

# Mainstreaming Native Crops and Varieties for Nutritional and Livelihood Security: Insights Through Nutrition Profiling

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## BACKGROUND

- Agricultural Biodiversity Conservation - through utilization - reduces vulnerability, ensures good nutrition and provides ecosystem services.
- 4491 native varieties belonging to 20 crops tested in 4 agroecological regions by farmers using crowdsourcing approach.
- 246 potential native varieties identified by farmers and are being conserved in 32 community seed banks (CSBs).
- To ensure sustainability of CSBs and mainstreaming of native varieties - value chain establishment is essential.
- Native varieties are generally nutri-dense and nutritional profiling/labelling for assessing nutritional traits of these varieties is crucial
- Nutrition profiling is most important for developing value chain to native crops and varieties including market linkage.

## OBJECTIVE

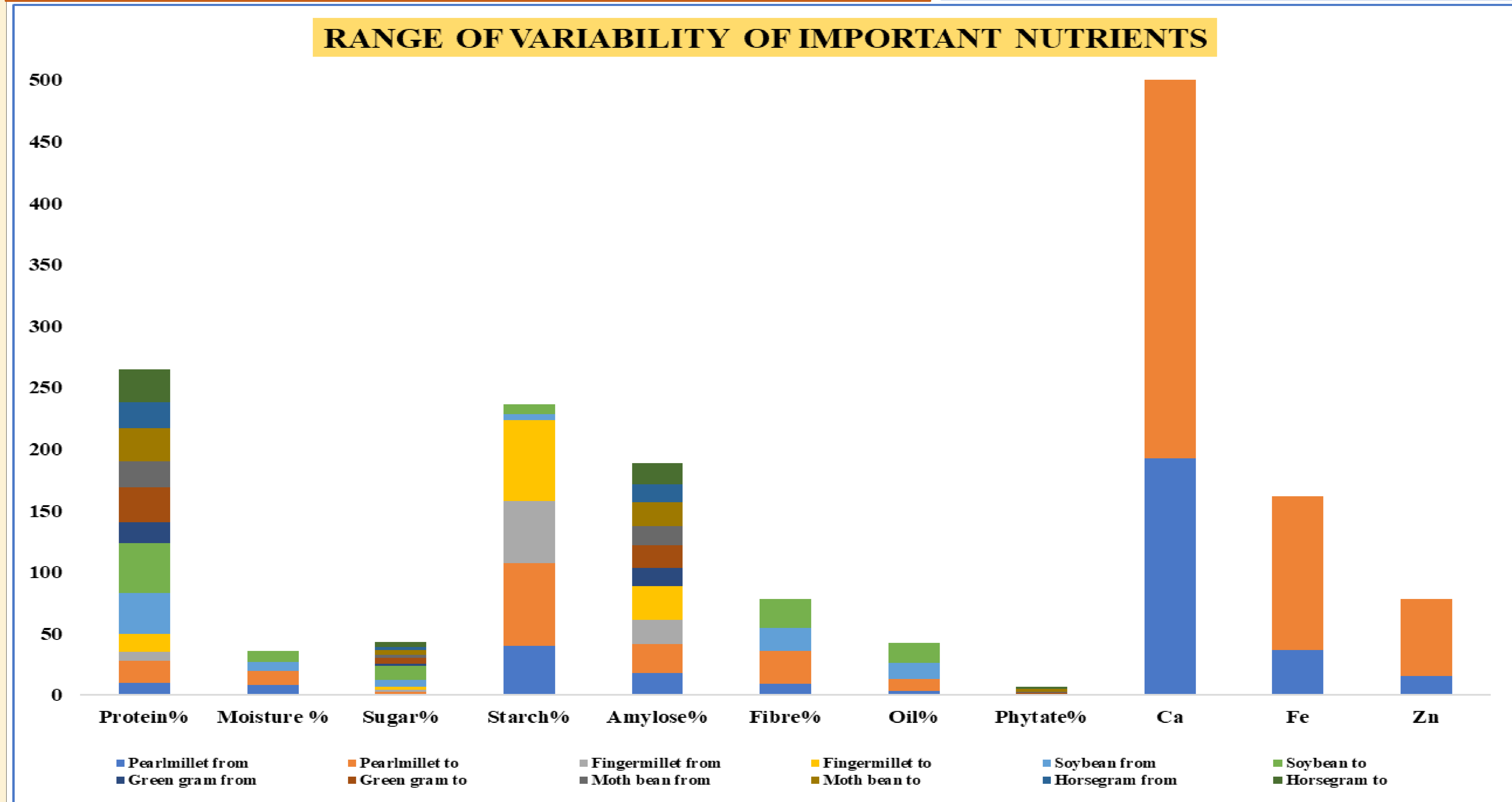
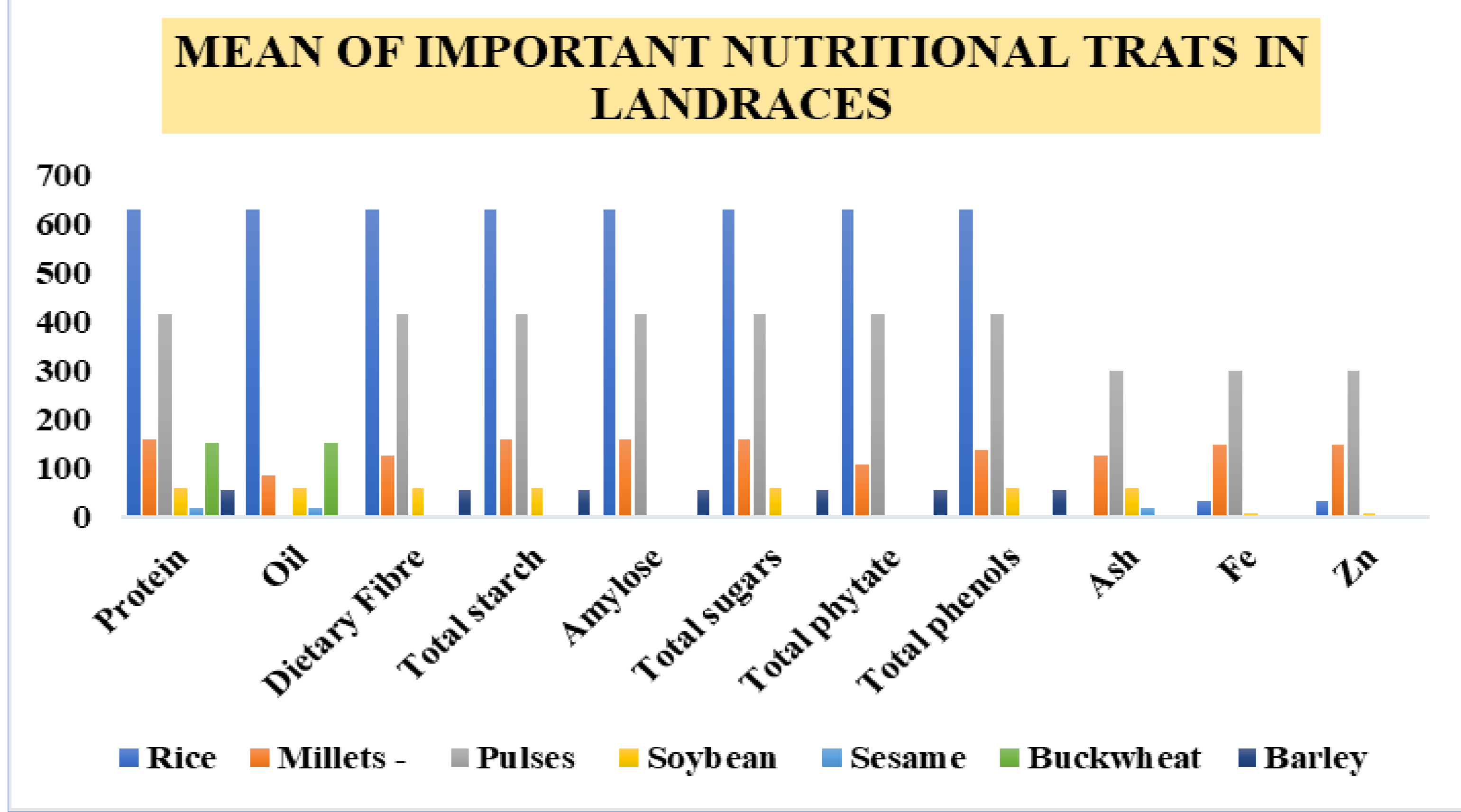
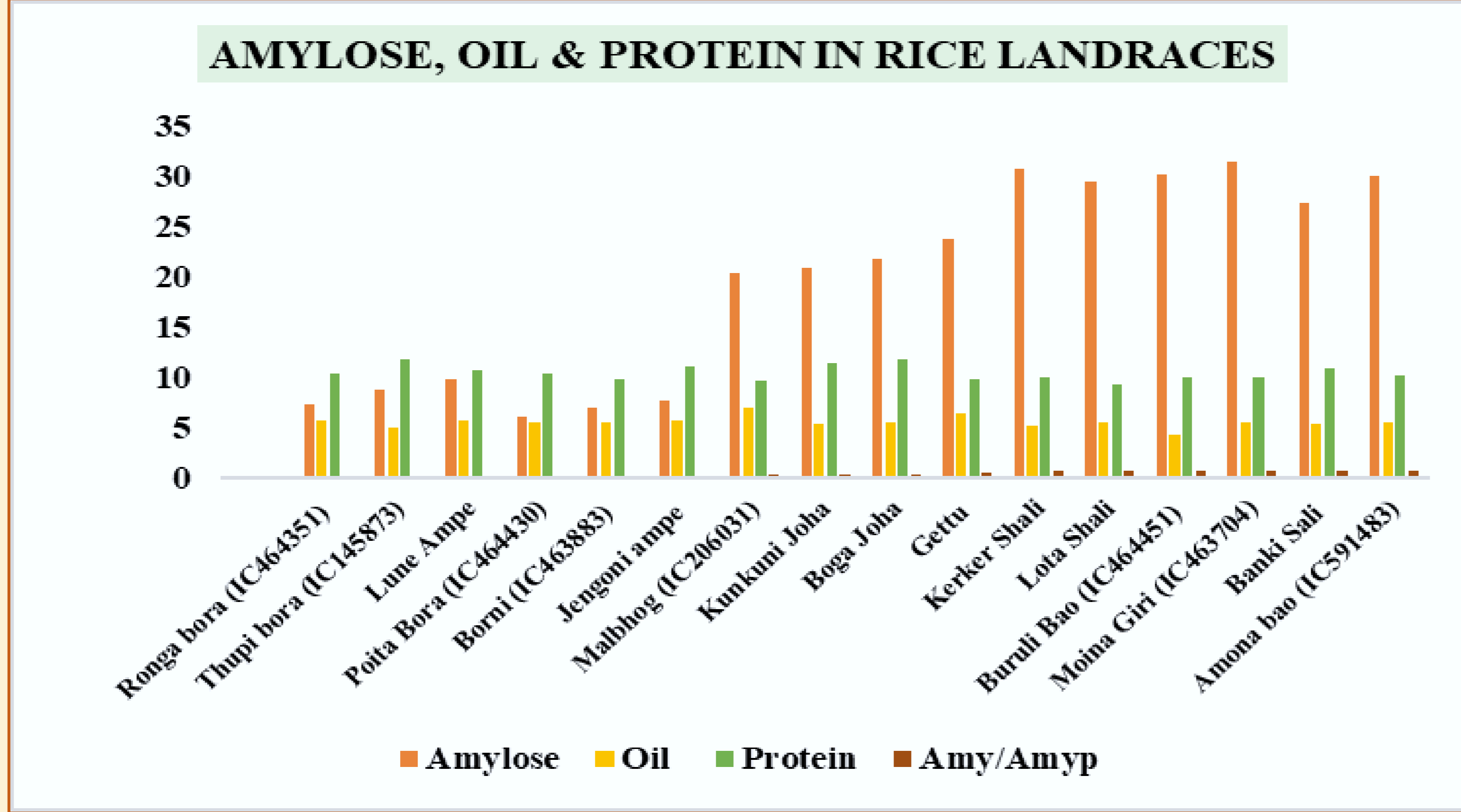
- Nutritional profiling for assessing nutritional traits such as protein, oil, dietary fibre, total starch, amylose, total sugars, total phytate, total phenols, profile of minerals and amino acids.

