

ASSOCIATION OF ENVIRONMENT, MICROORGANISMS AND HUMAN BEINGS: THE ECOLOGICAL BALANCE

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The science of ecology deals with the relationship or interaction of organisms and the environment. In the nineteenth-century people started accepting the importance of studying the effect of the environment on life and living beings. Reiter (1865) was the first to combine the Greek terms Oikos [house] and logos (study of) to form the term ecology. The English naturalist Mivart (1894) coined the term hexicology and defined it as “devoted to the study of the relations which exist between organisms and their environment and regards the nature of the locality the frequent, the temperature and the amounts of light which suit them, and their relations to other organisms as enemies, rivals, or accidental and involuntary benefactors”. Hughes and Walker (1965) have defined ecology as “study of the relationships between organisms and their environments”

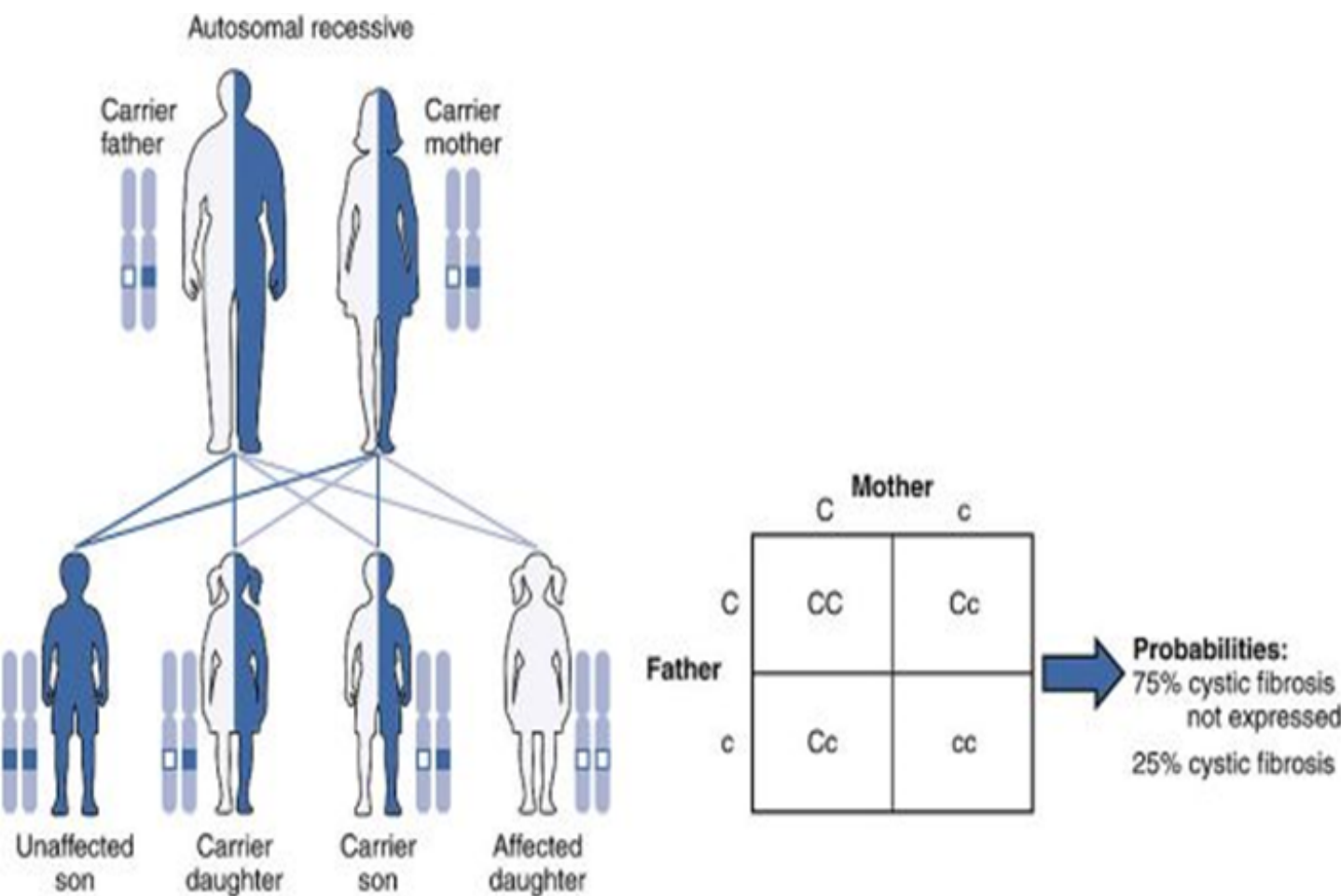
[Verma 1977: A textbook of Plant Ecology. Delhi: Emkay Publication pgs. 1-3).

