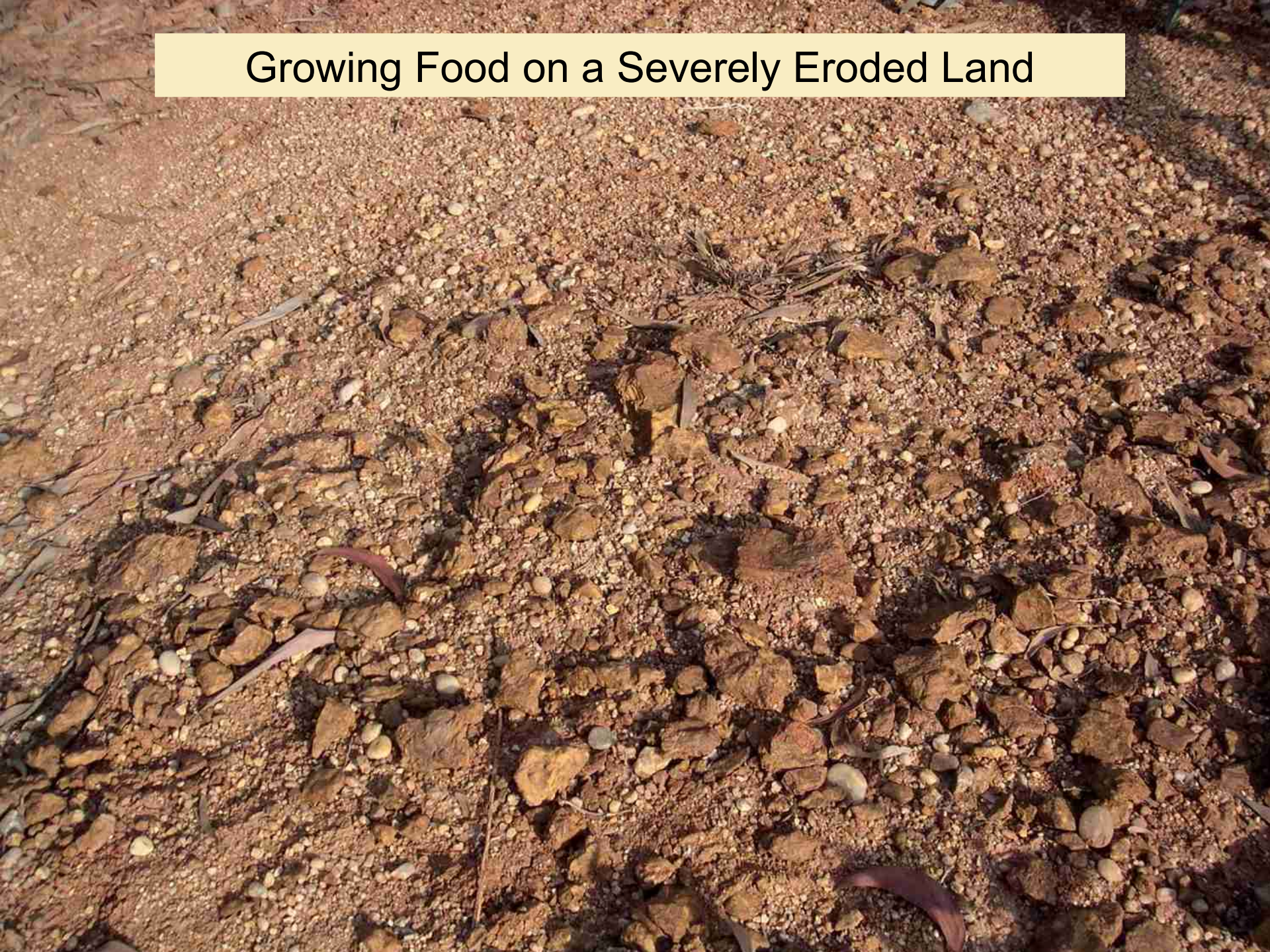
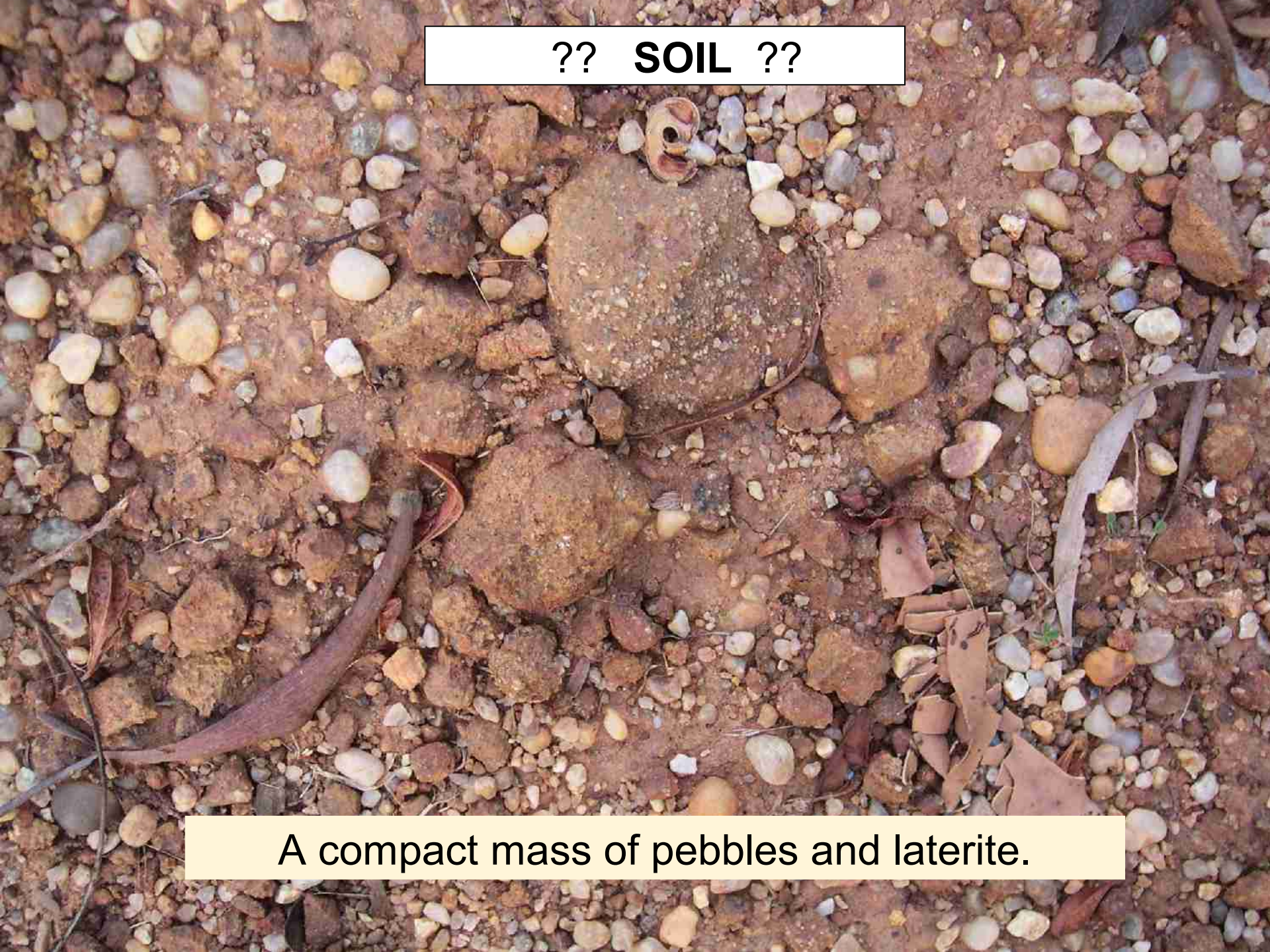
Growing Food on a Severely Eroded Land



