Voluntary Certification Scheme for Farmers Cultivating Organic Finger Millet (Ragi)

MINIMUM STANDARD OF COMPETENCE (MSC)

A. KNOWLEDGE

1. **Understanding of ragi varieties and cropping seasons**
   - Awareness of IMD predictions
   - Impact of climate change & selection of varieties with varying crop duration (long, medium & short)
2. **Seed Selection**
   - Seed selection for propagation: from a reliable source (certified seeds) for the first time, subsequently they must use seeds from a crop grown organically by their own or through peers.
   - Before harvesting – large panicles (cut in half)
   - After harvesting – winnowing done (selection by weight)
   - Seeds are from market or own seeds
   - Local traditional practice of use of blessed or divine seeds while sowing, if any
3. **Seed storage**
   - Drying in the sun to maintain optimum moisture content
   - Adverse impact of improper storage like airtight containers
4. **Seed treatment**
   - Smearing seeds with organic liquid fertilizers or *Azospirillum*…etc.
5. **Selection of inputs**
   - Knowledge of organic inputs allowed under FSSAI / NPOP regulations
   - Knowledge of non-use of synthetically produced inputs
6. **Soil health and nutrient awareness**
   - Soil Organic Carbon (SOC) and other nutrients' status and means to replenish organically.
   - Traditional knowledge of soil health and nutrient status
   - Awareness about importance of soil testing
7. **Soil preparation and moisture management**

- Moisture management (reducing the number of plants due to drought conditions).
- Changing the varieties for delayed rains
- Awareness on means to conserve soil moisture by sowing across the slope.
- On farm water harvesting and storage facilities for use as protective irrigation.

8. Sowing practices

- Knowledge of live bunds
- Green manuring before sowing
- Knowledge of Crop rotation or intercropping or mixed cropping
- Time of initial ploughing (implement used according to the soil)
- Impact of climate change & selection of crop duration (long, medium & short)
- Method of sowing (Transplanting (age of seedling), broadcasting, line sowing)
- Local tradition of sowing of seeds and time of sowing, if any
- Spacing (row to row and plant to plant)

9. Crop monitoring and interventions

- Inter – cultural operations (mechanical or manual)
- Knowledge of applying organic growth promoters (at 45 days-spray)
- Spraying materials – market purchased or home made
- Knowledge to promote tillering (Wooden plank across the field)

10. Identification of Weeds, Pests and Diseases, and their control

- Weed (wild ragi) & control
- Knowledge of adverse use & adverse impact of herbicide
- Awareness of pest and disease resistant varieties
- Knowledge of Disease (Blast) and control
- Knowledge of Pest (stem borer) & control
- Pest and disease outbreak
- Integrated Pest Management (IPM) – Attracting beneficial insects; Bird perching and use of trap crops

11. Harvesting

- Knowledge of crop residue as fodder.
- Pros and cons of manual and mechanical harvesting

12. Post-harvest and storage knowledge

- Storage practices if needed like drying for safe storage and subsequent use
- Options of value addition (flour or traditional recipes)
- Awareness of value addition process

13. **Emerging technologies**
    - Use of drones for surveillance and monitoring.
    - Availability of advisory services via mobile apps or otherwise.

B. SKILLS

1. **Seed Selection**
    - Identifying and picking of seeds appropriate for organic production through visual observations.
    - Process of winnowing.
2. **Seed treatment:**
    - Smearing seeds with organic liquid fertilizers or *Azospirillum*…etc.
3. **Soil health and nutrient awareness**
    - Soil sampling
4. **Soil preparation and moisture management**
    - Use of appropriate implements for land preparation.
    - Moisture management by thinning and by cultural practices.
    - Choosing appropriate varieties.
    - Methods of conserving soil moisture
    - Harvesting of water and use for irrigation at critical stages
5. **Sowing practices**
    - Raising live bunds
    - Incorporating green manure before sowing
    - Practicing crop rotation or intercropping or mixed cropping
    - Timely ploughing (initial and deep)
    - Method of sowing (Transplanting (age of seedling), broadcasting, line sowing)
    - Practicing recommended spacing (row to row and plant to plant)
6. **Crop monitoring and interventions**
    - Inter – cultural operations (mechanical or manual)
    - Preparing organic formulations for crop growth cycle
    - Applying organic growth promoters at appropriate stages
7. **Identification of Weeds, Pests and Diseases, and their control**
    - Weeding
    - Integrated Pest Management (IPM) – use of trap crops
8. **Harvesting**

- Manual or mechanical harvesting at the appropriate stage

9. **Post-harvest and storage knowledge**
    - Drying the harvested produce for safe storage.
    - Value addition process