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FACULTY OF ENGINEERING AND
TECHNOLOGY

Lecture- 15

Ecosystems-Part 3



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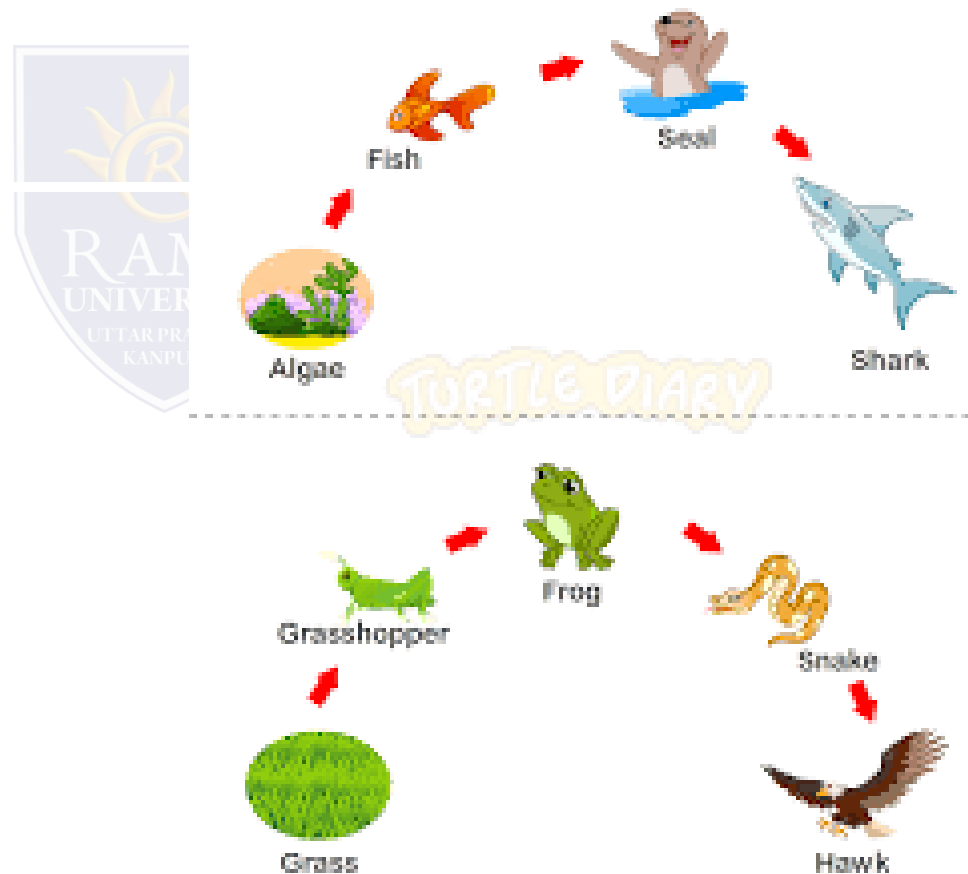
Semester: IInd sem.

Food chain and Food web

Food chain

The transfer of food energy from the producers, through a series of organisms (herbivores to carnivores to decomposers) with repeated eating and being eaten is known as food chain. There are two types of food chains:

- 1) **Grazing food chain**
- 2) **Detritus food chain**



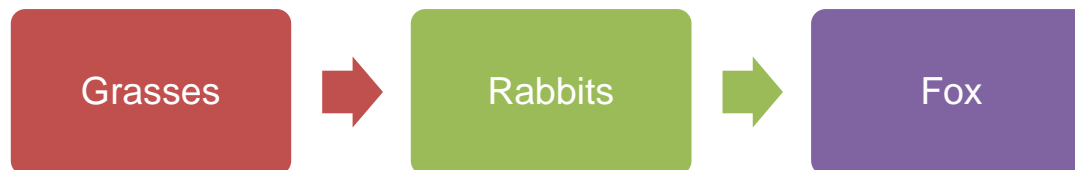
Food chain and Food web

- 1) **Grazing food chain:** This type of food chain starts from living green plants or producers goes to grazing herbivores and on to the carnivores.

