



University of Jordan  
Faculty of Medicine



Medical Committee  
The University of Jordan





# Community Medicine



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## **\*Biodiversity\***

**-It is the state of having different creatures in a given living system, actually it's not healthy to find a system which has one or two types of creatures (species), we need more... *And this is a measurement of how bad or how much polluted the system is.* You can judge a system just by taking a sample as water - for example - and send it to the lab and it'll differentiate the species for u (& u can tell if it's polluted or not) ; because when you start to pollute a system, certain creatures start to die, but others are more capable for surviving. **At the moment when the pollution starts to increase, the majority of creatures start to die, only one or two species -which are highly resistant- can stay in that system and this indicates that this system isn't healthy, is in bad shape, is polluted, so we need certain level of biodiversity in any system to judge whether it is healthy or not.****

**-In what ways can we (as human beings) interfere with these environmental equipments?**

**We have 5 different ways by which the human beings negatively affect the eco system (environment)?**

**1-Pollution**

**2-Abuse of resources**

**3- Disasters (MAN-MADE disasters)**

**4-Interfering with (the growth and reducing factors)**

**5-Simplification of the eco system (the environmental system)**

- **simplification:**

**It refers to making a complex system into a simple one,** e.g.: if I have a forest (and this happens every day) and I need an agricultural land, I might cut down this forest or burn it and use the land for agriculture.

**Now, the forest is a complex system, it has high biodiversity, it has all kinds of physical, chemical, biological factors we mention before and this will make it sustainable. Some forests are thousands years old and they live without the need of human beings' care, now if we cut a forest and make it an agricultural land like what happened in Brasilia and plant it, we will have new plants that need our care. (if we leave it for a year without any cultivation "الرعاية الزراعية" and come back to it, there will be no farm (it will not survive) ), **this is because when we reduce the complexity, we end up having a fragile system**, eg.: if frost hit a forest, some plants will die and some other plants will survive, but if this bad weather affect a farm, it will not survive so, it is a fragile system and this system needs support so fertilizers were created to help these fragile systems to survive and continue, otherwise we will lose it.**

Actually, a good bad example (sometimes a good example is bad), is what happened in Africa: before 100 years ago... it was totally different, was a paradise that had wilds, forests, water and have been occupied by different European countries... Those people who came to live there, they had in mind to use these forests as cultural or animal farms so, they cut it down to use it and now they are damaging that area.

- **Abuse of resources:**

**Resources: they are materials, substances, chemicals or power which are found in our environment to be used by us, but we have to understand these resources before we use them, otherwise we will damage them.**

**Some of these resources are continuously renewable e.g.: Sun light .In the other extreme, oil, it is renewable resource but, it needs thousand years to renew again, so we can't wait until it renews. Other resources are in between, they are renewable but at certain speed and if we don't respect the speed by which they renew themselves, we will damage them (finish them).e.g.: if I have a fishery and this fishery produces 2 tons of fish per month and I'm using 3 tons per months instead of 2, it will disappear there will be no fishery and that's what's happening nowadays in Jordan, as a result there are no more fish in northern part of the Red sea.**

Now, if you have a forest and you log it to use its wood for furniture, it is a must to understand the speed by which the forest renews itself and when you cut down trees, you have to replant others. In developed countries (USA and Europe) there are some rules in -logging companies' contracts- that regulate the trees logging and fine (تغرّم) who doesn't comply with these rules.

**-And now we have to understand a concept called “environmental tolerance”: it is how much the system can support life in it.**

e.g.: if a grassing area (in margins) can serve 10 sheeps & I overload it with 20 sheeps, there will be no enough food (grass) to feed them so they will eat the roots of the grass and by that I am damaging the land.

**-We have to understand that each system has its own tolerance which is not the same for other places.**

**-if an experiment has been done in a certain country & shows good results that doesn't mean if it's carried out in another country it will show the same results as there.**

**-pollution can be something bad to see-bad seen.(Not necessary to be smelt or felt).**

**- Experiences of some countries are not necessarily the same in other countries (ex.: Aids is one of the concerns in America and a lot of researches are done about it; whereas in Jordan, it's not widely spread to earn similar concerns)**

**\*\*وهون بلش الدكتور يحكي قصص متنوعة عن مظاهر التلوث من حولنا..بدأها بسيل الزرقاء و وادي شعيب والتصرفات البشرية الخاطئة اللي بتأدي لتلوثها..وحكى عن تجربة لعالم فرنسي عمل نوع من**

انواع المنظفات وطمروه بالتربة وشافوا انه استغرق 20-30 يم ليضمحل..وصاروا بدهم يطبقوها بالأردن بس ما بزبط لانه تربتنا غير وكمية الأمطار عنا كمان غير وبالتالي كل منطقة الها ظروفها البيئية الخاصة فيها وقدرة تحمل معينة.

## ● Pollution:

**Definition: It is the change in the original components by adding something new or taking something from the origin and how extent this change can affect our, animals' & other creatures' health.** (Bottled water is polluted!!!! Because it doesn't contain H2O only; but still it won't cause us problems... so we drink it)

- We can find no more clean systems worldwide; but we don't want to reach damaging levels of pollution affecting our health badly.

-Do we pollute?

Of course we do... each one of us is a polluter " 3la 7jmo"... and together we'll contribute to massive pollution if not controlled.

-In developed countries, there are huge fines for those who disrespect their environment by throwing wastes inappropriately and so on.

## ● Disasters:

**To consider something/action to be disastrous, it has to be one of two things: either large number of people has been affected and/or large surface area is affected.**

-ex.: aircrafts collisions, trains collisions, problem affecting your and surrounding neighborhoods... but losing your wallet, car accidents and such are not considered to be disasters.

- Sometimes in some countries, there are certain people who decide whether an event is a disaster or not, ex.: president of USA... so there must be a determining scale for disasters to follow.

- Disasters are one of two; man-made or natural... and we're interested now in the first type, ex.: wars (*affecting the environ. Indirectly*; in the battle field ppl are fighting and causing damage or in Iraq, when Uranium was used and caused pollution and damage to everything... *or affecting directly*; like when israel sends bulldozers to Palestinian lands causing damage and by that forcing Palestinians to migrate)

- Industries, like nuclear power stations, they cause sever pollution... Chernobyl is an example; when large areas and lots of ppl were affected.

- Nuclear power stations and industries became military targets.

-Aside of these examples, terrorism also causes disasters.

- **Interfering with growth & reducing factors:**

- introducing a new creature, without considering these factors and by that damaging the place.

-ex.: once upon a time: there was that scientist who brought rabbits to the wilds in Australia, after 100 years, they became in millions and huge in size, they ate all the grass and became the main factor causing desertification in Australia!

-ex.: another scientist took lilies (flowers that grow on water surface) with him to Florida... and put it on water surface of some lakes... now... in Boston the cold weather was a controlling factor for their growth- reducing their number.. in Florida the weather is sunny; so the lilies kept growing and ppl were incapable to use water in their presence!

**Sorry for any mistake...**  
**Good luck XD**

