

REBUILDING ECOLOGICAL PROCESSES ESSENTIAL FOR LANDSCAPE RESTORATION

A FACILITATION GUIDE FOR CHANGEMAKERS



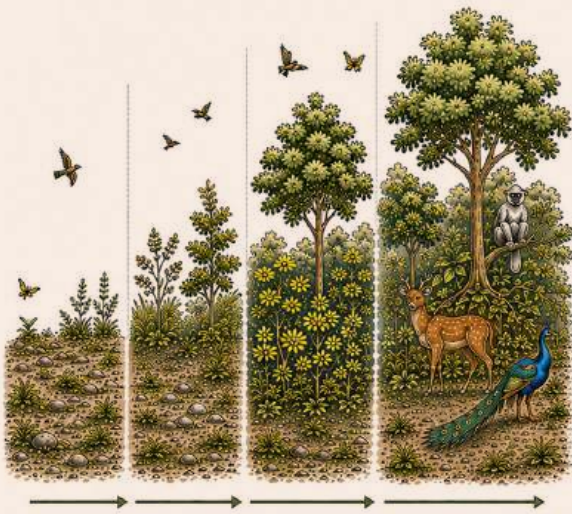
This playbook is for field practitioners, community mobilisers, village elders, frontline officers of different government departments and leaders of community-based organisations.

The purpose of this playbook is to guide the re-establishment of the four ecological foundation blocks necessary for a stable, resilient landscape.

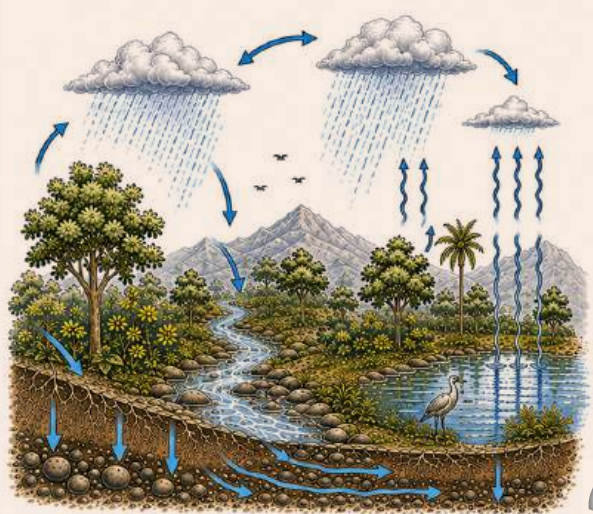
THE FOUR FOUNDATION BLOCKS

Ecological restoration involves re-establishing four interconnected natural processes:

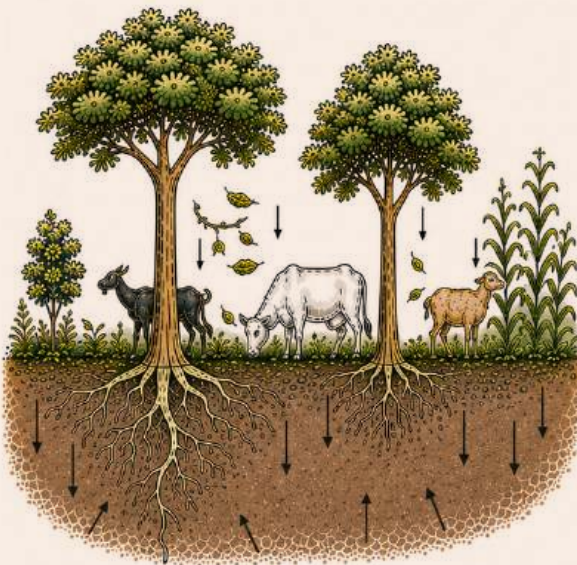
1 Community succession (plants and animals)



