

Traditional and local knowledge surrounding the role of legumes in soil fertility in India

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Summary

This project will collate traditional and local knowledge of legumes and their role in soil fertility among smallholder farmers in North Eastern India. A rich picture of how farmers understand the role of legumes in their farming systems, as well as the barriers and opportunities for increasing the diversity and production of legumes will enable researchers to work with farmers to develop new approaches to sustainable food production and nutrition.



Farmer and researchers have been working together to monitor pollinator populations in Tripura



Farmers, researchers from the Centre for Pollination Studies and Panchyat (local village councils) already work together, building a knowledge base of traditional farming and

Project description

Despite evidence that optimally managed leguminous species can support cropping systems by contributing positively to the soil nitrogen budget, as well being a highly nutritious food source providing essential amino acids and nutrients, legume production in India has not kept pace with other crops. It is the only category of crop not to have increased production since Independence and India is now the largest importer of pulses in the world. Recent international projects have promoted legumes as a positive choice for smallholder farmers who are compromised by the increasing costs of inputs such as pesticides and fertilizers (the N2 Africa project is an exemplar) and as one pathway to sustainable farming. The use of legumes as sustainable nutritious forage is also a potential win (as demonstrated in the recently completed LegumePlus Marie Curie Training Project).

Given these multiple benefits of legumes it is surprising that they are not grown more. While studies are underway to address the practical and agronomic barriers to increasing legume production there has been no work on the underlying local knowledge that influences farmer decision-making.



This pilot study will collate local knowledge on soil fertility and the role of legumes within it, validated by soil analyses (to assess farmer evaluation of soil fertility), expert scientific review (to combine with information gathered during farmer surveys) and community peer review (as described below). The study will be carried out in the State of Tripura, North East India, which has poor soils of low nitrogen status coupled with low legume production and poor nutrition. The output will be used to design large-scale experiments in providing sustainable nutrition to rural communities.



Increasing legume production in Indian small-holder agricultural systems has the potential to have a positive measureable impact on soil fertility and human health. The objectives of this study are to collate local knowledge and understanding on a set of criteria (set-out below) in order to identify 1) base-line understanding of legumes and their role in soil fertility; 2) existing barriers to extending legume production; 3) opportunities and entry points for increasing legume production. This information will be key in designing approaches to increase the appropriate use of legumes in these systems.