13

PLAYBOOK

Best practices from rural livelihood projects supported by Axis Bank Foundation

RURAL LIVELIHOOD

AGRICULTURE

How to increase income through the chilli-garlic intercropping

What
need does the playbook address?

- A majority of Indian farmers have small landholdings, which makes agriculture a particularly perilous occupation. Chilli cultivation is particularly susceptible to virus attacks and can lead to major annual losses for farmers
- While chilli can be intercropped with other crops like onion, green peas etc, garlic was chosen for this playbook considering maximising the income of farmer.
- Incomes from these small parcels of land are low, forcing families to migrate elsewhere for work.
- By maximising the combination of crops that can be grown in small fields, incomes for small and marginal farmers can increase.
- Through trial and error, TCL has found that cultivation of chilli and garlic produces the best results for farmers with small landholdings. The two crops complement each other in terms of resource usage.

This playbook is designed using the expertise of Trust Community Livelihood (TCL), which works on augmenting incomes among socio-economically disadvantaged communities & landless/marginal farmers in the Gangetic plains of Northern India.

This solution can be adopted if:

Your average landholding size is 0.2 acre or lesser

You have access to groundwater or irrigation channels in the cultivation season

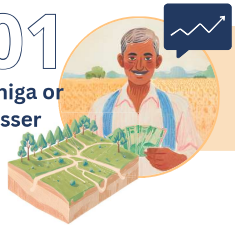
You have sandy loam or loam soil

Who can use this Playbook: Trainer, practitioner, Community Resource Persons

What
are the benefits to farmers through chilli-garlic inter-crop?

01

bhiga or lesser



Income increases even on small landholdings, as additional earnings come **from the second crop**. Ideal for farms as small as **1 bigha or less**.

Even if one crop fails, income from the other can sustain the farmer

Mitigate

Growing two crops **mitigates** the **risk of pest, disease attacks, or climate and market** fluctuations in one crop.

This is particularly true for chilli, which is susceptible to pests and diseases.

Better utilisation

There is **better utilisation** of **soil nutrients, labour and time.**

It also leads to better income

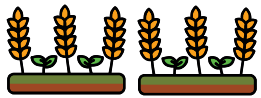
Why
chilli & garlic?

01

Both chilli & garlic
are high-value crops

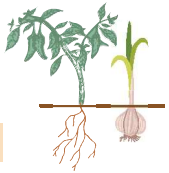
02

Chllli is susceptible to virus attacks, while Garlic is relatively-good at repelling pests. The cultivation of the Garlic can aid the cultivation of chilli.



03

Chilli can be harvested in batches: ensuring steady income and to maximise for high rates



04

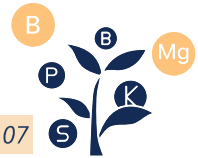
Root zones are different for both crops: Garlic has a shallow root zone and Chilli has a deep root zone

05

Canopy competition is offset: by the time garlic matures, it is time to sow chilli.

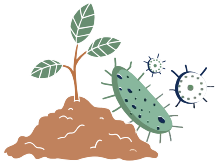
06

Water requirements match between both plants



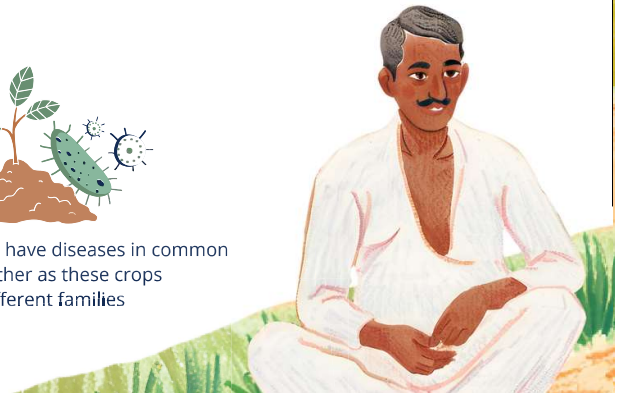
07

Different nutrient requirement: both plants do not compete for nutrients from the soil



08

They do not have diseases in common with each other as these crops are from different families



01/Setting up
the farmland

Ideal in area of **1 bhiga or 20 biswa(800 sqm)**

This is because both crops are **labour intensive**

Soil type : **Sandy loam/loam**. *Clay is not preferred as tubercrops can't be grown.*

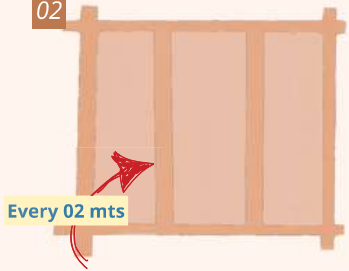
Easier to convince garlic farmers to take up chilli inter-cropping because they are used to creating the ridges needed.