2 The water cycle



3 The nutrient cycle



4 Food chain



1 COMMUNITY SUCCESSION

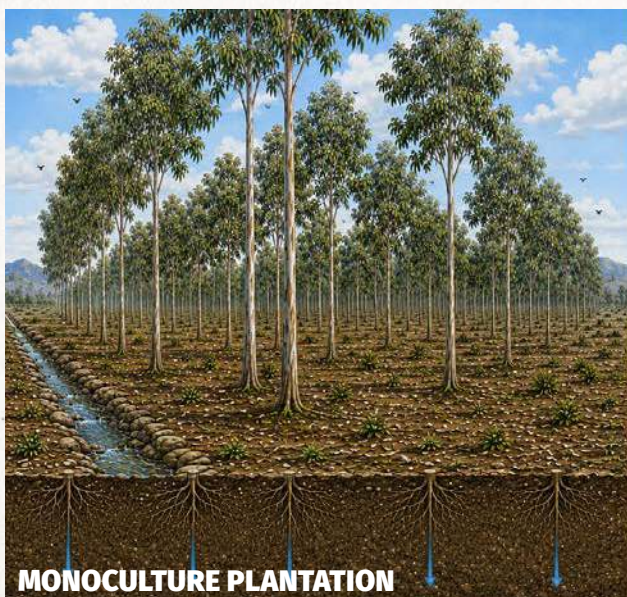
Imagine a barren hillock. It might have only a few species of plants and animals, and even these may be prone to degradation and decline. If left without any community intervention to protect, it might become totally barren.

If brought under community management for protection, succession kicks in. The site moves from simple communities towards complex communities (e.g., from 4 species to 14+). Stability increases.

THE GOAL: Aim for polyculture with diverse species. A stable ecosystem has all categories: grasses, climbers, creepers, herbs, shrubs, and trees.

AVOID MONOCULTURE: Planting only one favored species (e.g., Teak or Eucalyptus in a 2x2 grid) hinders succession. It reduces diversity, requires constant weeding (which hastens soil erosion), and creates uniform, shallow root systems that fail to bind soil or aid percolation.

EMBRACE ROOT DIVERSITY: In a natural polyculture, the root system is like a mirror image of the shoot system. Grasses have shallow roots; shrubs go deeper; trees go very deep. This underground network binds soil effectively and creates diverse pathways for rainwater percolation.



FACILITATION TIP

Think of your farm or the village forest like a meal. If you only eat plain rice every day, your body becomes weak and falls ill easily. But if your plate has rice, dal, vegetables, and curd, you stay strong. A forest of only one type of tree is like a plate of only rice; it cannot survive a fever in the form of pests or drought. We need many foods or different types of plants in the forest to keep the land healthy.

2 THE WATER CYCLE

Vegetation plays a major role in continuing the water cycle. If a tree consumes 100 litres, it might use only a small portion, for example, 25 litres for growth and return the rest 75 litres to the atmosphere via transpiration to aid cloud formation and rainfall.

THE PROBLEM:

Deforestation and denudation of ridges leads to soil erosion, siltation of water bodies downstream, and increased surface runoff (less recharge). This leads to groundwater depletion and erratic rainfall patterns locally (climate change at a local level).

THE RESTORATION GOAL:

Ensuring vegetation cover on the ground to stop erosion and aiding the movement of soil moisture down along root systems into fissures and fractures to join groundwater.



3 THE NUTRIENT CYCLE

Plants are primary producers, making their own food via photosynthesis. Nutrients must cycle from the atmosphere to the earth (plants) and back into the ground through decay.

THE PROCESS:

