

Mobilizing Agrobiodiversity in India to Support Planet-Friendly School Meal Programs

INSIGHTS FROM PARTICIPATORY CROP SELECTION FOR SCHOOL MEAL DIVERSIFICATION

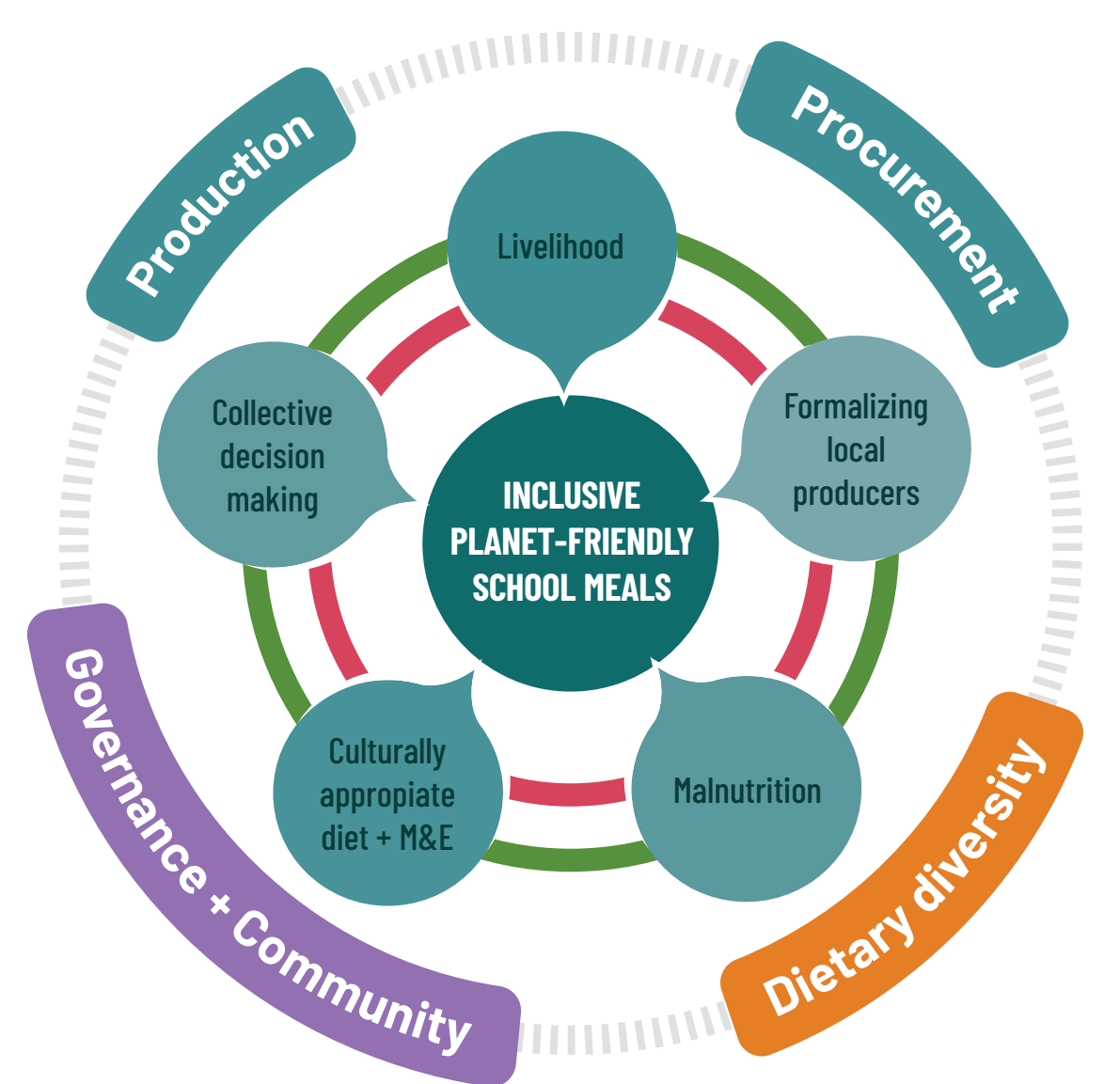
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1. Background