This type of food chain depends on the influx of solar radiation. e.g.:

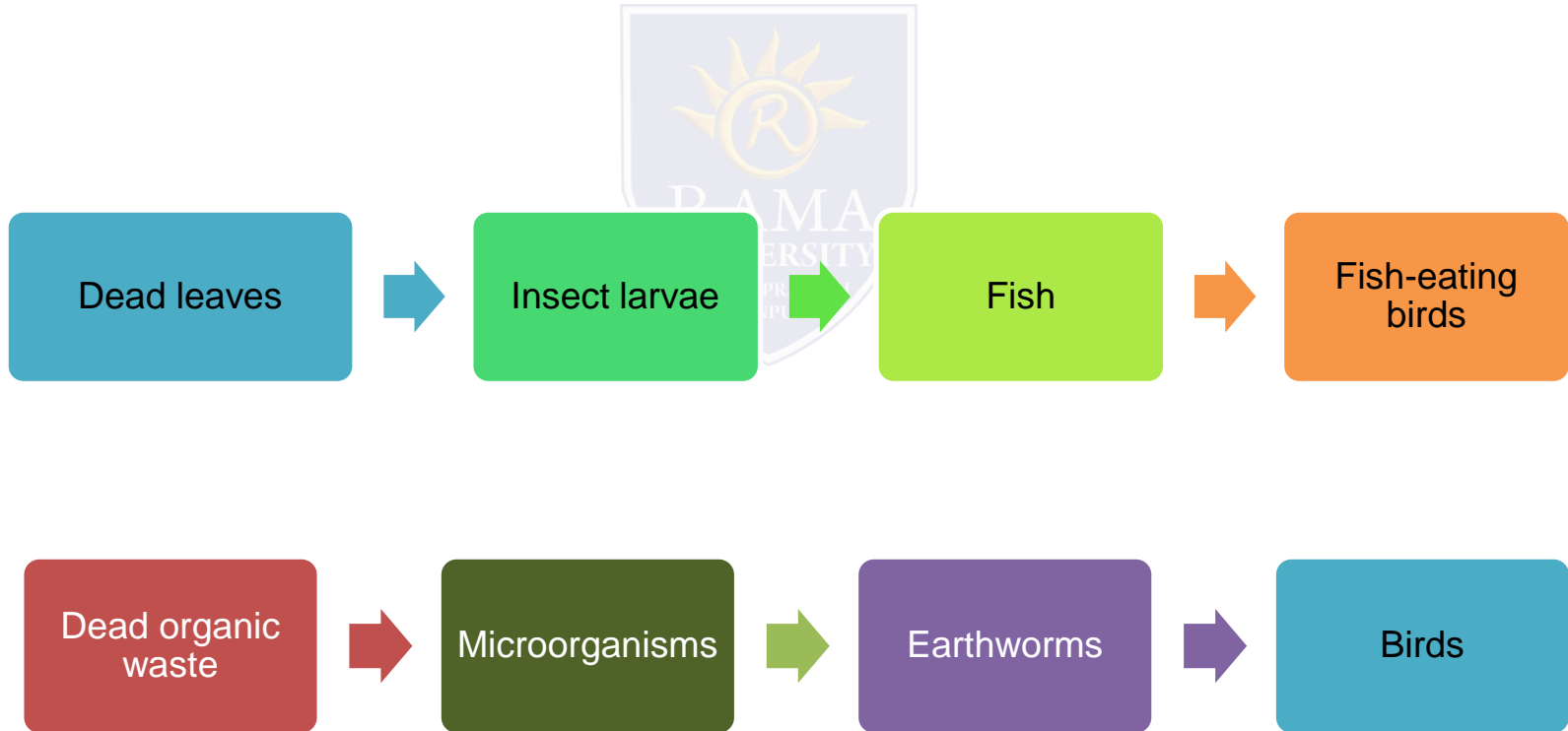


Aquatic food chain



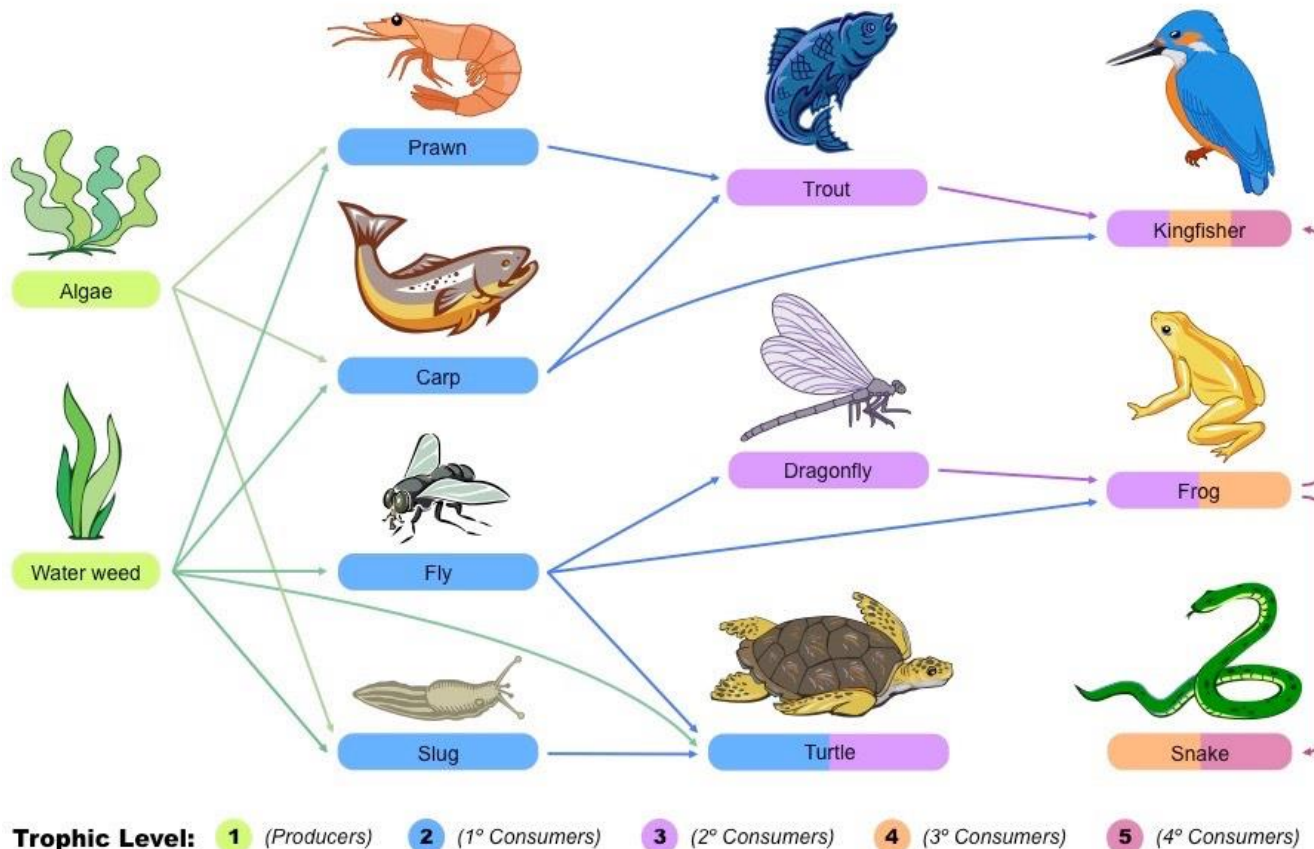
Terrestrial food chain

2) **Detritus food chain:** This type of food chain starts from dead organic matters consumed by detritus (carnivores that eat dead materials) and then to organisms that feed on these detritus and their predators. This type of food chain is less dependent on solar energy but mainly depends on influx of organic matter produced in ecosystem.



