Food Web — It illustrates all possible transfer of energy & nutrients among the organisms in an ecosystem.

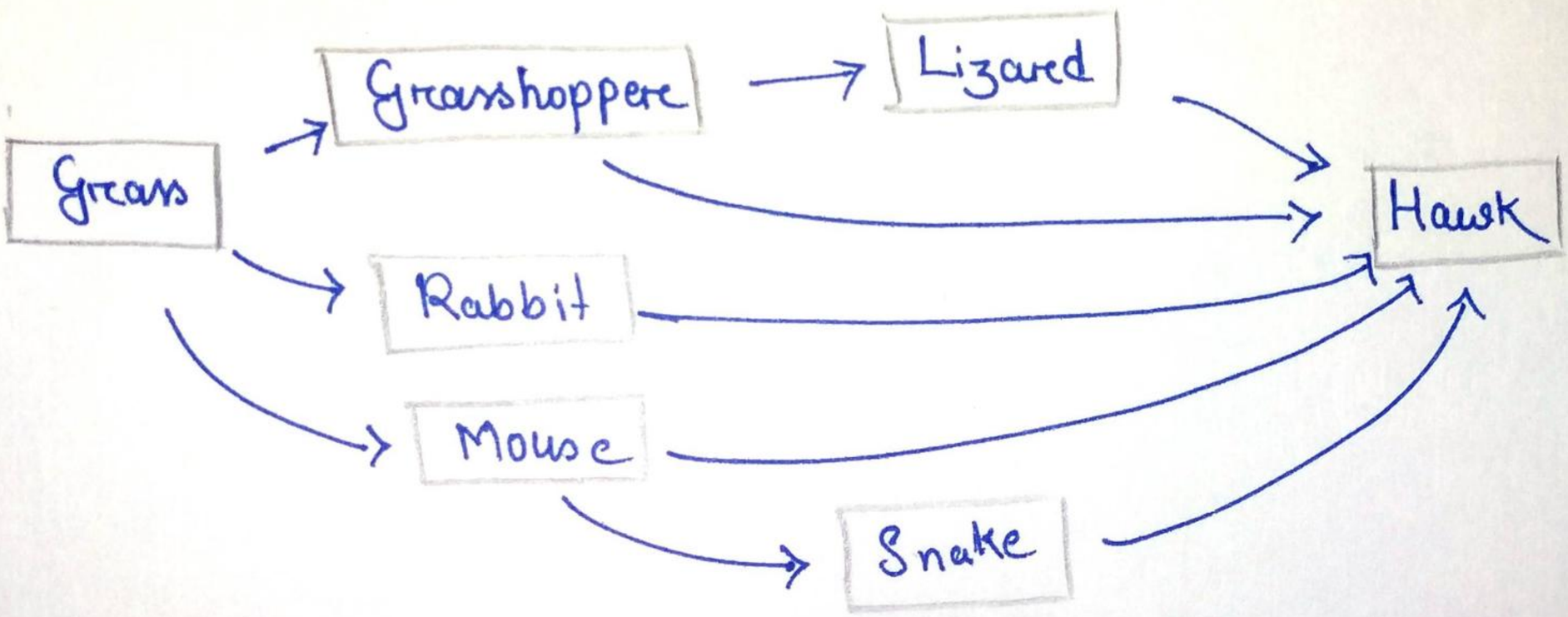



Fig- Food web in a grassland ecosystem

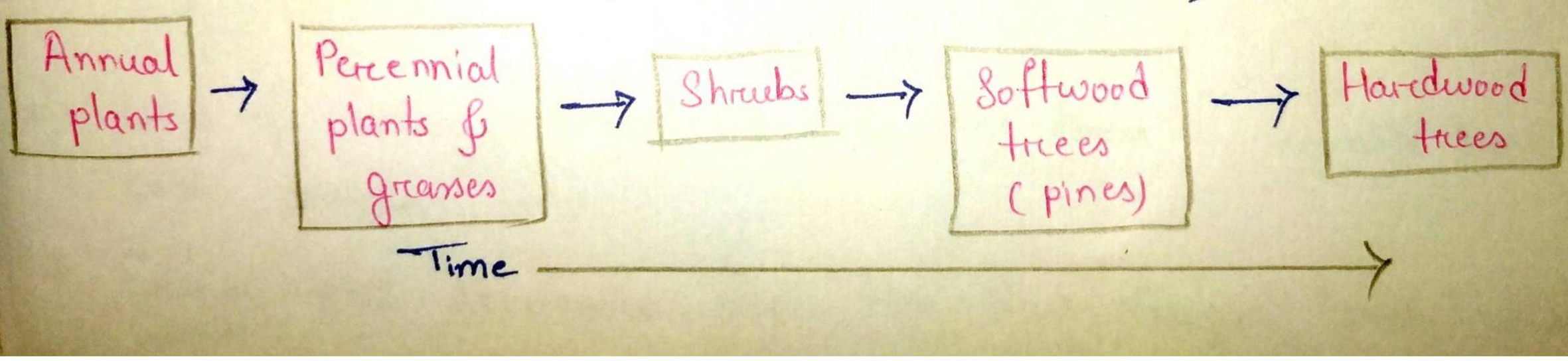
* Dolphins, Porcpoises, whales → cetacean.

They are not fish

(- creature belonging to a group of water living mammals
- No hind limbs
- blowhole for breathing )

## Ecological Succession

- It is a universal procces of directional change
- Communities of plants & animal species in an area are replaced / changed into another over a period of time.
- It occures due to largege-scale destruction (man-made or natural)



- First plant to colonise an arcea — pioneere community
- Final stage of succession — climax ~~co~~ community.

↓

(stable, maturce, morce complex & long-lasting)

- The stage leading to the climax community is called seres or successional stages.
- Succession is characterized by ——

(i) increcased preoductivity

(ii) shift of nutrients from the reservoires

(iii) increcased diversity of organisms

(iv) gradual increcase in the complexity of food web.

## • Primary Succession

⇒ It takes place where no community has existed previously.

⇒ In primary succession (terrestrial site), the new site is first colonised by microbes, lichens & mosses.

⇒ Pioneers over a few generations alter the habitat conditions by their growth & development.

⇒ Death of pioneers

↓

Dead & Decaying leaves of organic matter

↓

produce organic acid
(during decomposition)

↓

~~release~~ dissolve the substratum
releasing nutrients to the substratum

- Establishment of additional organisms may subsequently arrive at the site.
- As the organisms develop, they become more diverse, competition ↑.
- New niche opportunities develop.
- Pioneer species disappeare due to change in habitat or invasion of new species.