02/Creating
the farm beds

01

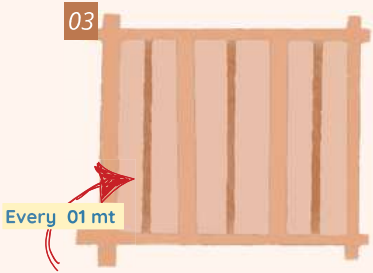
All **four sides** of the farmland has a **mud embankment** (called Maed)

02



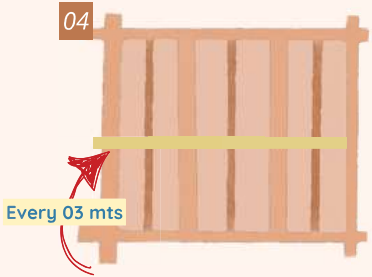
Every **two meters**, **furrows are made between the embankment** allowing for seepage of water into the beds.

03



At a distance of **1m**, **ridges** are made

04

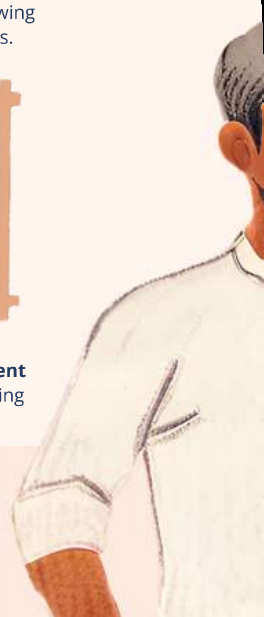


Horizontally, a small **embankment** is made at a distance of **3m** creating **beds of 1m by 3m.**

If land is levelled, bed size is bigger. If land is unlevelled or soil has clay content, then smaller beds is made)

Land *Embankment*

Ridges



03/Irrigation
technique

*An opening is created for each of the 1*3m beds to let water enter from the embarkment then to the furrow then to the beds*

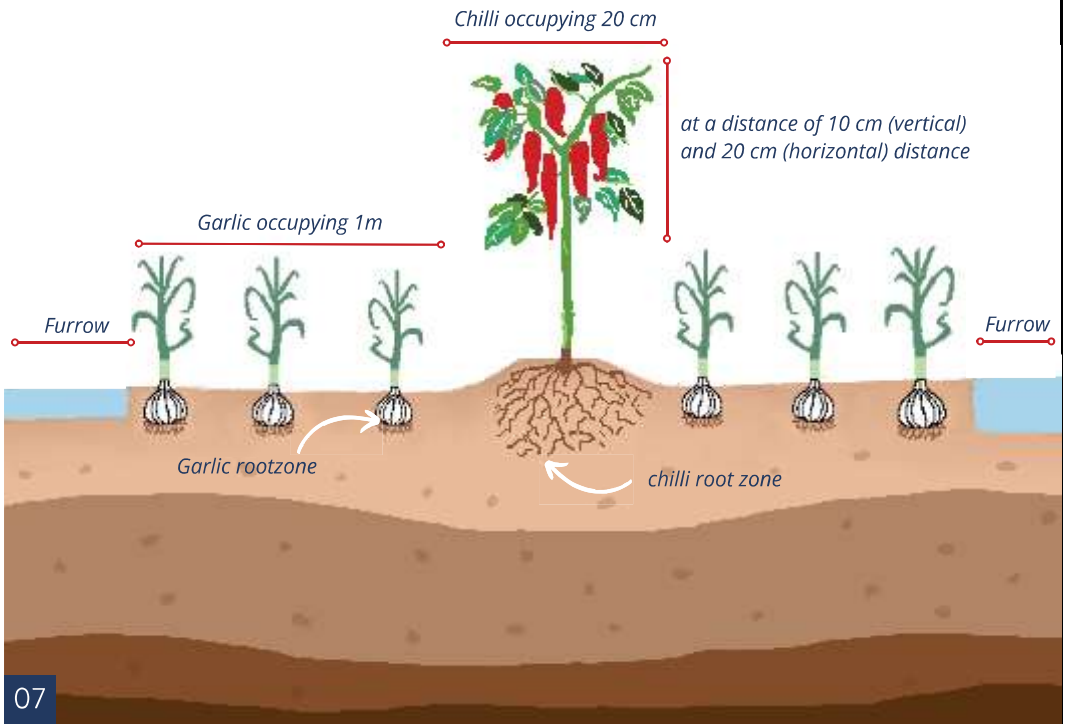
01 When water (from the furrows) fills 80% of the bed, it is closed and an opening is made in the next bed

80%

02 Standing Water for 1 hour upto 2/3rd of the ridge height

04/Sowing
technique

Rows of chilli is planted on the ridges in-between rows of garlic. The growth of garlic will not be impeded by the canopy of chilli.



