principle is applicable.

Good quality air, water, wind, sunlight etc. are pure public goods. On the other hand, local parks, community pond, play ground etc. are impure public goods.

⇒ Environment as a public good :

Environment goods are considered as public good, because both characteristics of public good are applicable in environmental goods. This is discussed as follows :

Non-exclusion depends on the physical characteristics of the good and the property rights regime. Climate change protection is the most obvious form of public good in the environment. No nation can be excluded from ~~from~~ emission reduction efforts of another nation.

Bio-diversity preservation is another example of pure public good. No person can be excluded from the public benefits created from a stable ecosystem created by preserving species.

However some environmental resources being in nature of impure public goods are excludable in consumption. For e.g. charging entry fees (market price) in enjoying the beauty in Kaziranga National Park identifies the applicability of excludable principle in consumption.

Non-rival depends on the characteristics of the good. The benefits gained from the resource are independent of the number of other people who wish to use it. For e.g. breathing air does not significantly reduce the amount of air available for others, nor can people be excluded from consuming the air.

However some environmental resources being in nature of

impure do not completely possess this property. For e.g. if a fisherman catch the excess fish in an open ended lake. The availability of fish may reduce for the next fisher-man.

In case of such resources, violence of non-rival principle is reflected. Since environmental goods are public goods, therefore Pareto Optimality is not applicable in consuming environmental commodity. Being in nature of public goods the environmental goods create externalities for which the benefits of environmental goods are provided at zero marginal social cost. It makes divergence b/w MSC & MSB (i.e. MSB > MSC) & therefore it violates the Pareto's welfare maximisation criterion of equating MSC & MSB. The violation of Pareto Optimality indicates the market failure in case of public good.

⇒ Tragedy of Commons: The tragedy of the commons is a theory of environmental economics developed by Garret Hardin. He used the term in his article published in 1968 to refer to common areas that are not regulated by govt or privately owned and hence subject to intense resource depletion.

Hardin derived the concept of Tragedy of commons by observing the peculiar behavior of herdsman in allowing their cattle into the pasture land in England. The farmers since did not face any private cost for this activity, their incentive is to graze as many cattle as possible