanding Society's Madness Page 243

SUSTAINABLE DEVELOPMENT

The environment concerns the whole world and so there is need for global laws because problems such as CFC's in the atmosphere are problems which affect everyone therefore there is need for global actions to be taken. The seas, global warming and land use, are some of the problems which are supposed to concern every country.

We hear that the world is being **globalised** and that certain countries are **developing**. However, this present globalisation is increasing the economic dominance of the big companies better known as **multinational companies**.

What effect has all this on the environment around the world?

- Globally **air pollution** is increasing at an alarming rate due to the smoke being created by these companies. This is one of the principal causes of the change in climate taking place at the moment.
- Millions of tons of **waste**, sometimes even toxic, which many factories produce is being disposed of in the natural environment. This leads to pollution on a huge scale affecting land, air and water.
- Thousands of **kilometres of natural land are wiped out** in order to make space for places where multinational companies can carry out their projects.

Who is suffering the consequences?

- Whilst environmental degradation affects everyone, it is mainly the poorer people who are going to suffer the worst consequences. Air pollution and climate change are having destructive effects on agriculture, which is the means of livelihood of many people. Climate change also means a much higher rate of natural disasters.
- Water and land pollution mean that many people who do not have access to tap water have to resort to drinking polluted water from the rivers. Others are eating products such as vegetables and fish which come from places where there is pollution, with the result that these products are literally **poisonous**.
- The exploitation of natural land by the big companies means that the world's resources are being more concentrated in the hands of the few. Hence, the imbalance between the poor and the rich keeps on growing. We can also see this in our own country where construction companies and land speculators are allowed to 'develop' huge amounts of natural and agricultural land because of the economic and political power which they wield.

The world's resources are being used to satisfy the wishes of the few, and not to satisfy the needs of everyone.

The environment generally is divided into two. . .

- ♥ **The natural environment** – the environment created by nature which includes land, air, sea and all that is natural in the world.
- ♥ **The cultural environment** – the cultural environment includes the environment created by humans through politics, traditions, culture and architecture.

Humans cannot do what they like to the environment. They have to look after it otherwise they increase the problems they then have to face. When humans use the environment badly, they have to pay for this, whilst on the other hand when they use the environment wisely and well they all benefit.

That is why maybe today humans have become more conscious of the environment, because through their egoism they recognised that damage to the environment resulted in damage to themselves. A clear example of the relation between humans and the environment (ecology) is the climate. Hence it is the duty of humans to care for the natural balance of creation.

Unfortunately a lot of the destruction of the environment by humans is coming from their need to increase the production of food and to develop new urban areas. Although humans are becoming more aware of the

dangers threatening the environment, they have to understand that there is more need for immediate action to be taken before it is too late.

The worst enemy of the environment is pollution. Therefore humans have to guarantee their own health by making sure their environment is pollution free. Some effects of pollution are . . .

