

Sustainable Agriculture Practices for enhancing small millets production in Jawadhu Hills



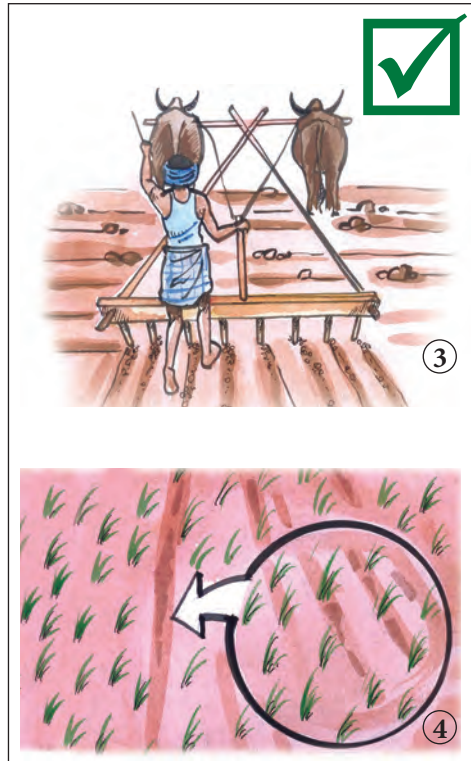
1. Use wooden spike toothed harrow before & after sowing

Benefits

- Breaks clods and pulverises soil
- Creates conducive soil condition for better germination of seeds
- Makes usage of iron harrow easier for population thinning



Harrowing needs to be done opposite to the direction of ploughing



2. Adopt alternate varieties to increase diversity

Little Millet (Samai) Varieties



Perunkollai
Bold grains

Kolluthanna
More yield

CO 4
More fodder

Which variety are you
going to try?



Finger Millet (Ragi) Varieties

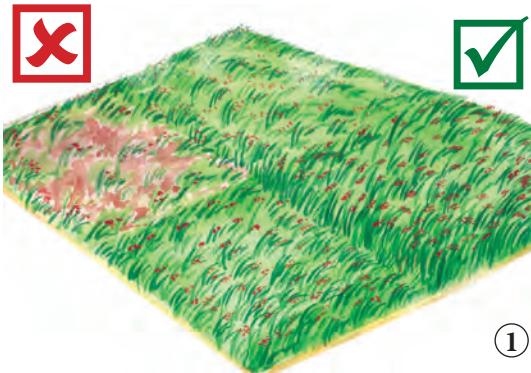


GPU 28
More yield

Kempu
Tasty grain

3. Go for seed selection from farm and grain

Selection of seed from your farm



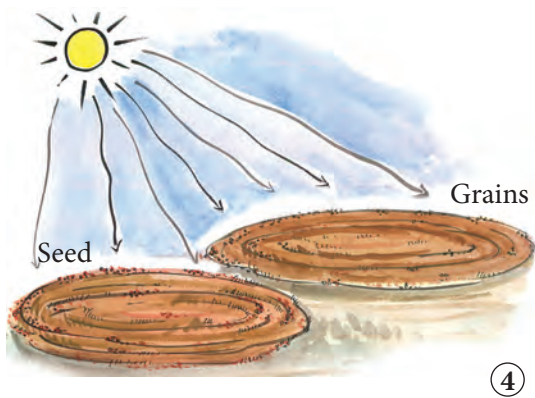
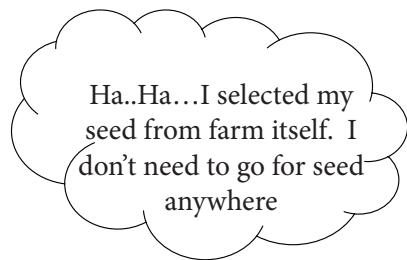
Start with selecting good plot



Then select good true-to type panicles



Threshed and winnowed separately



Selection of seed from grain



In first sieving, use sieve with bigger hole to separate big stones/ sticks/ mud ball from grains

Then use sieve with smaller hole. In the second sieving, bold grains will remain on sieve, small and chaffy grains will fall down. Those bold grains should be used as seeds.

