

You are interested in Environmental management, their installation, implementation and maintenance.

---

why environmental management?

well, think about financial management, is a management of finances of company and quality management of products & processes.

That reasons environmental management is managing environment!? Yes & No.

we have to start accepting that everything we do affects the management.

It even extends down to the way our bodies are dealt with after death \* [speak about crematoriums & landfills].

\* ~~least~~

Obviously some of the effects are bigger than the other. yet each of these effects are inter related. the relationship becomes inter related.

the relation can sometimes disperse the impact and lessen it, while in other case it can multiply the strength of impact in a cumulative manner.

---

See, in one sense it is true that the whole interaction of individuals and the environment is so complicated that we have to accept we cannot control or manage the effects.

we might not be in a position to manage something as complex as a planetary eco-system without unforeseen results and/or problem arising.

Managing the environment is thus a contradiction in terms without added complexity of ideas like "managing for sustainability"

(2)

Thus environmental management does not seek direct management indirect, but nonetheless effective, route of managing an organization's activities that gives rise to impacts upon environment. The focus becomes the interaction between organization & environment.

---

So why bother about it?

All biological organisms rely on the effectiveness of their feedback loops for their survival to give them clear and accurate information on the world around them.

Evolution displays a tendency overtime to favour those organisms with better feedback.  $\leftrightarrow$  the more one can sense, the better chance of survival. corporate organisms display the same characteristics.

$\therefore$  A management system can be seen as a way of improving these feedback loops in organization.

An EMS specifically improves the feedback about constantly evolving area: environmental protection

Sustainability vaguely means meeting our own needs without compromising the ability of future generations to meet their own needs.

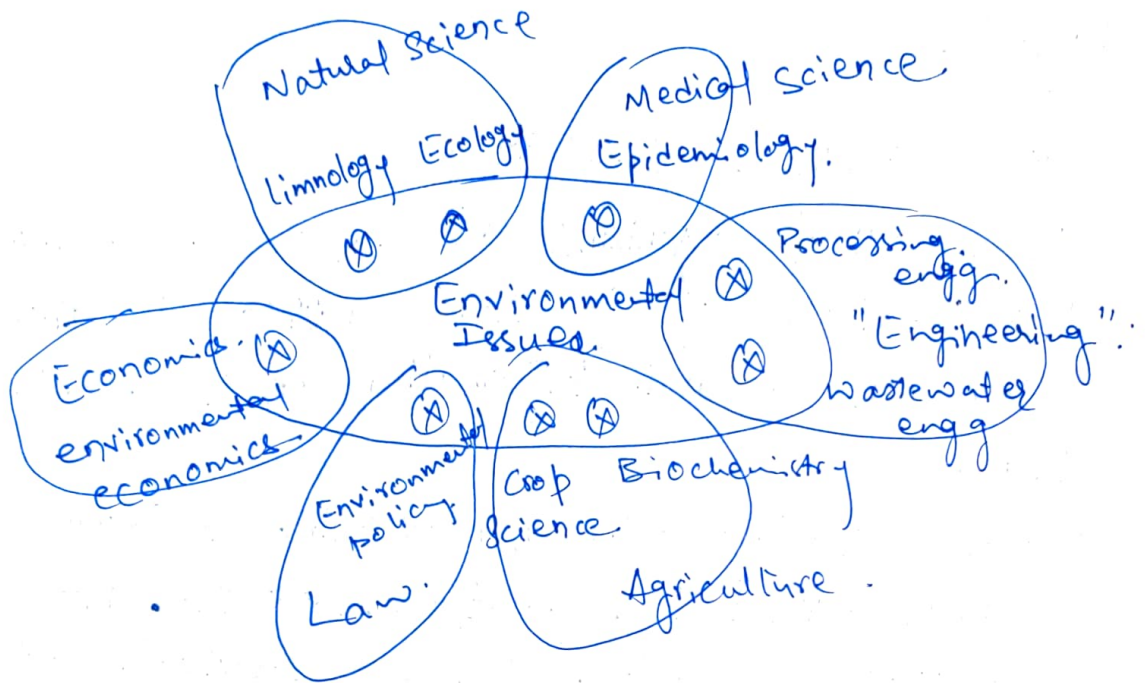
for an eg: If people start using paper clip instead of staples it would save huge tonnes of steel in a year.

University of Alberta

[Sustainability is the process of living within the limits of available physical, natural & social resources in ways that allow the living systems in which humans are embedded to thrive in perpetuity]