Food web

Food chains in nature never occur as linear isolated chain or sequence, but are always inter-connected with each other forming an interlocking pattern, known as food web.



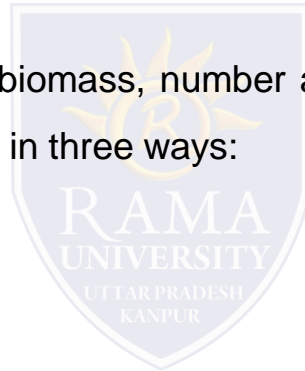
Ecological pyramids

An ecological pyramid is a graphical representation designed to show the biomass or productivity at each trophic level in a given ecosystem.

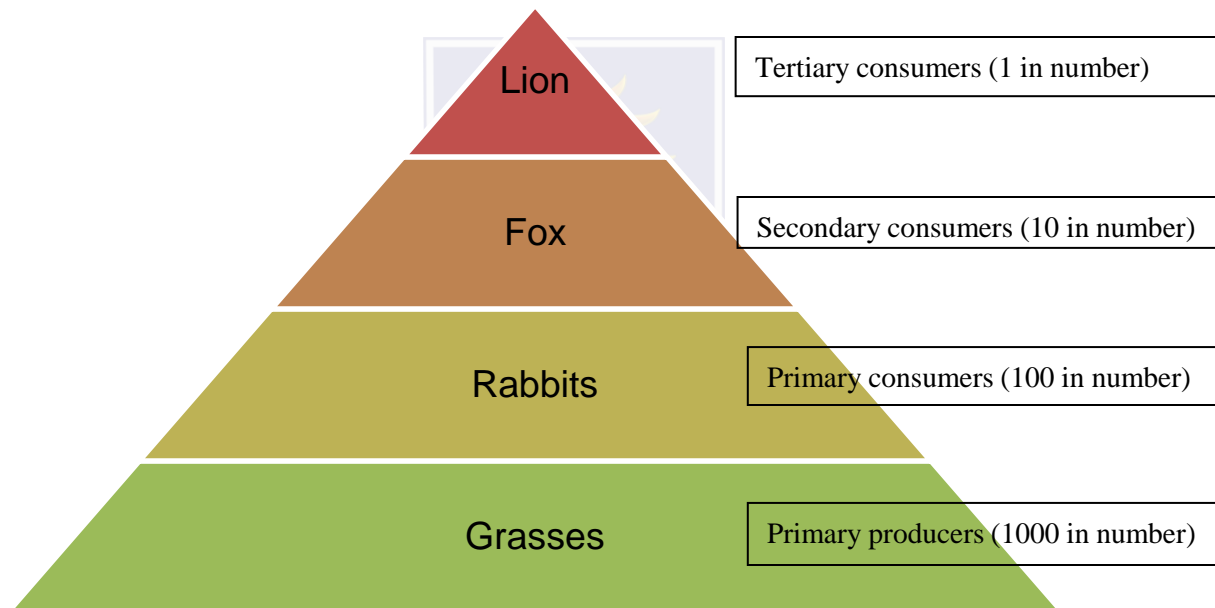
It can also be defined as a graphical representation between organisms at various trophic levels in a food chain.