## Secondary Succession —

- It occures when plants recognize an area in which the climax community has been disturbed.
- Sequential development of biotic components after the complete or partial destruction of the existing community.
- It may ~~can~~ be destroyed by natural events / artificial interventions.

→ Difference between primary & secondary successions —

1. Secondary succession starts on a well developed soil ~~for~~ already formed at the site & primary succession form in a new site having first colonisation of pioneer species (microbes, lichen & mosses)

2. Secondary succesion is relatively faster as compared to primary succesion.

Primary succesion takes ~~thousand~~ hundreds of years to form

* Difference between Autogenic & Allogenic Succesion —

| Autogenic | Allogenic |
|---|---|
| ~~Auto~~ Succesion takes place in the living inhabitants by the community itself. | Succesion takes place in the living ~~inh~~ inhabitants by outside forces. |

* Difference ~~betl~~ between Autotrophic & Heterotrophic Succesion —

Autotrophs i.e; green plants are much greater in quantity

Heterotrophs are greater in quantity.

Q. Why succession occure fastere in the middle area of a large continent?

A. ∴ It is because ——

Seeds of plants ( different seres)

↓

reach faster

↓

establish themselves

↓

result in climax community

Note :—

1. Ecological succession that starts in watere — Hydrosere
2. Ecological succession that starts on a bare rock — Lithosere
3. Ecological succession that starts on a newly exposed coastal sand - Psammosere
4. Ecological succession that starts in an area of adequate moisture - mesarch
5. Ecological succession that starts on saline soil - halosere.
6. Ecological succession that starts in a dry area with little moisture — xerosere.