Hey.....do you need quality seeds?
Then do it

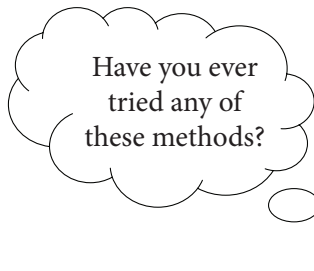
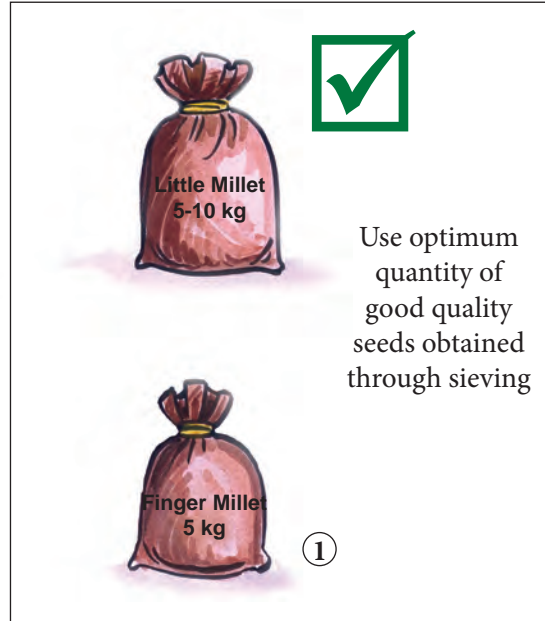


Bold grains

Chaffy grains & stones

4. Reduce plant population to the optimum level

Use optimum seed rate



Do thinning with iron harrow

Thinning should be done in opposite direction of last ploughing during 25-30 days after sowing. If more plant population is there, one more thinning to be done diagonally