The basis of ecological pyramid is the biomass, number and energy. Depending upon these factor ecological pyramids can be represented in three ways:

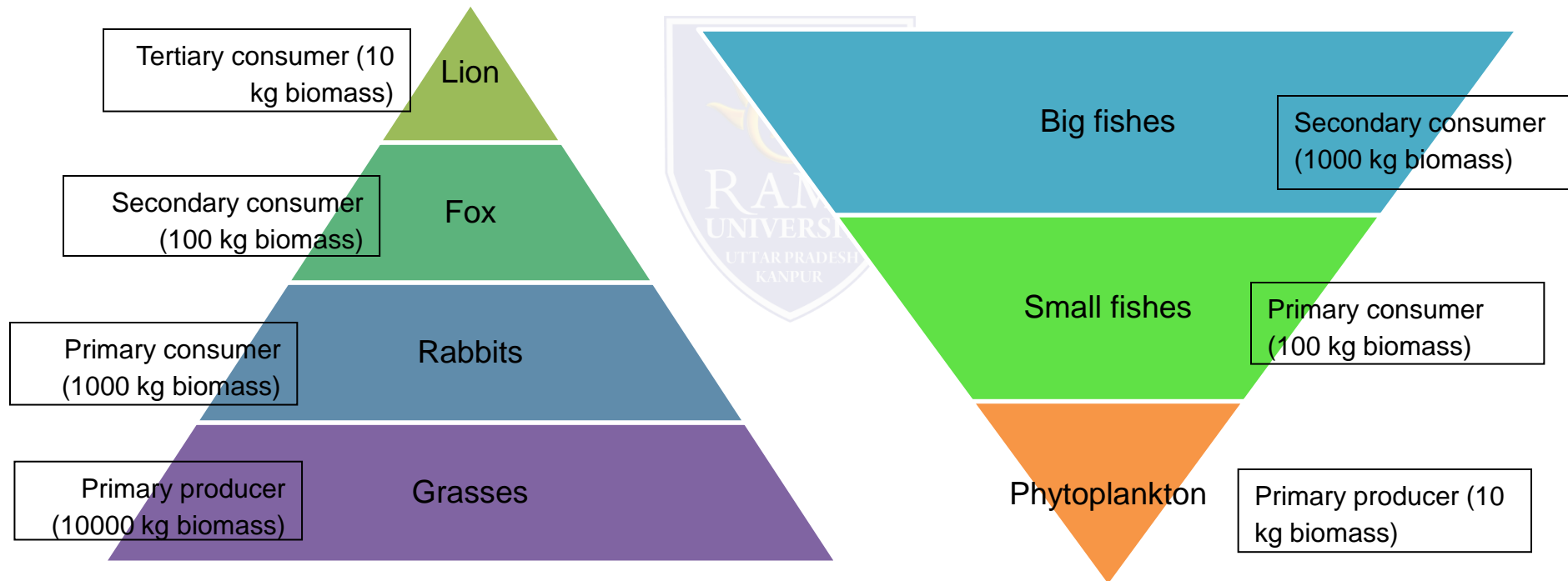
- Pyramids of number
- Pyramids of biomass
- Pyramids of energy



Pyramid of number: It represent the number of organisms present at each trophic level. The pyramid of number can be upright or inverted.



Pyramid of Biomass: It represent total biomass or total dry weight of the organisms present at each trophic level. Pyramid of biomass can be upright or inverted.



Pyramid of Energy: It shows the rate at which energy transfer from one trophic level to next trophic level. The pyramid of energy is always **upright**.

