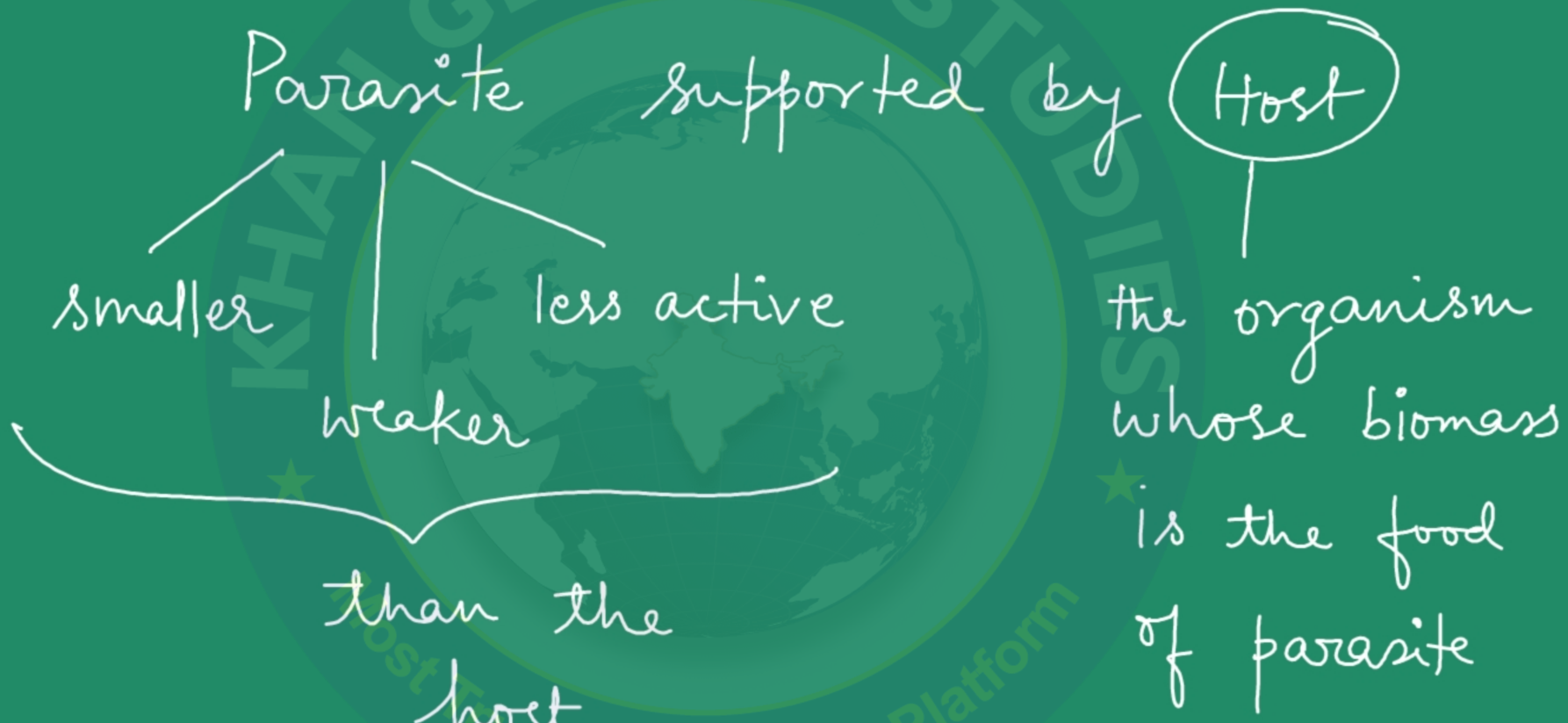
Ecosystem

Components of Ecosystem

Parasites

Consumer → depend on other sp. biomass



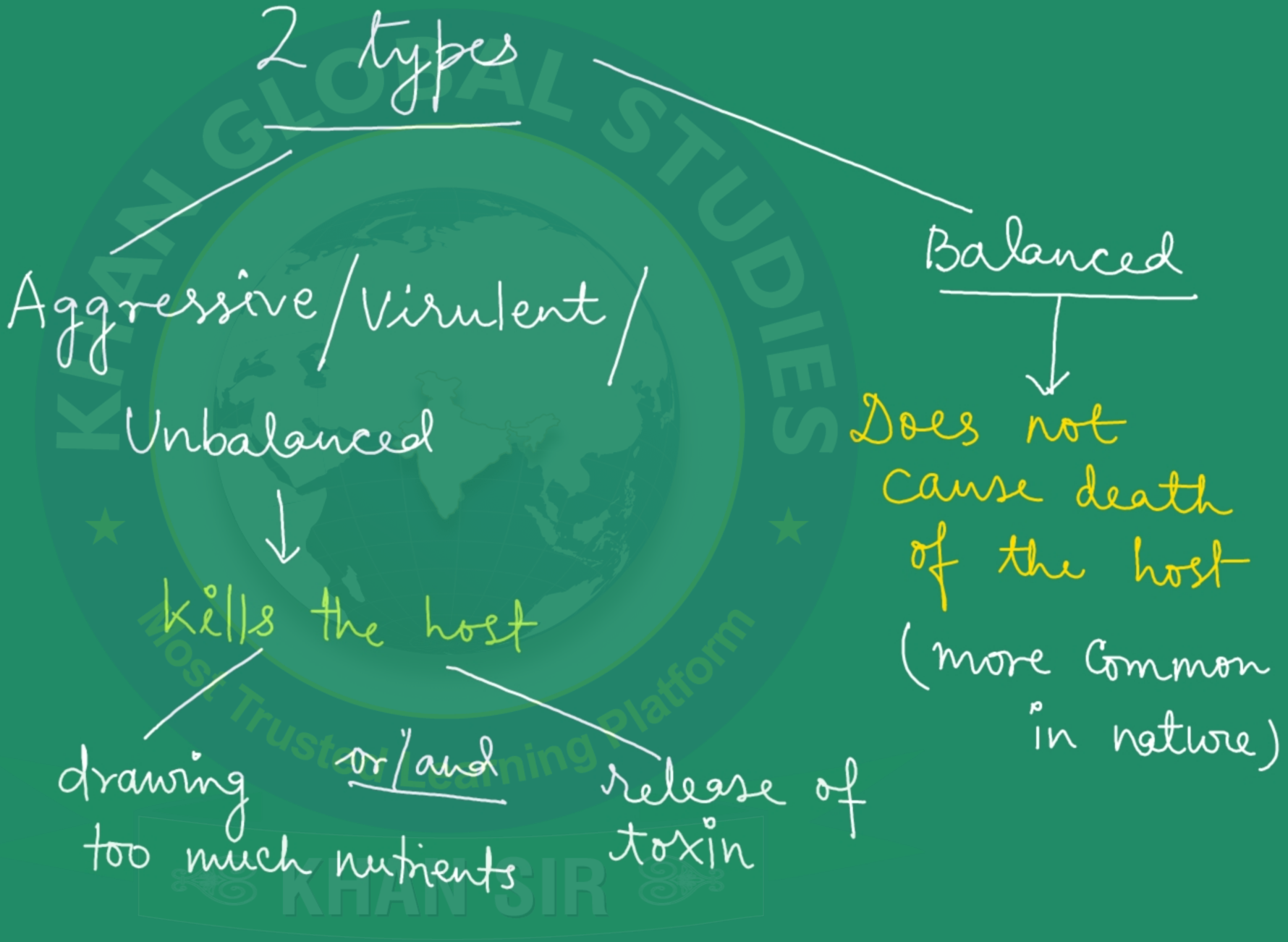
Parasite is associated with

① the host for a long period

② in intimate manner (closely)

↓

Draws nutrients slowly


2 types
Aggressive / Virulent / Unbalanced
kills the host
drawing too much nutrients
or / and
release of toxin
Balanced
Does not cause death of the host
(more Common in nature)

Biotroph

- ✓ Can only survive on a living host
- e.g. Puccinia graminis (Red rust disease of wheat)

vs.

Facultative Saprobe (eg. Tree fungi)

- ✓ originally a parasite
- ✓ when the host dies, they can survive on dead matter also.

Decomposers ⇒ break down complex organic matter from dead & waste biological remains

↓

Convert into simpler material

Several types of decomposition

(may run in parallel)

① Detrivory by detrivores

- earthworm

Feeding on **Detritus**

- ✓ Raw material for decomposition
- ✓ Dead & waste biological remain

→ creating smaller fragments of detritus

② Catabolism

Complex organic molecules

↓ converted into

Simple organic molecules

ex: Proteins → Amino Acid

Cellulose → Sugars

(P.T.O.)

Types of decomposition (Contd.)