5. Supply adequate nutrients

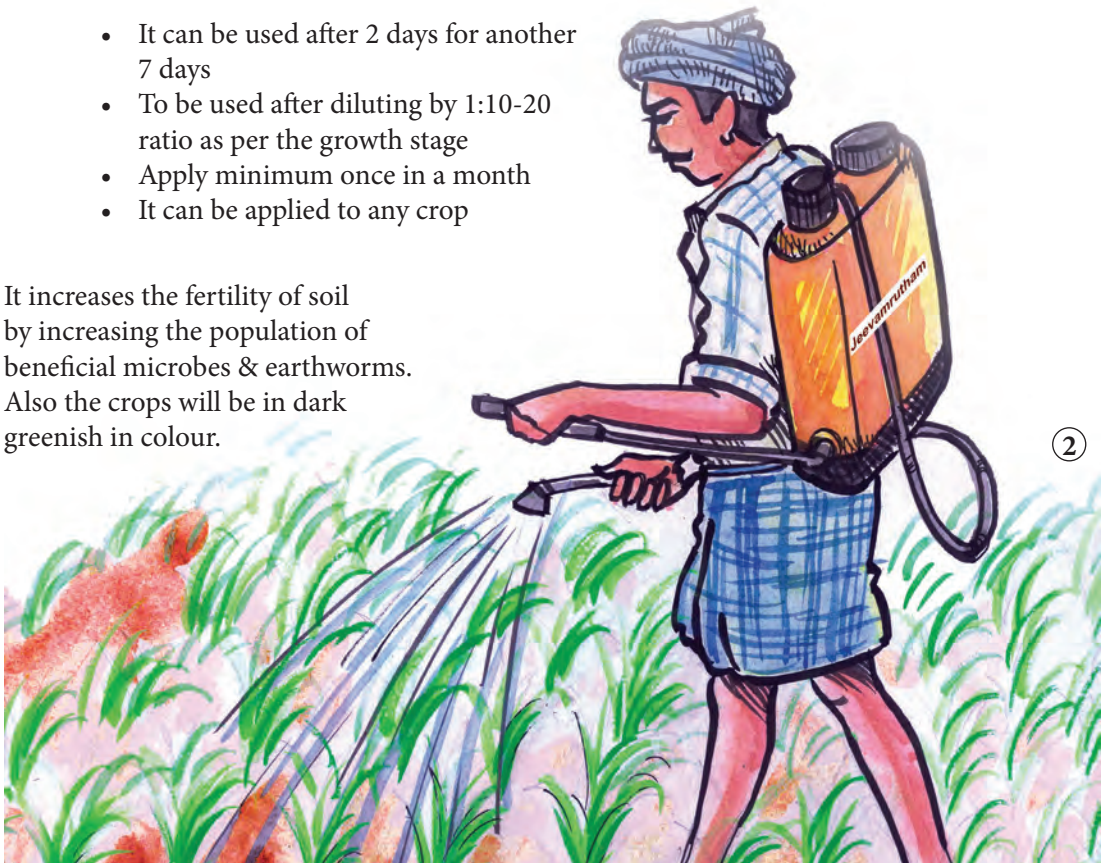
Do Jeevamrutham top dressing



Either barrel or lined pit can be used for preparation. After mixing the ingredients mentioned in the picture for 1 acre, the mixture should be kept for 2 days in shadow. Stir the solution thrice a day.

- It can be used after 2 days for another 7 days
- To be used after diluting by 1:10-20 ratio as per the growth stage
- Apply minimum once in a month
- It can be applied to any crop

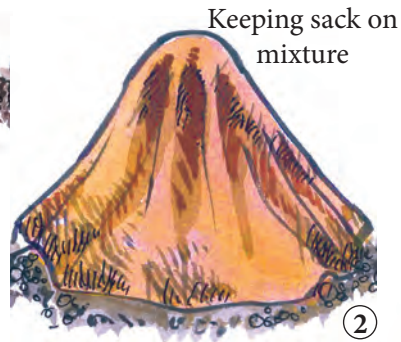
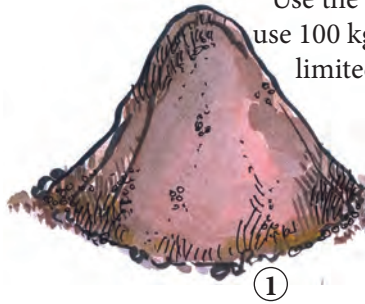
It increases the fertility of soil by increasing the population of beneficial microbes & earthworms. Also the crops will be in dark greenish in colour.



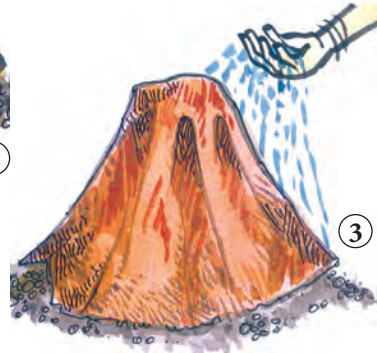
Apply Ganajeevamrutham

It is a solid form of Jeevamrutham.

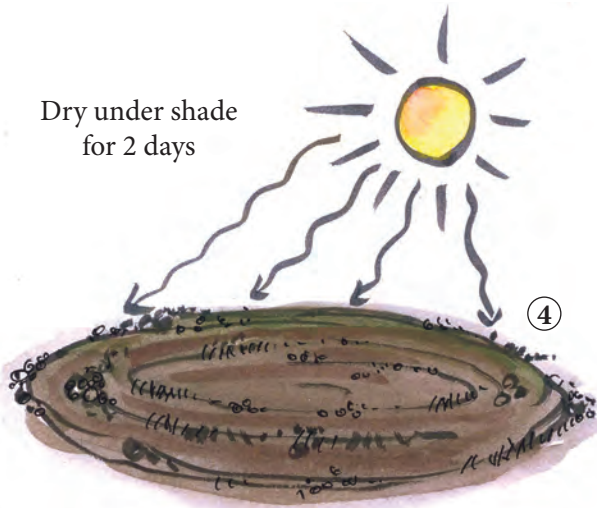
Use the same ingredients but use 100 kg of cowdung and very limited quantity of water