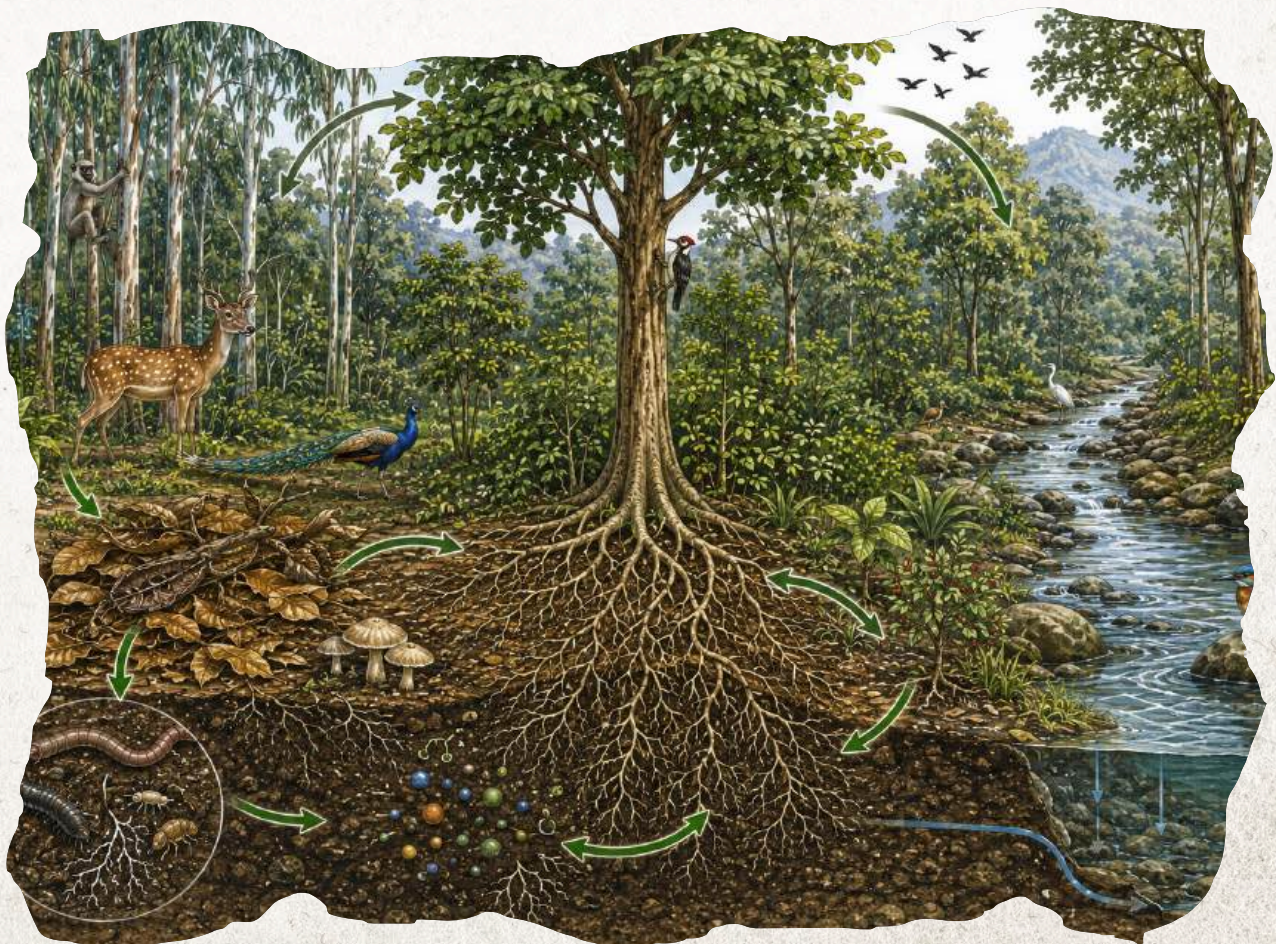
Dead branches, dry leaves (leaf litter), and animal fecal matter must be allowed to decay on the forest floor. Organisms like termites, dung rollers, and bacteria decompose this matter, returning nitrates to the soil to be absorbed by feeder roots again.

THE RESTORATION GOAL:

Ensuring organic matter remains on the site. If a tree uses nutrients to grow, it must return them through leaf fall.

FACILITATION TIP

Explain to communities the value of forest leaf litter. Dry leaves and fallen twigs are not trash to be swept away or burned. They are food for the soil-dwelling organisms. A clean forest floor is devoid of nutrients for the soil.



