Forum: Environmental Commission.
Issue: Promoting the techniques and the use of biodegradable materials in LEDC's.
Student Officer: Kudzaishe Mukunga.
Position: Chair.

Overview of the issue:

Over the years progress has been made in the development of biodegradable materials especially packaging materials made from natural resources which have been proven to have benefits in greenhouse gas emission balances and other positions environmental impacts. Unfortunately biodegradation methods are not wide spread especially in the case of Less Economically Developed Countries.

Packaging plays a significant role in municipal solid waste disposal which brings about increasing environmental concerns. A wide range of oil based polymers are used in the packaging methods of a variety of products which are virtually all non-biodegradable. Additionally non-biodegradable materials such as metals, glass, plastics and combinations of materials are widely used in packaging processes which enter municipal waste streams at the end of their service life raising much concern as this has negative effects on water sources, greenhouse gas emissions and the environment as a whole.

In addition to the wider use of biodegradable materials, Nations are encouraged to invest and implement different, environmentally friendly waste management options such as recycling, incineration with energy recovery, better landfill disposal methods and biological waste treatment methods such as composting.

Research environmentalists have indicated that the increased use of biodegradable materials and biological treatment methods would continue to contribute to sustainability and the reduction in the environmental impacts associated with the disposal of oil-based polymers by reducing the total quantities of waste sent to landfill sites thus reducing pollution and the

composts generated from renewable waste disposal will contribute to more valuable soil improvers.

Whilst it is true that wider use of biodegradable materials carry's many environmental benefits, particularly combating and reversing the effects of the use of non-biodegradable materials which include negative impacts of marine life when non-biodegradable materials are disposed of in oceans and estuaries as well as negatively impacting the worlds limited land space through pollution across landfill sites, it is important to note that overuse of biodegradable materials in itself may bring about negative impacts on the environment. Such impacts include depletion of oxygen levels in water when a large amount of biodegradable materials get into water supplies. Furthermore, biodegradable waste produced in excess from animals for example cattle manure can cause numerous health and environmental concerns.

Key Terms:

- Biodegradable Materials: Recognizing biodegradable materials as materials which are capable of being decomposed or broken down by the action of microorganisms. Examples of biodegradable substances includes but is not limited to food scraps, wood, human and animal waste, and manufactured products based on natural materials (e.g paper and vegetable oil based soaps).

- Energy Recovery: Defining energy recovery or energy retention from waste as a process in which non-recyclable waste is converted into usable and reusable energy like heat energy, electricity or fuel through a variety of processes including combustion, gasification, and landfill gas recovery.

- Derogation periods: Acknowledging derogation as a legal term used to describe a condition in which laws are *partially* suspended as opposed to *abrogation,* a scenario in which laws are totally abolished by explicit repeal.

- Less Economically Developed Countries: Countries with a lower Gross Domestic Product and a Lower standard of living compared to More Economically Developed Countries. Recognizes industrial development and standards of education as means to differentiate between LEDC's and MEDC

- United Nations Framework Convention in Climate Change(UNFCCC): This is an international adopted environmental treaty adopted on May 1992 and was opened up for signature at the Earth Summit in Rio de Jenero from the 3rd to the 14th of June 1992. The UNFCCC has 197 party members thus nearly universal membership and is the parent treaty of the 1997 Kyoto Protocol. The objective of the UNFCCC iS to stabilize green house gas emissions in the atmosphere at a level that will prevent dangerous human interference with the climate system.

- Polymers: Substance which has a molecular structure built up chiefly or completely from a large number of smaller units bonded together e.g many synthetic organic materials used in plastics.

Countries involved.

- India: India has currently been facing massive waste management issues with the rise in rapid urbanization. The country generates 62 million tons of municipal solid waste per annum which is hazardously disposed of at dumping grounds within the country and outside of the country.

- Afghanistan : In Kabul Afghanistan due to years of conflict, the cities infrastructure has experienced extreme destruction which has additionally resulted in the country facing issues with the disposal and accumulation of solid waste. To try and combat this situation, the Transitional Islamic State Of Afghanistan in conjunction with the World Bank developed an emergency initiative for basic sanitation in the municipality of Kabul which included activities such as community awareness projects, and neighborhood level solid waste collections.

- Rwanda : In 2008 Rwanda formulated a strategy to combat the environmental crisis it was facing with regards to waste disposal by implementing a ban on the importation and use of non-biodegradable plastic bags. After this new law, investors took the opportunity to establish alternative packaging industries as well as plastic recycling plants.

Related UN Resolutions and Previous attempts at solving the issue:

- **Kyoto Protocol:** The Kyoto Protocol is an international agreement, adopted in Kyoto Japan on the 11th Of December 1997 and entered into force in February 2005. The agreement is linked to the United Nations Framework Convention in Climate change which commits its parties by setting international binding emission reduction targets. It's a measure to reduce greenhouse gas emissions partly through the promotion of the use of biodegradable materials.