Water need to be sprinkled for 3 times per day for 3 days



Dry under shade for 2 days

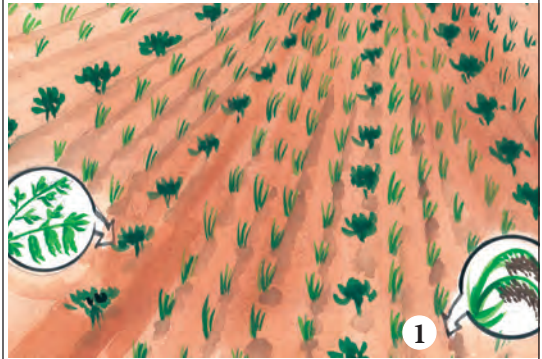
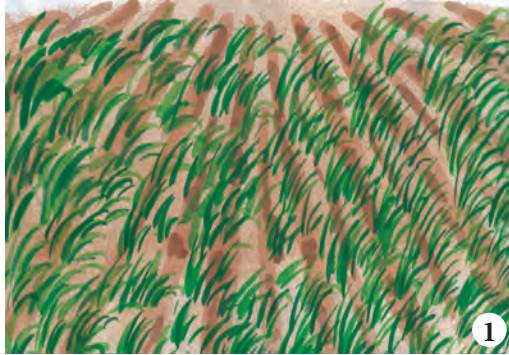


Ganajeevamrutham can be kept upto 6 months.

Ghanajeevamrutham is applied during evening hours (around 6.00 pm) for easy mixing with the soil due to cool night temperature and mist and also to avoid exposing microbes to direct sunlight during day time.