4 FOOD CHAIN

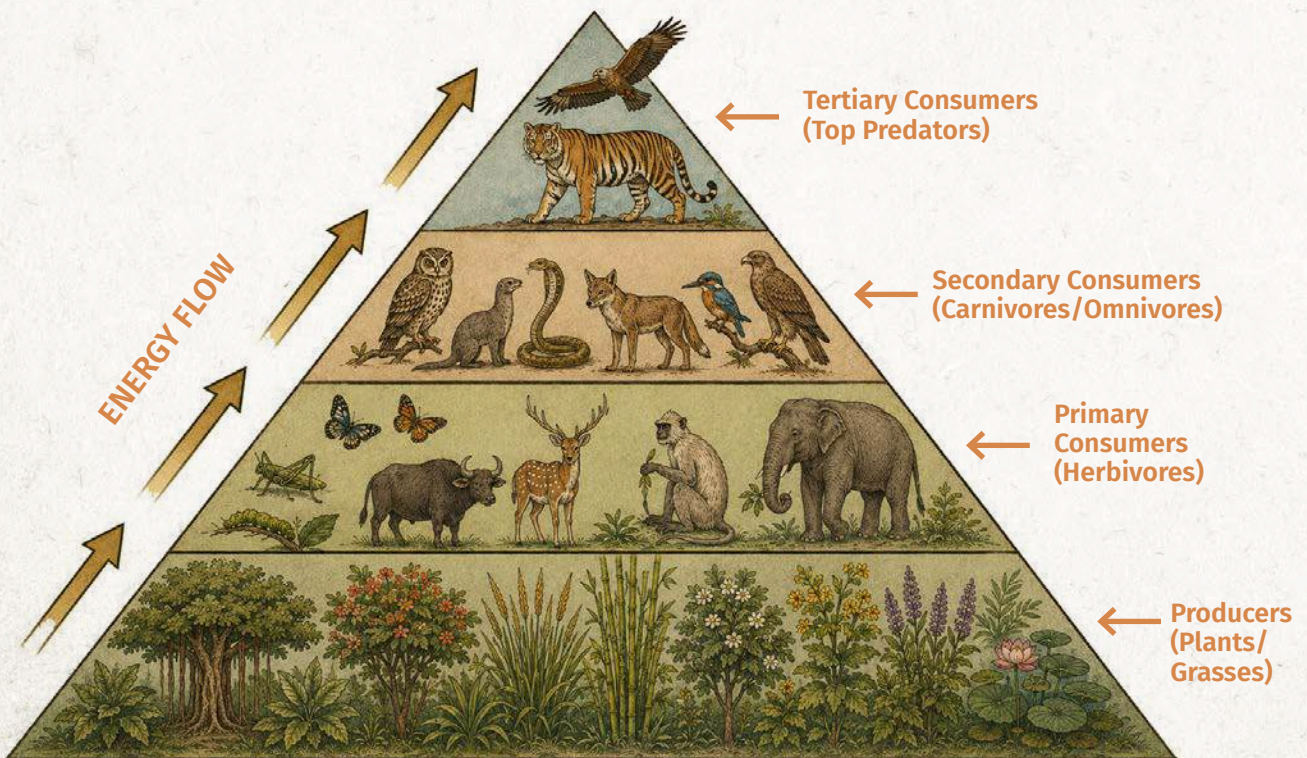
The base of the food chain is plant organisms. Primary consumers eat plants, secondary and tertiary consumers (predators) eat the consumers.

THE PROBLEM:

Currently, the base of the food chain is unstable due to vegetation loss. Consequently, the links in the food chain are breaking. Because of this, the animals and predators, which are primary, secondary and tertiary consumers, are decreasing.

THE RESTORATION GOAL:

By restoring the diverse vegetation base, we support primary consumers, which in turn support the predators, stabilizing the entire energy pyramid.



GOVERNMENT PROGRAMMES FOCUSING ON REBUILDING OF SOCIAL PROCESSES TO RESTORE LANDSCAPES

- ▶ The Watershed Development Component (WDC) of Pradhan Mantri Krishi Sinchayee Yojana (PMKSY)
- ▶ Green India (GIM) Mission
- ▶ Paramparagat Krishi Vikas Yojana (PKVY)
- ▶ Compensatory Afforestation Fund Management and Planning Authority (CAMPA)

Common Ground

Common Ground is a collaborative systems change initiative in the domain of environmental governance and rural livelihoods in India, jointly led by several organisations and anchored by a secretariat organisation, called Living Landscapes. Common Ground leverages the unique opportunity presented by the Commons to address three interconnected crises of our time – livelihoods, climate, and social equality – by integrating a socio-ecological narrative into mainstream development models. Through a collaborative action framework, Common Ground focuses on ‘field setting’, so that entrepreneurial action by multiple actors is accelerated and multiplied, seeding the ecosystem with institutional apparatus and a distributed network of change leaders, to set the stage for sustainable impact beyond the scope of any single initiative or organisation.

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