Definition of environment

Definition of Environment, Health and Disease Environmental Problems Food Borne Diseases Intervention and Control What is environment...? The sum total of our surroundings, including all the living and nonliving things with which we interact. Living things Animals, plants, forests, fungi, etc. Nonliving things Continents, oceans, clouds, soil, rocks Our built environment Buildings, human-created living centers Social relationships and institutions Humans are part of the environment and are not separate from nature. Environmental health affect human heath, and vice versa Inner and outer Environment The Inner vs. Outer Environment protective barriers between inner and outer: skin Gastrointestinal tract (GIG tract) lungs which barrier makes humans most vulnerable?

Why problems with this categorization of " environment"? Source: Environmental Health 3rd De. 2005, Dade W. Mueller The Personal vs. Ambient Environment personal = individual control (hygiene, diet, sexual practices, exercise, use of tobacco, drugs and alcohol, frequency of medicine) ambient = outside individual control problems with this categorization of environment? Cancer Caused by Environmental Exposures categorize each above as " personal" or " ambient" Environmental Health 3rd De. 2005, Dade W.

Mueller Defining " Environment" The Gaseous, Liquid and Solid Environments Each linked with particular routes of exposure to humans problems? The Chemical, Biological, Physical, Socioeconomic Environments Chemical contaminants, e. G. Toxic wastes , pesticide, chemicals used at home and in industrial operations, preservatives. Biological disease organisms, transmitted by insects and animals or errors-to-person contact Physical e.

G. , noise, temperature, radiation Socioeconomic e. G. Allegations between morbidity and mortality and socioeconomic factors problems with this categorization? The Urban Environment Why is the urban environment centered out by Mueller for particular attention? Environmental Health 3rd De. 2005, Dade W. Mueller Defining " Health" WHO (1948) " Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity. " physical mental social well-being Disease Classification Infectious vs. Non-infectious infectious e. G. Malaria, cholera, diarrhea pathogenic organisms major killer in the past historically mono-causal non-infectious e. G. Cancer, heart disease, asthma major killer now multi-causal model typical environment and health concern these outcomes Endemic vs. Epidemic endemic pathogen carried by many people Blackballed tick spreads lame disease typically not considered an environmental illness issue e. G. , lame disease in northern hemisphere; malaria in Africa epidemic sudden and severe outbreak of a disease in a population e. . , SARA Acute vs. Chronic acute severe short term disease or disease/symptoms due to short term high dose exposure to environmental substance if survive, no long-term effects e. G. , ? Chronic long term disease/condition or disease/condition due to long term low dose exposure to environmental long-term effects often duration of life Source: http://www. Ml. NIH. Gob/midlines/once/mismanages/18126. HTML What is an " environmental problem"? The perception of what constitutes a problem varies between individuals and societies E. G. EDT (dichlorodiphenyltrichloroethane), a suicide used to kill weeds, insects, rodents, or other pests In developing countries: welcome because it kills malaria-carrying mosquitoes In developed countries: not welcome, due to health risks Bed Bugs and EDT

Environmental problems Pressure on the environment Human population Pollution (air, water, solid waste) Agriculture/Food Climate Biodiversity Each year, millions of people die from pollution Natural resources Human survival needs natural resources for survival, those include air, water, food and soil Renewable resources: Perpetually available: sunlight, wind, wave energy Renew themselves over short periods: timber, water, soil These can be destroyed Nonrenewable resources: can be depleted Oil, coal, minerals Global human population growth More than 7 billion humans Why so many humans? Agricultural revolution Stable food supplies Industrial revolution Urbanize society powered by fossil fuels Sanitation and medicines More food http://www. Earth. Org/view/article/1 53596/ http://www. Telegraph. Co. K/earth/arteriolosclerosis s/8841800/The-worlds-population-will-reach-septillion-on-October-31-2011 -says- the-UN. HTML Thomas Malthusian and human population Thomas Malthusian Population growth must be restricted, or it will outstrip food production Starvation, war, disease Neo-Malthusian Population growth has disastrous effects Paul and Anne Earlier, The Population Bomb (1968) Garrett Harden's Tragedy of the Commons Unregulated exploitation leads to resource depletion Soil, air, water Resource users are tempted to increase use until the resource is gone Solution? Private ownership? Voluntary organization to enforce responsible use? Governmental regulations?

Air pollution Major causes Release of air pollutants from human activities to a harmful concentration An air pollutant is a substance present in sufficient concentration in the air to produce a harmful effects A primary air pollutant is one which is added directly to the air from a given source A secondary air

pollutant is formed in the atmosphere through chemical reactions Significant impacts Ozone depletion Global warming Primary Air Pollutants Five major materials released directly into the atmosphere in unmodified forms Carbon monoxide (CO) Nitrogen oxides (Knox) Sulfur oxides (SOX) Hydrocarbons (Has) Particulates Source: http://www. Nature. Naps. Gob/air/aspics/sources. CFML We have some of the worst air in the nation, and the highest number of emergency visits caused by smog and air pollution Air pollution contributes to heart disease, lung disease, Locally generated emissions remain the prime cause of the severe smog, but it is exacerbated by the static atmospheric condition that traps the pollutants asthma and lung cancer Source: http://www. Scamp. Mom/news/china/article/1376388/smog-set- lift-eastern- china-experts-say-solution-long-way Air Pollutants Indoor Smoking Mold Dust mites Radon gas Outdoor Ozone Carbon monoxide Airborne particles Nitrogen oxides Lead Sulfur oxides Diesel emissions Water pollution The amount of exotic materials entering the water body reaches a level that destroys the original usage Water pollution can destroy the marine/groundwater/fresh surface water system Cause Residential sewage Agricultural waste Industrial sewage Urban sewage Slit y soil erosion Others: reclamation, oil spillage Contaminants Toxic chemicals Human and animal excrement Heavy metals