③ **Humification**

Formation of Humus

→ partial decomposition of organic matter

→ Humus: Small, colloidal particles rich in organic matter. ⇒ increases soil fertility

By aerobic fungi & bacteria

④ **Mineralisation**

Organic matter is converted into inorganic matter

e.g. amino acid → NH_3

- Nitrobacter
- Nitrosomonas
- Desulfovibrio

Energy Flow within the Ecosystem

2 types

- Between Abiota and Biota
- Within the Biota (energy flow always happens with flow of matter)

Between Abiota and Biota

Input of Abiotic energy into Biota

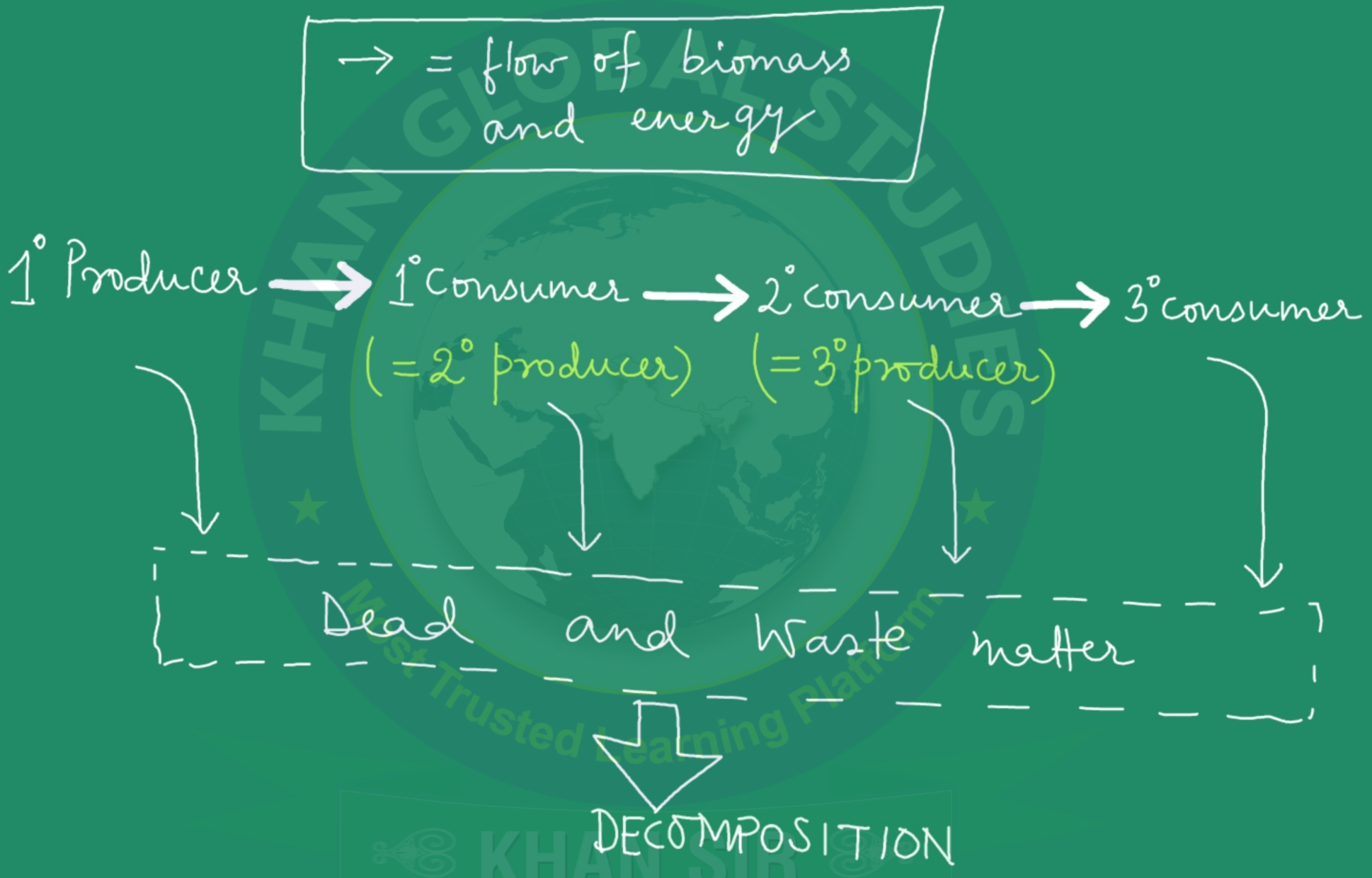
Sun's radiant energy → Captured by photo-synthetic organisms → Photosynthesis → Biomass generation

Release of biotic energy into the abiota

- Release of Heat (no movement of biomass)
- Release by decomposition of dead and waste matter (may be with matter)

Energy flow within Biota

always by movement of biomass along the trophic system


→ = flow of biomass and energy
1° Producer
1° consumer
(= 2° producer)
2° consumer
(= 3° producer)
3° consumer
Dead and Waste matter
DECOMPOSITION