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

- [Image of a farmer using a wooden harrow]
- [Image of a farmer ploughing in the opposite direction]
- [Image showing the correct and incorrect directions of harrowing]
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

1. Start with selecting good plot

2. Then select good true-to-type panicles

3. Threshed and winnowed separately

4. Grains and Seed

5. Store seed separately

Ha..Ha...I selected my seed from farm itself. I don't need to go for seed anywhere.
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.
4. Reduce plant population to the optimum level

Use optimum seed rate

Avoid using large quantity of poor quality seeds

Use optimum quantity of good quality seeds obtained through sieving

Have you ever tried any of these methods?

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

- 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.

Keeping sack on mixture

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

I have hands full of money and variety of foods…. You?
7. Use new Technologies

**Improved Ploughs**

- **Uthangarai Plough Rs.1400**
  - More field capacity, higher depth of ploughing and better weed uprooting.
  - It will not break often as that of wooden plough. It can be repaired easily.

- **Tirupathur Plough Rs.700**
  - This is more suitable for me. I need not depend on men for repairing it.
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

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

2. Use harvester cum binder for addressing it.

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

- 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.

Sustainable Agriculture Practices of Small Millets
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 up to one year
- Facilitates for easy separation of seed coat while making Dhal
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 (CIFSRF) 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 NWDPRA, CAIM, IWMP and RESMISA in collaboration with agriculture department, marketing department and agricultural universities.

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