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Topic :- Bioindicator. For Sem - VI

Organisms are affected by their environmental factors like climatic, topographic, edaphic and biotic.

It is natural to recall that the characteristics of organisms are determined by their genetic constitution, but heredity is not able to work in the vacuum. Heredity itself works only with the help of the environment. Thus environment plays important role in organisms life.

Accordingly organisms chiefly plants are the indicator of the environment.

Thus organisms, sps or even communities which serve as a measure or index of environmental conditions are known as bio indicators or ecological indicator. It is evident that every plant is a product of the conditions under which it grows and is therefore a measurement of environment.

Some of the cases where plants and animals serve as indicators of some characteristics of environmental conditions are as follows —

(1) Indicators of potential productivity of land — forests serve as good indicators of land productivity. For example - vegetative growth of trees like sps Quercus is comparatively poor on low land or sterile sandy soil. than the normal soil in which they grow under natural condition.

(2) Indicators of Agricultural possibilities — Native vegetation of a particular region is the safe of agricultural possibilities thus plants growing under natural conditions provide informations on capabilities of land for crop growth. than those obtained through meteorological data or soil analysis.

(3) Indicators of climate — plant communities characteristic of a particular region provide information on the climate of that area. For example, ever-green forest indicate high rainfall in winter as well as in summer, sclerophyllous vegetation indicates heavy rainfall in winter and low during summer; grassland indicates heavy rain during summer and low during winter. Xerophytic vegetation indicates a very low or no rainfall in the year.

(4) Indicators of fire — some plants like *Agrostis hemalis*, *Epilobium spicatum*, *Pinus contorta*, *Pteris aquilina* etc. dominate in areas destroyed by fires. *Pteridium* sps in particular indicate burnt and highly disturbed coniferous forests.