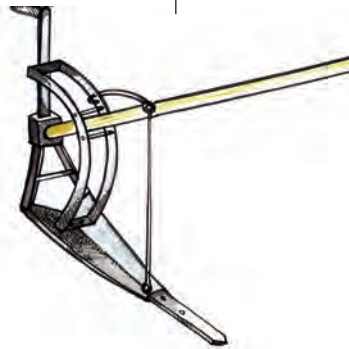
6. Do intercropping with redgram



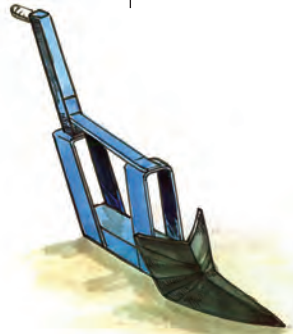
7. Use new Technologies

Improved Ploughs

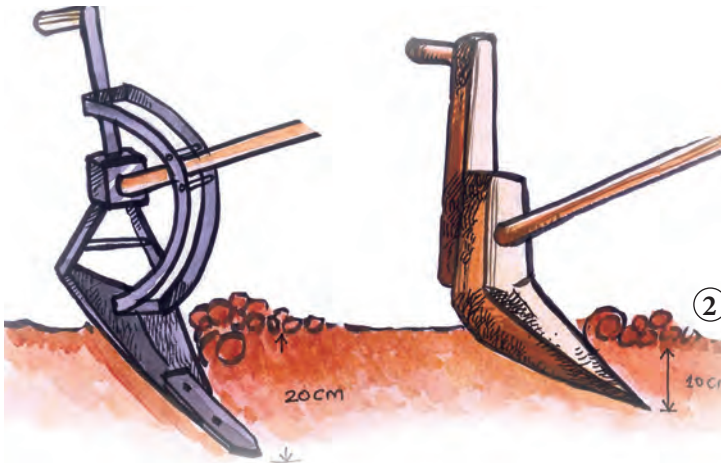
①



Uthangarai Plough Rs.1400

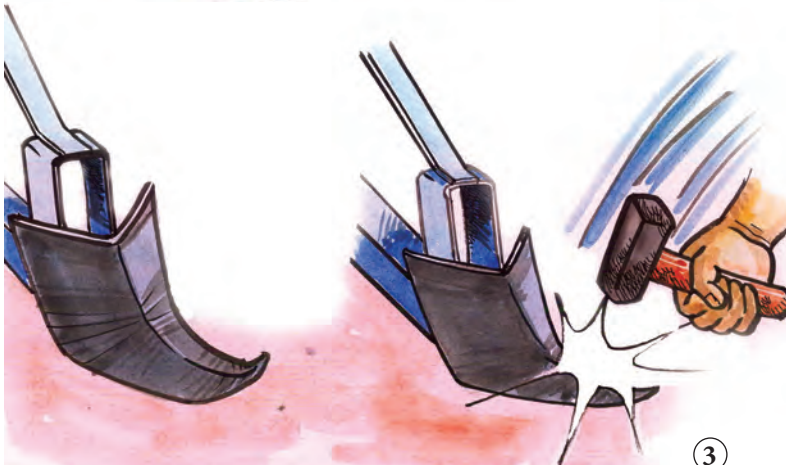


Tirupathur Plough Rs.700



More field capacity, higher depth of ploughing and better weed uprooting

②

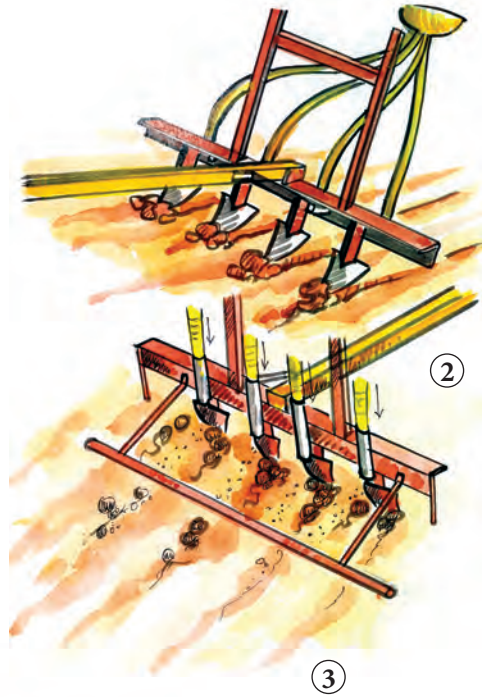


This is more suitable for me. I need not depend on men for repairing it

It will not break often as that of wooden plough. It can be repaired easily

③

Seed drill

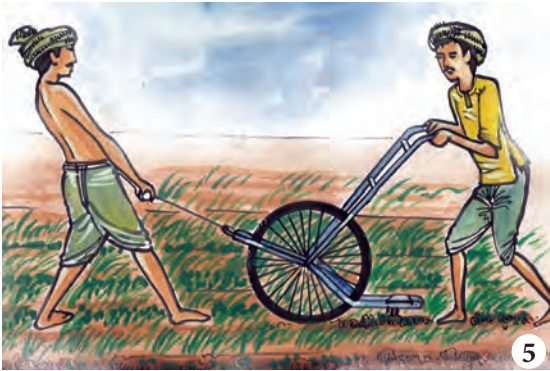


I use seed drill. So I get uniform and better crop growth

It helps to reduce the weeding time



Cycle weeder



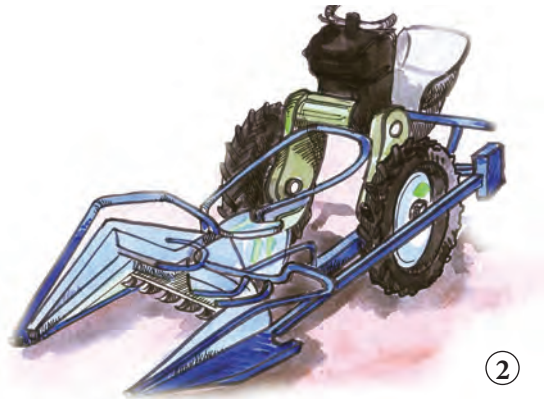
OR



Harvester cum binder



Coinciding of harvesting with rainfall leads to grain loss and reduction in quality of grains