- **European Union Landfill Directive 1999/31:** Takes note of the Landfill Directive within the European Union which was used as a tool in recalling the amount of biodegradable municipal waste going into landfill in order to reduce Green House Gas emissions from waste disposal, accounting particularly for methane emissions. Noting the reforms and attempts made to solve the question of biodegradable materials in relation to the reduction of green house emissions through the recycling of biodegradable waste such as paper and wood, the recycling of organic waste through composting, the recovery of biodegradable waste through means such as fermentation, anaerobic digestion and incineration. Additionally takes note of measures targeted at reducing the volume of biodegradable municipal waste sent to landfill including the collection and incineration of landfill gas and the monitoring of landfill gas emissions. Further takes note of the projected percentage reductions in the volume of biodegradable municipal waste sent to landfills within the European Union:
  - 75% in 2006
  - 50% in 2009
  - 35% in 2016

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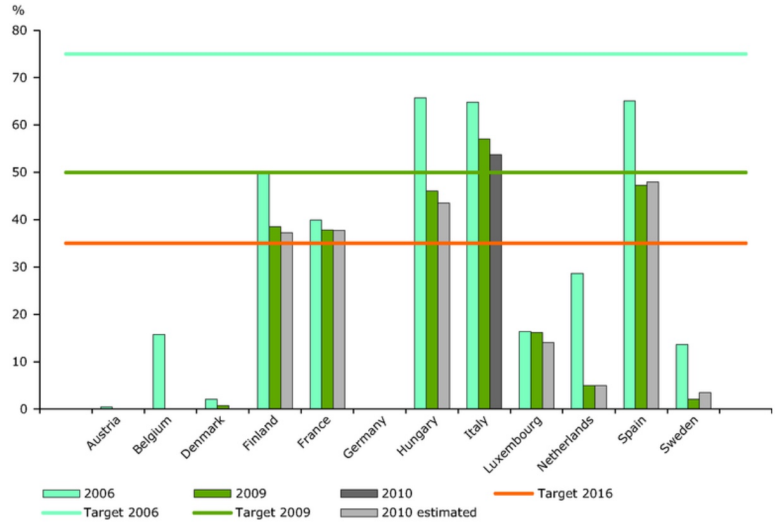
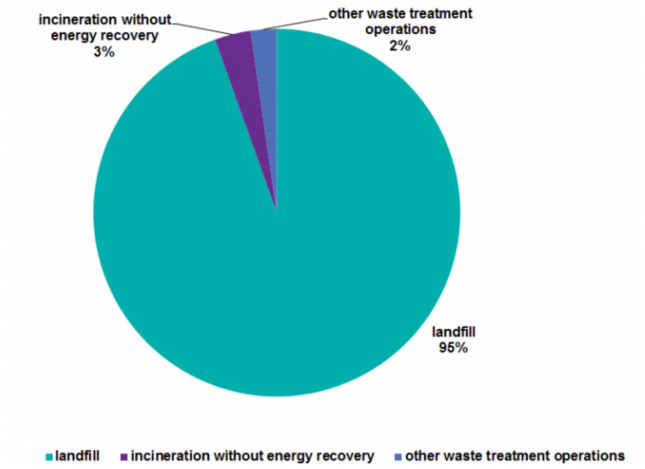
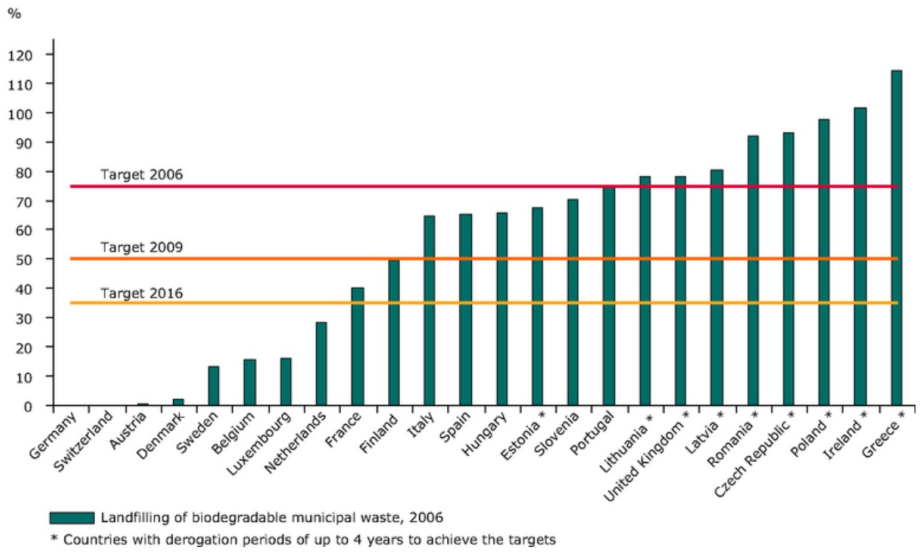
Appendix.