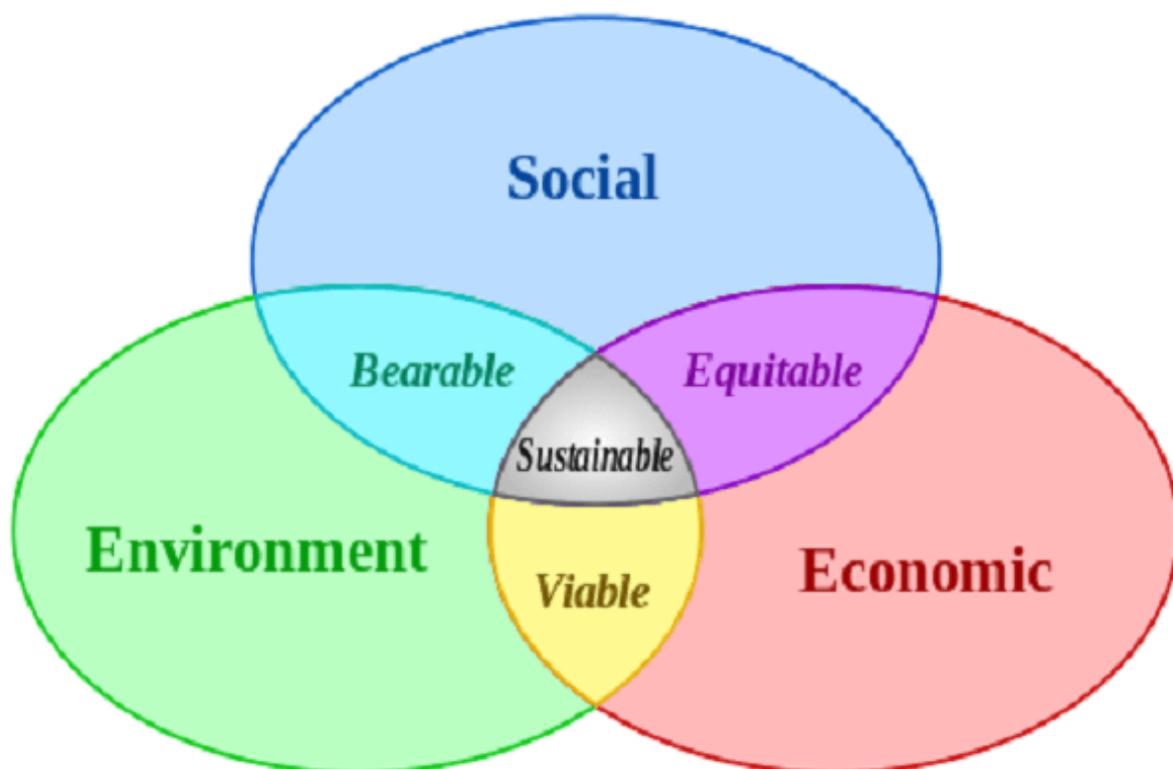
- 🌍 **Greenhouse effect** – when the rays of the sun remain in the atmosphere because of air pollution and so global temperatures rise,
- 🌍 **Acid rain** – because of air pollution, rain is full of chemicals which cause a lot of harm to the whole environment,
- 🌍 **Damage to the ozone layer** – the layer of gas which protects the world is being depleted and is letting dangerous rays enter the atmosphere and these are very harmful to people's health.

Another problem to the environment is that caused by development. On one hand we need our country to develop its natural resources so that it makes progress, but on the other hand we see the damage to the environment this development causes apart from the fact that there should be a limit to development.

One of the biggest world problems is the fight against hunger because we have to increase food production to meet the needs of the people due to increase in population. This problem could be overcome by. . .

- 🌍 Land is used in the best possible way,
- 🌍 Modern machines and methods are used,
- 🌍 We decrease waste and surplus,
- 🌍 We decrease soil erosion.

Only when the Social Development, Economic Development and the Environmental Development are in balance we can achieve truly a Sustainable Development ...



COASTAL B.C. FORESTRY SUSTAINABLE INDUSTRY, SUSTAINABLE PRODUCTS



"In the long term, a sustainable forest management strategy aimed at maintaining or increasing forest carbon stocks, while producing an annual sustained yield of timber, fiber, or energy from the forest, will generate the largest sustained mitigation benefit."

International Panel on Climate Change 2007 Fourth Assessment Report, Mitigation

British Columbia's coastal forest industry meets or exceeds some of the strictest forest management standards in the world while, at the same time, remaining economically viable supporting people and communities. The products that come from the B.C. coast are not only from a sustainable source but are also carbon friendly. Here are some scientific facts you might like to know about our industry and products:

1 BOTH TREES AND WOOD PRODUCTS STORE CARBON

Trees store carbon when they are alive AND after they are harvested.¹ Trees only release carbon as they decay or burn.² When wood products are made, the carbon remains in the wood and out of the atmosphere. If the wood products are recycled or reused, the return of carbon into the atmosphere is slowed down even more.³

2 B.C. AND CANADA ARE INTERNATIONAL LEADERS IN SUSTAINABLE FOREST MANAGEMENT

B.C. and Canada are recognized world leaders in forest sustainability. Each year, over 17 million seedlings are planted on B.C.'s coast⁴, and over 200 million in the entire province,^{5,6} equal to more than 6 trees per second. Further, on the coast, a full 22% of the Crown land base is preserved in parks and conservancies. Throughout Canada, 161 million hectares of forest are certified voluntarily by independent third parties, ensuring they are managed according to rigorous environmental standards for the largest certified forested area in the world.

3 COASTAL B.C. WOOD – A SUSTAINABLE CHOICE IN BUILDING MATERIAL

Wood is a strong and reliable construction material. And when it comes from the B.C. coast, it is also more sustainable than other conventional choices.⁷ When trees are growing, they remove enough carbon to more than make up for the carbon cost of producing and shipping wood products.