## MATERIAL

- More than 2000 varieties belonging to 20 crops - rice, maize, barley, pearl millet, Finger Millet, Foxtail Millet, Little millet, Barnyard Millet, Sorghum, Green gram, Moth Bean, Horse Gram, Chickpea, Pigeon pea, kidney bean, ricebean, Soybean, sesame, amaranth, buckwheat

## METHOD

## RESULTS



## MAJOR FINDINGS

- High Protein Rice (>12%)** - Gita, Jhini, Jaulia, Raskadam.
- Low Glycaemic Rice (EGI <50)** - Betguti, Pengeri shali, lota shali, Banki shali, Amona bao, Kokowa bao were identified
- High Protein (>17%) with High  $\beta$ -Glucan (> 5%) Hulless Barley**- IC113048, IC113050, EC481703, EC578537.
- Malt Barley (Protein <12%,  $\beta$ -Glucan <2% and Phenols <0.2%)** - EC492362, IC38837, IC281574, EC 177251.
- High Protein Maize (12%)** - Ragal Makka & Safed Chamba Local.
- Low Rancid and Good Popping Pearl millet**- Peeli Bajri and Gadhwal ki dhani also rich in phenols, calcium and iron.
- High Starch (67%) Finger Millet** - good for popping and chapati making also rich sugar, phenols and antioxidants.
- Mustard Gucchedar Sarsoan (IC395550)** preferred for stout stem, bunched siliqua and high oil content (45%)
- Sesame**- RT-351, EC346824 and EC370727 for high oil (54%)
- Soybean** - AMS-162

## CONCLUSION

The evidence-based research will help in designing and developing appropriate policy platform to support conservation and used of fast deleting

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## PUBLICATIONS

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