Use harvester cum binder for addressing it

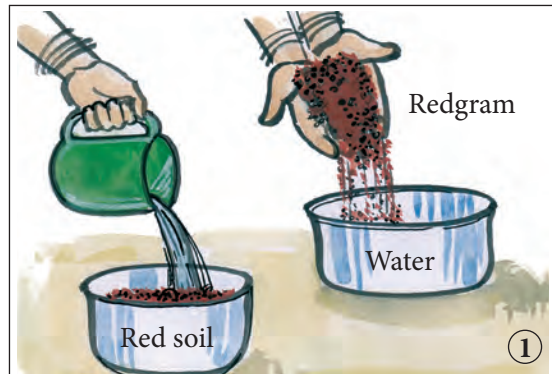
- It can be used in plain land without big stones.
- The plant height should be minimum 2 ft
- Land should not be wet
- It helps to reduce the labour cost and time.

He...he...he.....I saved my grains and fodder from rain in a short time



Red soil application on redgram / Field bean

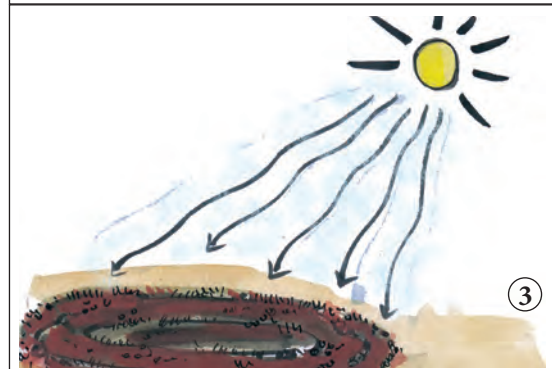
- Redgram / field bean need to be soaked in water for 2 minutes
- Mix red soil / soil from termite mound with water and make into red soil paste



- Mix redgram / field bean with red soil paste so that each grain gets coating of red soil.



- Keep it under sunlight for 2-3 days to reduce moisture content to desirable level.



Benefits

- Better taste and increased nutritional quality of grains
- Prevents pest and fungal attack
- The grains can be stored upto one year
- Facilitates for easy separation of seed coat while making Dhal



Super grain bag



Grains should be dried before storing in super grain bag. This bag is available with Pest control (India) Pvt. Ltd. in different sizes.

Benefits

- Prevents fungal and pest attack in seeds
- Grain and seed quality retained
- Bags can be reused, provided if there are no holes

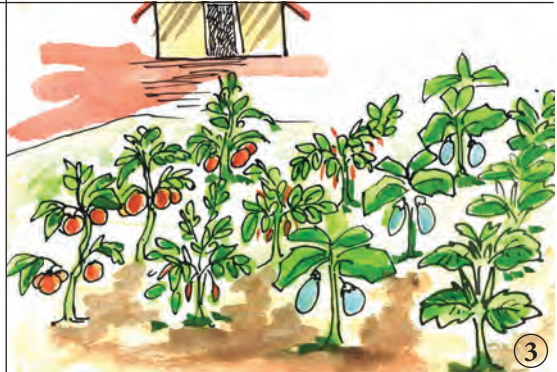
Kitchen Garden

- Cultivate wide variety and mix of perennial and annual vegetables and medicinal plants
- Use native varieties as they are more tastier and require less attention