4 CANADIAN FOREST INDUSTRY SURPASSED KYOTO TARGETS FOR GREENHOUSE GAS EMISSIONS

There has been a 65% reduction in the Canadian forestry industry in greenhouse gas (GHG) emissions below 1990 levels, which has far surpassed the 6% Kyoto target set for 2012.⁸

SOURCES:

- 1 Canadian Wood Council: Wood WORKS!: Tackle Climate Change: Use Wood (page 10)
- 2 Canadian Wood Council: Wood WORKS!: Tackle Climate Change: Use Wood (page 12)
- 3 Canadian Wood Council: Wood WORKS!: Tackle Climate Change: Use Wood (page 13)
- 4 Coast Forest Products Association Industry Quick Facts
- 5 MDPLNRD: Forest Carbon Discussion Paper (page 20)

- 6 Fill: Naturally Wood: BC's Sustainable Forest Management
- 7 Wood products Council: WoodWorks: Wood and Green Building (page 2)
- 8 The Forest Products Association of Canada: The Canadian Forestry Sector's Virtuous Cycle on Climate Change

COASTAL B.C. FORESTRY SUSTAINABLE INDUSTRY, SUSTAINABLE PRODUCTS

5 A WOOD-FRAME HOME CAN STORE CARBON FOR ITS LIFETIME

A typical 2,500-square-foot wood-frame home has 30 metric tonnes of carbon stored in its structure, the equivalent to the carbon emitted by an average passenger car for 5 years.⁹

6 MANUFACTURING WOOD PRODUCTS REQUIRES LESS ENERGY = LESS GREENHOUSE GAS EMISSIONS

Because manufacturing processes associated with wood products require less energy, they are responsible for far less greenhouse gas emissions than conventional materials.¹⁰ And because forests are renewable and sustainable, forest management can help maximize the amount of carbon absorbed by growing forests and stored in wood products.

7 THE USE OF WOOD BIOENERGY CAN BE A FUEL OF THE FUTURE

Forest and mill residues and other wood biomass can be used as fuel to produce clean bioenergy, replacing fossil fuels and further reducing emissions.¹¹ That means a lot less carbon in the atmosphere. Plus, leftover wood residue that would otherwise be unused gets a new, valuable purpose, further reducing waste.¹²

8 RECYCLED PAPER PRODUCTS STORE CARBON

Paper products store the carbon from the trees they come from. Since paper is recyclable, these products continue to store carbon once they are recycled into new, useful products, keeping paper out of the landfill and carbon out of the atmosphere.¹³

9 CANADA'S PAPER AND CARDBOARD RECYCLING RATE AMONG HIGHEST IN THE WORLD

Carbon friendly initiatives like recycling have a positive impact on climate change and play an important role in determining carbon neutral targets.¹⁴ The recycling rate in Canada is estimated to be around 70% — higher than the U.S. rate and counted among the highest in the world.¹⁵

10 4.5 MILLION HECTARES OF OLD-GROWTH FOREST IS PROTECTED

Approximately 4.5 million hectares of old-growth forest in B.C. is protected.¹⁶ This is equal to more than 11 million acres or an area larger than Vancouver Island.¹⁷ While old-growth forests store a lot of carbon, they can also release more carbon into the atmosphere due to rot and decay.¹⁸

SOURCES:

- 9 Canadian Wood Council: Wood WORKS!: Tackle Climate Change: Use Wood (page 11)
- 10 Wood products Council: WoodWorks: Wood and Green Building (page 2)
- 11 Wood products Council: WoodWorks: Wood and Green Building (page 4)
- 12 Wood products Council: WoodWorks: Wood and Green Building (page 4)
- 13 MDPLNRD: Forest Carbon Discussion Paper (page 13)
- 14 The Forest Products Association of Canada: The Canadian Forestry Sector's Virtuous Cycle on Climate Change

- 15 The Forest Products Association of Canada: The Canadian Forestry Sector's Virtuous Cycle on Climate Change
- 16 Fill: Naturally Wood: British Columbia Forest Facts (page 3)
- 17 Fill: Naturally Wood: British Columbia Forest Facts (page 3)
- 18 Canadian Wood Council: Wood WORKS!: Tackle Climate Change: Use Wood (page 17)