05/Cultivating
the farmland

Plantation

Garlic is planted in the:
End of October

Chilli is planted one month later
November-end

Harvesting

Harvesting time for Garlic:
March-middle to April

Chilli: between
March and July

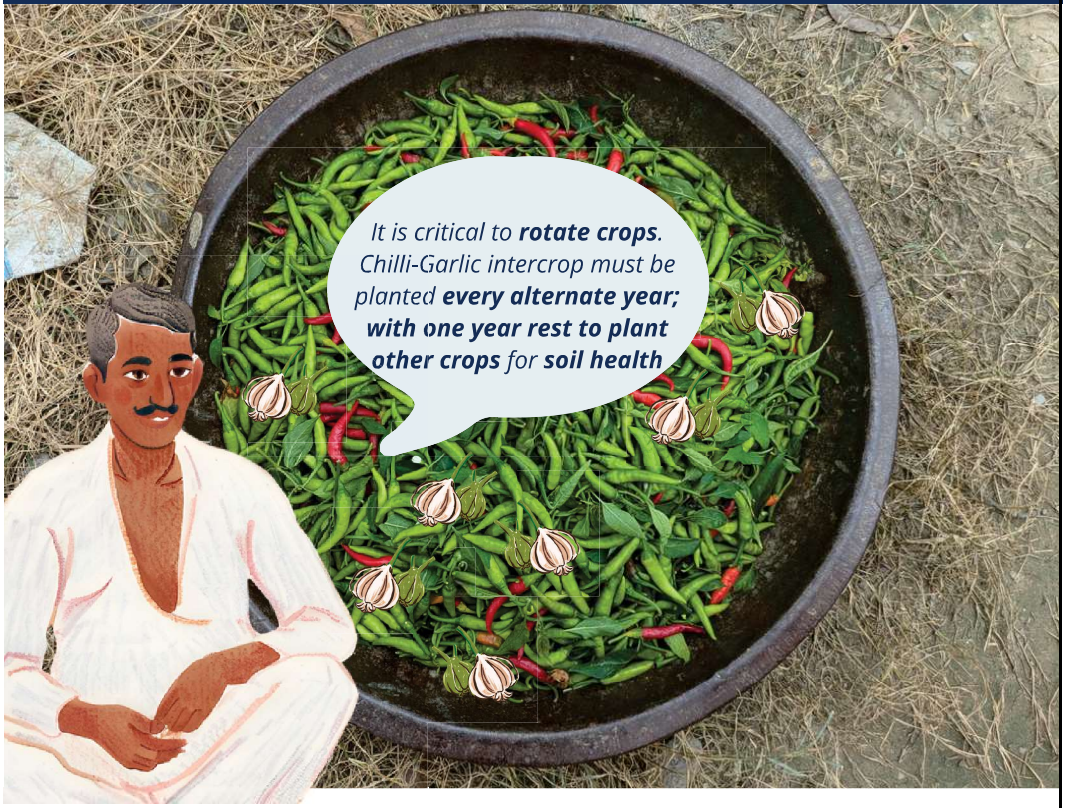
Garlic

October	November	December	January	February
March	April	May	June	July

Chilli

October	November	December	January	February
March	April	May	June	July

Sowing
Growing
-



Chilli-garlic must be planted
Every Alternate year

One year to other crops
Ensures good soil heath

Approximate profits, calculated for 0.2 acre (or, 1 bhiga in Uttar Pradesh)

Chilli

Maximum of
Rs. 60,000
per bhiga *(assuming proper care of plants and no disease attacks)*

Garlic

Maximum of
Rs. 40,000
per bhiga *(assuming proper care of plants and no disease attacks)*

Intercropping

Maximum of
Rs. 80,000
per bhiga (assuming proper care, no disease attacks and use of family members for labour work)

**All figures are approximate and assumes proper care of the plants, no loss due to disease or climate-related events, and involvement of household members to keep labour costs down to a minimum*

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