School Meals Programmes are among the world's largest social safety nets (1). In India, the **Mid-Day Meal (MDM) Programme** provides daily meals to approximately 112 million primary school children (2), with a food basket based on grains, pulses, oils and fats, salt, and condiments (3). Yet, 21% of school-age children experience thinness and 10% overweight (4), highlighting the need to improve the nutritional quality of school meals. Integrating nutrient-dense **Neglected and Underutilized Species (NUS)** can provide affordable, culturally appropriate, and more nutritious meals (5). This approach is central to **Planet-Friendly School Meals (PFSM)**, which connect schools with regenerative local food systems and communities that are often custodians of agrobiodiversity (6), positioning school meals as a catalyst for sustainable food system transformation (7). This project pilots the PFSM approach in **Mandla District, India**, a region characterized by high agrobiodiversity, water scarcity, and childhood malnutrition, to generate evidence for implementing and scaling PFSM programmes.

Inclusive, Planet-Friendly School Meals AGROBIODIVERSITY & SCHOOL FEEDING Mandla, Madhya Pradesh, India



2. Material and Methods

Validation Workshop on NUS Selection for School Meals (Mandla, December 2025)

- PARTICIPANTS** School staff, parents, local producers, procurement officers, and school cooks.
- OBJECTIVE** Identify neglected and underutilized species (NUS) that are ecologically suitable, socially accepted, and feasible for integration into school meal programmes.

Process

- PHASE 1** Validation of **86 pre-identified NUS** through community review of crop photographs.
- PHASE 2** Prioritization of crops using the **Four-Cell Method (8)**, assessing:
- Agroecological suitability
 - Nutritional value
 - Farmer experience and knowledge
 - Procurement feasibility

Assessment Approach

- Participants ranked each crop as **low, medium, or high** within each criterion and provided justifications.
- Crops were evaluated based on:
 - Frequency of positive rankings across criteria
 - Strength and consistency of supporting evidence

3. Results and Discussion

Out of **86** crops identified in the first workshop:

53 species confirmed

9 species selected
(see table below)

33 species were excluded due to:

- limited availability or presence in the local area
- seasonal constraints
- cultural, practical, and financial considerations

SEED AVAILABILITY AVAILABILITY AFFORDABILITY ACCEPTABILITY LABOUR REQUIREMENT

	Easily available (self conserved)	Highly available	Financially affordable	Children like it	No heavy labour required in growing and cooking
	Easily available (some households store their own planting material)	Highly available	Financially affordable	Children like it	Requires moderate labor to grow and cook
	Easily available (seeds saved from previous crop)	Highly available	Affordable and can be grown in school garden	Children like it	Not very labor-intensive to grow and cook
	Easily available (seeds saved from previous crop)	Seasonally available	Affordable	Commonly consumed and children like it	Not very labor-intensive to grow and cook
	Readily available (usually propagated through saplings)	Seasonally available	Affordable, can be grown in school garden	Less popular due to the seeds	Less labour needed for cultivation, but preparation is time-consuming
	Seeds are generally saved and reused	Highly available	Affordable	Children like it	Requires very little labour for cultivation or cooking
	Stored seeds used for cultivation	Highly available	Affordable	Children like it	Requires very little labour in growing and cooking
	Stored seeds used for cultivation	Quick harvest but moderately available	Affordable	Commonly cooked with dal	Very little labour is needed in both growing and cooking
	No seed is required, as it grows naturally in forests	Seasonally available	Affordable, grows in forest	People like the taste	No labour required in cultivation but moderate labour for cooking

4. Conclusions and Outlook

The crop selection followed an **Inclusive Planet-Friendly School Meals** approach, which seeks to ensure that healthy and equitable foods for students are produced in ways that **do not overexploit natural resources** and that **contribute to the conservation of biodiversity**.

- 9 NUS species** were selected through a **participatory approach** for inclusion in the menus of existing school meal programmes with **farmers, cooks, school faculties and parents**.
- The next phase will integrate the selected crops into the school meal programme to provide more nutritious, equitable, and sustainable meals. The pilot will also **generate evidence on the feasibility and benefits of incorporating local NUS** into school feeding, informing nutrition and food-system resilience outcomes. The next phase will integrate the selected crops into the school meal programme to provide more nutritious, equitable, and sustainable meals. The pilot will also generate evidence on the feasibility and benefits of incorporating local NUS into school feeding, informing nutrition and food-system resilience outcomes.

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