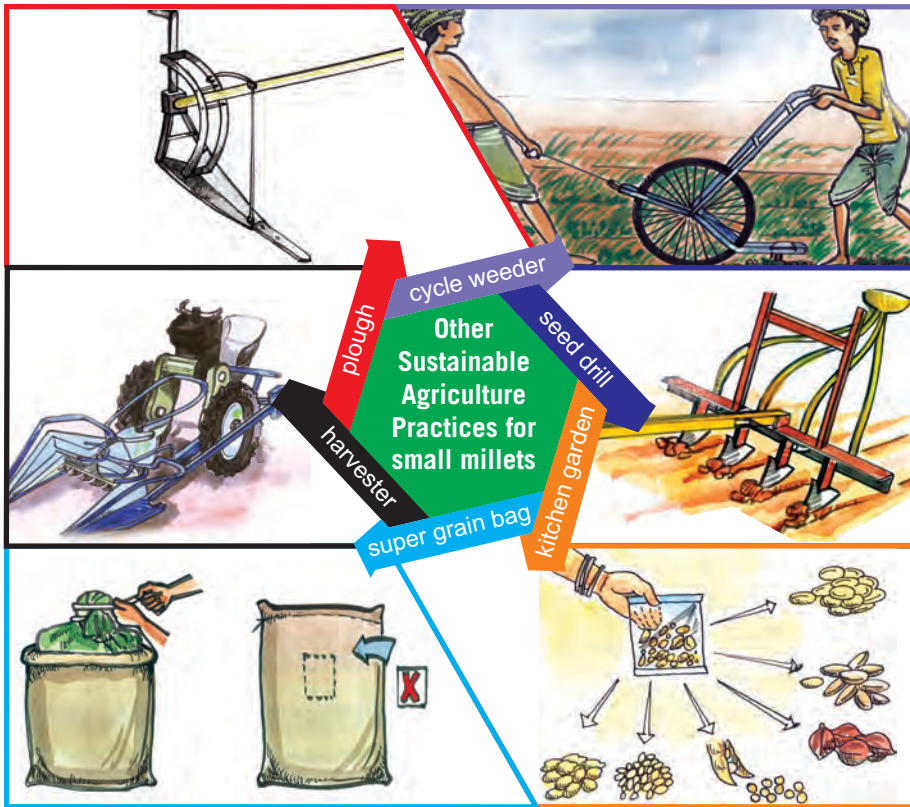


- Go for raised bed cultivation
- Use waste water from home

- Use ash to manage pests.
- Collects seeds for the next year



My own kitchen garden
fresh vegetables...different
varieties...I am nutritionally
secured... When you will be?



About RESMISA Project

The action research project 'Revalorising Small millets in Rainfed Regions of South Asia (RESMISA)' aims to increase production and consumption of nutritious small millets and associated pulse and oilseed crops in rainfed regions of India, Nepal and Sri Lanka. It pursues a multi-pronged research strategy related to conservation, productivity enhancement, value addition, post-harvest processing, promotion and policy action to raise the profile of small millets. The project has selected six research sites in backward and tribal dominated pockets of Tamil Nadu, Andhra Pradesh, Odisha and Jharkhand states of India and one site each in Sri Lanka and Nepal. The project is anchored by DHAN Foundation and Canadian Mennonite University. The other Indian partners are Tamil Nadu Agriculture University, All India Coordinated Small Millets Improvement Project of ICAR and WASSAN. This project is supported by Canadian International Food Security Research Fund (CIFS RF) promoted by Foreign Affairs, Trade and Development (DFATD) and International Development Research Centre (IDRC), Canada.

About Rainfed Farming Development Program

The Rainfed Farming Development Programme was initiated by DHAN Foundation in 2002. Its shared vision is "Building resilient communities of small rainfed farmers with food, income and ecological securities". The broad strategy of RFDP is enhancing viability of rainfed farming livelihoods through integrated and critical demand based interventions, depending on the context. As on March 2014, RFDP was working in 14 locations in six states with 17,654 member farmers across different agro-ecological conditions. RFDP has been implementing various projects like NWDPR, CAIM, IWMP and RESMISA in collaboration with agriculture department, marketing department and agricultural universities.



Central Office

DHAN Foundation

1A, Vaidyanathapuram East, Kennet Cross Road

Madurai 625 016. Tamil Nadu, INDIA

Tel: +91 452 2302500 / 529; Fax: 2602247

Email: dhanfoundation@dhan.org; Website: <http://www.dhan.org>

Contact

M.Karthikeyan, Principal Investigator & Programme Leader
RESMISA Project & Rainfed Farming Development Programme
DHAN Foundation

4/230-11, 2nd cross, Rajaji Nagar,
Krishnagiri 635001. Tamil Nadu, INDIA
Tel: +91 4343 226568, Mob: 09094054560
Email: karthikeyan@dhan.org