It is observable from the above definitions that there is a close association between the environment and living organisms. Each biological system along with the interacting environment gives rise to a well-designed system that refers to the Individual, the Population, and the Community biosystems. The interaction of individuals or their populations with the environmental complex forms and the similar interaction of communities with the environment constitute a complex system of biosphere. It has been realized now the fate of human beings is directly linked to the ecological balance of the biosphere.





The external biophysical environment has an intense influence on the human's internal body environment provided that the two are in equilibrium and due to that the human beings are in good physical shape but whenever the equilibrium between the two (i.e. between human's external and internal environments) is disturbed, the human body is not able to work efficiently and it is said to be in diseased condition. The word 'disease' literally means lack of ease and comfort. 'Disease' can also be defined as going away from the state of health and comfort. The disease may be spread by any imbalanced interaction in the environment which may also include our household products and containers.



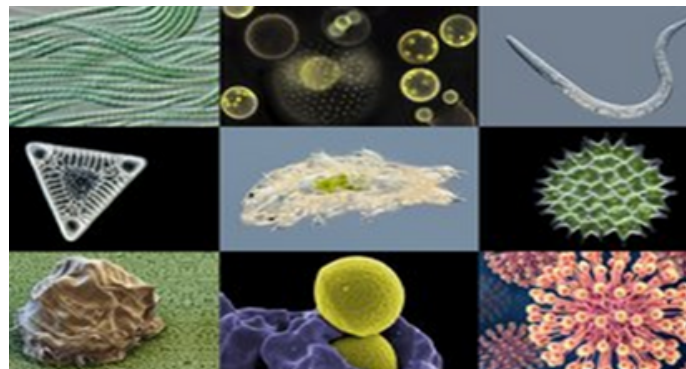
2. Acquired diseases- Acquired diseases are those which develop after birth. Acquired diseases can be further classified into two major categories:

a. Non-communicable diseases

b. Communicable diseases

a. Non-communicable diseases- Certain acquired diseases are not transmitted from human to human, even through any agency, they are known as non-communicable diseases. Some of such common diseases are- deficiency diseases, degenerative diseases, etc.

b. Communicable diseases- Communicable diseases can be spread from one person to another by direct contact, through water, food, air, or animals. Human beings are suffered from these diseases due to the invasion of the body tissues by any living parasitic organisms. Such organisms are- viruses, bacteria, fungi, protozoa, and worms. The common examples of communicable diseases are- tuberculosis, pneumonia, typhoid, malaria, etc. When communicable diseases suddenly spread on a large scale it becomes an epidemic.



[Source- <https://www.micropia.nl/en/discover/microbiology/microbes/>]

One of the major alarming problems we are facing is the uncontrolled change in the association equations among the environment, microorganisms, and human beings. There can be several factors involved in such changes but the most serious and disturbing factor is the human population. From the available data of different surveys, we observe that the human population is increasing terrifically and this is demolishing the proper and balanced interaction or association among the environment, the microorganisms, and the human population. Now, this is our responsibility to maintain a stable relationship between the living and nonliving members of our biosphere so that we will have a balanced association.

[Note- selection of photographs and technical support by Manikarnika Kaur (my daughter)]