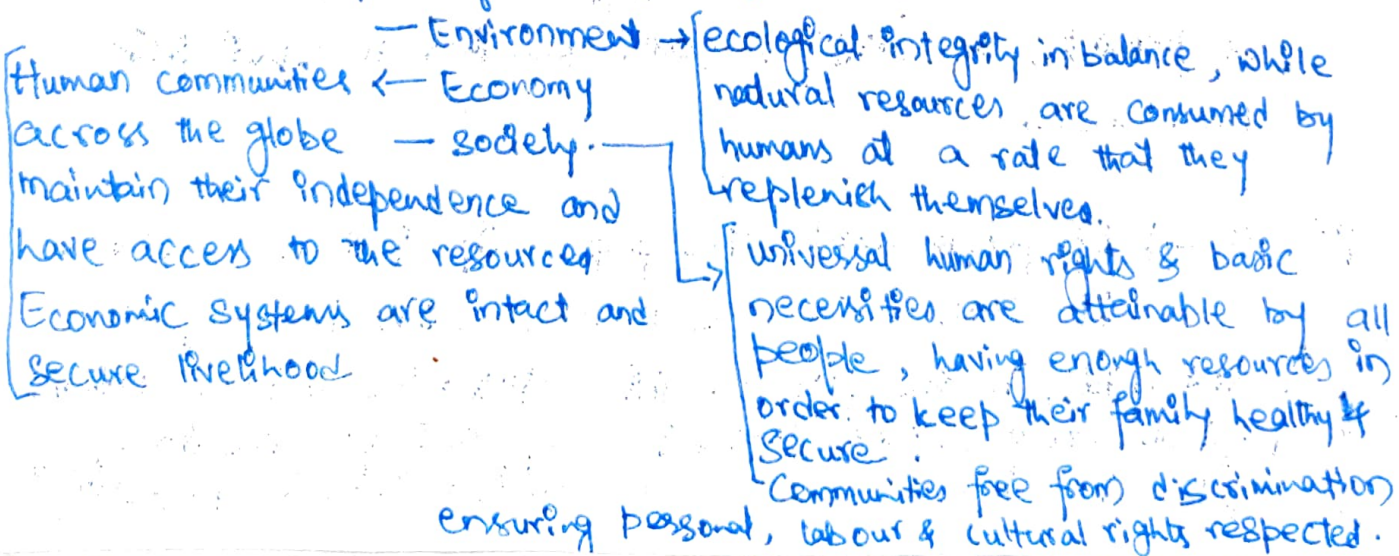
# Interdisciplinary characteristics of environmental issue.



World Commission on environment & development in 1983.  
(Burland commission) defines sustainability as -

"development that meets the needs of the present without compromising the ability of future generations to meet their own needs"

## three pillars of sustainability.



The environment surrounds and affects man, while man affects the environment back.

The environment is made up of both biophysical and socio-economic elements.

It includes not only the areas of air, water, plants and animals but also other natural and man (made) modified features constitutes totality of surrounding.

Thus, since man affects environment the responsibility of taking (responsibility of taking) purposeful collective action that may harmonise human existence with the rest of environment is on man.

Despite all the technological developments, man is yet to possess adequate capability of and holistic dev responsibility which would enable him to ensure a total harmonious relationship with environment.

---

Environmental Problem : needs perceived to require [mitigative actions]

A problem is basically a gap b/t what is and what ought to be, between what we have and what we want or can be hope to achieve.

Consequences of Rapid urbanization.

Competitive use of resources.

---



# Major environmental Problems

water management

deforestation and land degradation.

Air pollution

Climate change.

---

water management - not only an environmental issue but also as a major challenge to economic development

Fresh water is essential to agriculture & industrial production. Basic requirement for all.

water resource has multiple users & uses but in-adequate management & competitive use has frequently facilitated their over exploitation and degradation.

The depletion of such resources has created, large economic cost to be paid.

not just by increasing the cost of obtaining a direct input to production but also through damaging impacts to environmental systems & human health.

Therefore water management is not only an environmental issue, but as a major challenge to economic development.

water management: efficiency of water usage;  
degradation of water resources through pollution or over use;  
allocation between competing uses such as agriculture,  
drinking water, natural ecosystems & industry;  
flood control; treatment of waste water & water storage  
co-ordination between users at a local, national or international level.

now nearly about 70% of water is required for agriculture. So, water shortages undercut food security and incomes of rural farmers. (4)

Illness associated with contaminated water.

If supplies continue to ~~de~~ deteriorate as demand rises, the costs of obtaining usable water, such as drilling for groundwater, will rise.

~~with~~

---

Deforestation & Land degradation:.

Due to ~~un~~ unsustainable use of natural resources the widespread deforestation has happened → degradation of land.

Tree removal practices such as clear felling → erosion and soil salinity as well as disturbance of groundwater table.

In dry lands, due to deforestation the fertile lands have transferred to barren lands — desertification.

Sufficient degradation of land is very difficult for reclamation.

---

Demand for timber, palm oils, intensive farming, urban sprawl.

Also few times, poor regulation corruption to allow unsustainable practices.

Land degradation becomes major economic issue because of insufficient supply of water, productive land is a necessary food security. Access to food not only support labour participation, well being and development of economy.



growth but also political stability.

This might even happen due to poor management practices, particularly in agriculture causing erosion of soil, then rising salinity and contamination by pesticides.

In many places (South East Asia) draining of swampy peatlands, usually intended for agricultural purposes causing land to subside, become highly acidic and thus unfit for use.

### Air Pollution.

Access to clean air is a principal determinant of human health as well as overall condition of other organisms / environmental processes.

Outdoor Air pollution { Industrial production  
motorized transportation

In fact it is due to central processes underpinning the global economic growth.

Indoor air pollution { Lack of development - Absence of affordable alternatives for burning of solids - timber / dung for energy, despite their harmful effects

It is the primary cause of illness for both growing cities as well as poorer rural areas.

Putting to pay economic toll in terms of productivity & income of labour force.

Climate change: <sup>(Asia)</sup> with a large pollution in low-lying areas & coastal areas, widespread water insecurity & around  $\frac{2}{3}$  of world's poorest people, the region is likely to suffer extensive damages in future.

Now the full force of development impacts will not be realized for many decades, the climate change will be a contemporary issue.

{ Rising maximum or minimum temperatures.  
Change in rainfall pattern  
→ are affecting the agriculture & food security

Greater intensity of extreme weather events, incidence of flooding & tropical disease then, decline of marine ecosystem are few of the concerns for (future) near.

---

Deforestation & emission of black carbon are major drivers of global warming both in terms of contribution & their mitigation could be low cost option with short term benefits.

Energy demand is expected to explode with ongoing economic expansion, accordingly coal use and greenhouse gas emission.

Now "green growth" pathway might reduce the impact of potentially major stumbling blocks arising from climate change such as food & water insecurity, environmental refugees and conflict among others for eg: renewable energy generation and also increasing energy security.