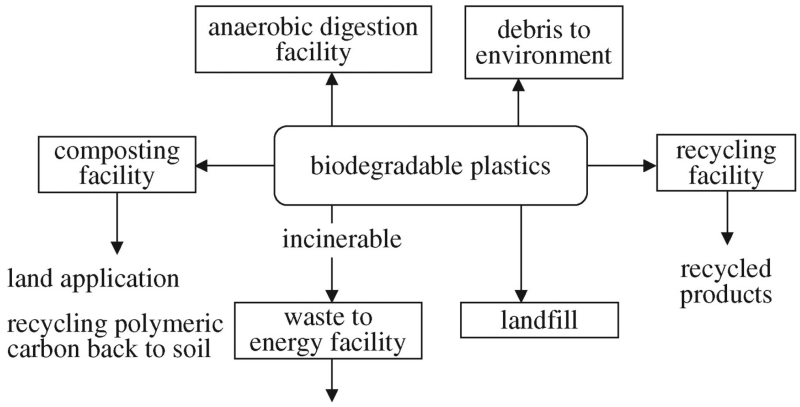
Percentage of biodegradable municipal waste land filled in 2006,2009 and 2010 compared with the amount generated in 1995- countries without derogation periods - European Environmental Agency



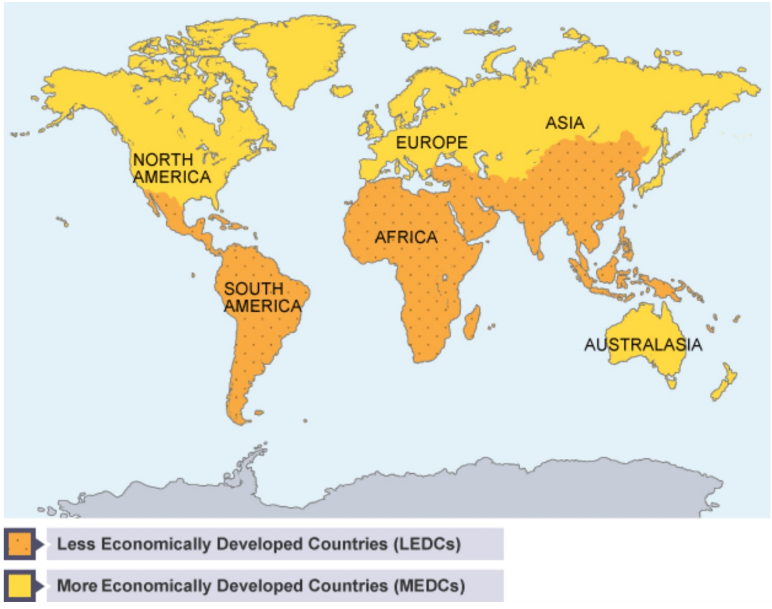
Estimated proportion of green house gas emissions from three main waste disposal and treatment options; landfill disposal, incineration without energy recovery and other waste treatment operations.



2006 landfilling of biodegradable waste as a percentage of the European Union 1995 biodegradable waste generation standards and how countries comply with to the European Union targets for reducing the volume of biodegradable municipal waste sent to landfill for 2006,2009 and 2010.



Integration of biodegradable plastics with disposal infrastructures.



Map representing Less Economically Developed Countries and More Economically Developed Countries across the world

List of Least Developed Countries (LDCs)			
Africa			
Angola	Benin	Burkina Faso	Burundi
Cape Verde	Central African Republic	Chad	Comoros
Congo, Dem. Rep. of the	Djibouti	Equatorial Guinea	Eritrea
Ethiopia	Gambia	Guinea	Guinea-Bissau
Lesotho	Liberia	Madagascar	Malawi
Mali	Mauritania	Mozambique	Niger
Rwanda	Sao Tome and Principe	Senegal	Sierra Leone
Somalia	Sudan	Tanzania	Togo
Uganda	Zambia		
Asia			
Afghanistan	Bangladesh	Bhutan	Cambodia
Lao PDR	Maldives	Myanmar	Nepal
Timor-Leste	Yemen		
Australia and the Pacific			
Kiribati	Samoa	Solomon Islands	Tuvalu
Vanuatu			
Caribbean			
Haiti			

List of LEDC's across the different continents from the Economic and Social Council of the United Nations