The land is around 6 acres, Auroville, Tamil Nadu


?? SOIL ??
A compact mass of pebbles and laterite.

Destroyed by Human Actions

Deforestation
Pebble and earth mining

FOR FORESTRY

with local trees and plants
to restore wilderness, &

THE AIM

COMPLETE REGENERATION

Food Growing

with useful plants for Home use

We are two voluntary workers

Accompanied sometimes
by students

NO HIRED WORKERS

THE CHALLENGE

HOW TO BUILD SOIL ?

Cultivated Plants need minimum 6 inches of good soil

OUR RULES FOR SOIL BUILDING

NO SOIL FROM OUTSIDE

NO PURCHASED COMPOST / MANURE

BIOMASS GROWN ON THE SITE

RESOURSES FROM THE HOME AND SURROUNDING

PROCESS OF SOIL BUILDING

1. Protect the Land

2. Create Water Bodies / Contour Bunds

3. Establish Pioneer Vegetation to produce Biomass insitu

5. Create Raised Beds

6. Build up and maintain organic matter by creative use of resources.

Establishing Pioneer Vegetation

Acacia coleii var holocericia

Dodonea viscosa

Collect Acacia leaves

Collect silt from the ponds


NATURE’S WAY OF BUILDING SOIL

Imitating Natural Processes of Soil Building

Layer of leaves = leaf fall

Water = Rain

12 layers of leaves
12 layers of silt

Layer of soil = Termite activity

Top layer – Green Crop

1/3rd recycled every month

ONE ADDITIONAL INGREDIENT

CHARCOAL

4 to 6 layers of charcoal per bed

THREE MONTHS LATER ……

Gather the soil into heaps

Fill course biomass between the heaps

Mulch well with leaves and grass
& plant on the mounds

Wood biomass of Acacia coleii
a valuable resource

The forest floor confirms the value
of different kinds of biomass

Different kinds of biomass

break down at different rates

Assuring long lasting fertility

Wood transformed into rich humus

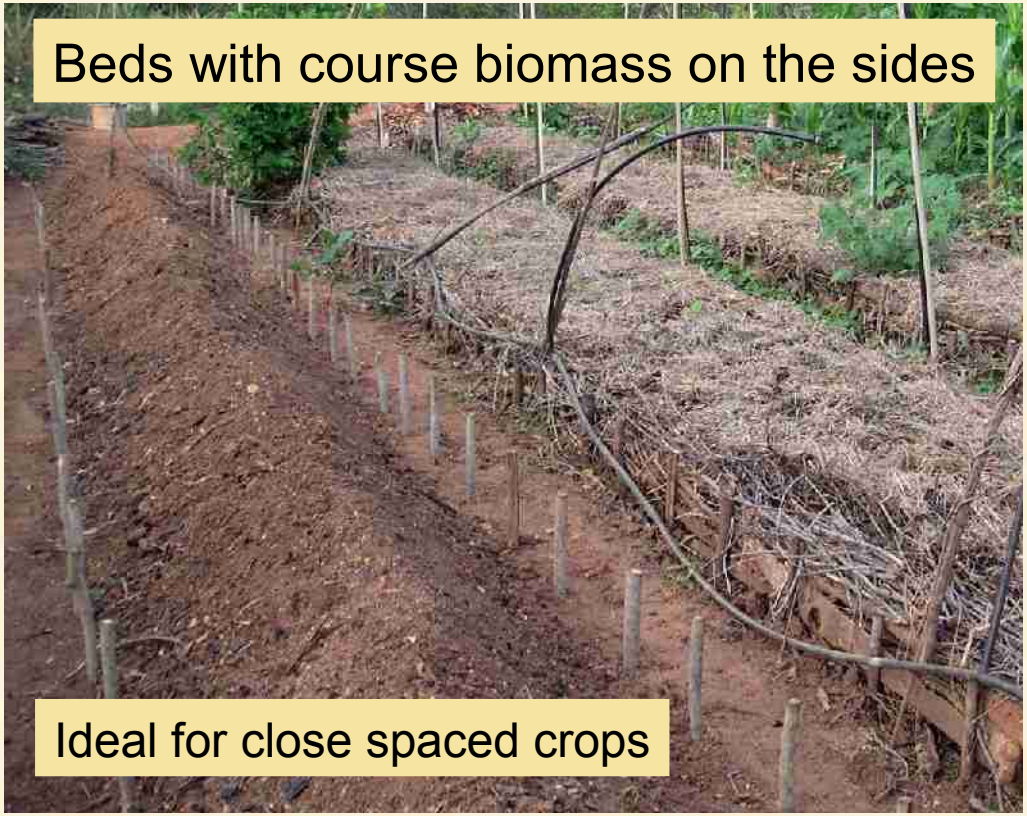
Heaps - just planted

Acacia branches give shade to the transplanted brinjals

Limitations of the Heap design

1. Sides cannot be mulched
2. Not ideal for close spaced crops

Beds with course biomass on the sides



Ideal for close spaced crops


Beds covered completely
High Diversity and High Density of Plants

After building a good soil volume

present focus is on

NO MORE SOIL TURNING

BIOMASS GROWN WITHIN THE GARDEN