

# PARTICIPATORY APPROACH IN SOIL TESTING AND NUTRIENT MANAGEMENT ON SMALLHOLDER FARMS OF NEPAL

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## Background

- ❖ Awareness on sustainable crop production technologies for high-quality food products and the healthy environment has been rapidly increasing in Nepal.
- ❖ A participatory soil testing and nutrient management provides an opportunity for smallholder farmers to learn the sustainable crop and vegetable production practices.

## Objectives

- ❖ To estimate the soil fertility status of smallholder farms under rice-vegetable rotation in Chitwan, Nepal.
- ❖ To demonstrate the soil testing and integrated nutrient management practices to the farmers.

## Materials and Methods

- ❖ Five farmers groups were selected by Center for Agriculture Research and Development (CARD)-Nepal, and surveyed for their knowledge on soil fertility management.
- ❖ Participant farmers were from Gunjanagar, Shashinagar, Bhimnagar, Bhuvanbasti, Simari, and Dibyanagar of Chitwan district, Nepal.
- ❖ Soil samples were collected from 64 farms under rice-vegetable system, and the status of nitrogen, phosphorus, potassium, and soil pH was tested using soil-testing field kits.
- ❖ Farmers were trained on soil testing, result interpretation, and integrated nutrient management practices.



Fig. 1. Study area for a participatory soil testing and nutrient management trainings in Chitwan, Nepal.

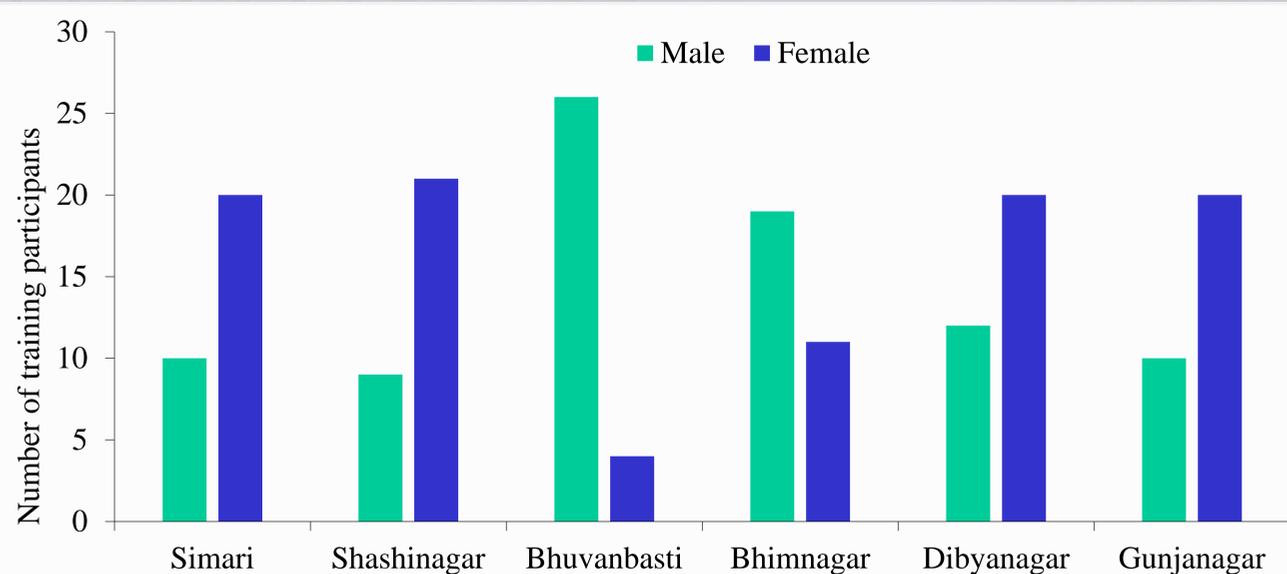


Fig. 2. Gender distribution of participants for integrated nutrient management trainings, Chitwan, Nepal

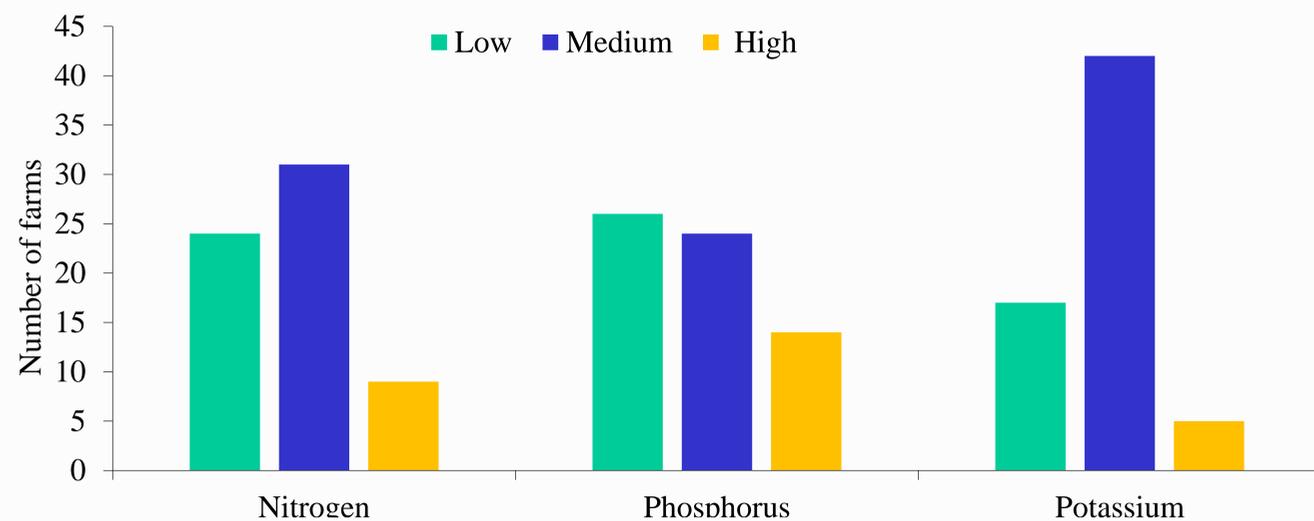


Fig. 3. Number of farms with high, medium, and low nutrient status for vegetable crops (total N = 64).



Fig. 4. Farmers' trainings and soil test demonstrations at different locations in Chitwan, Nepal.

## Results and Discussion

- ❖ Soil testing with field kits showed soil pH value in the range of 5.7 to 8.04.
- ❖ Soil nitrogen, phosphorus, and potassium ranged from low to high (Fig. 3).
- ❖ Animal manure, compost, urea, and diammonium phosphate (DAP) were the most commonly used fertilizers.
- ❖ Survey results showed that 83% of the respondent farmers have never tested their soils before and have not received any training on fertilizer use and management.
- ❖ The farmers trainings were focused on integrated nutrient management practices, and provided hands-on experience on soil fertility management strategies to the local farmers.
- ❖ Besides, farmers learned to evaluate soil fertility status of their farm and realized the value of periodic soil testing for sustainable crop and vegetable production.
- ❖ This study revealed the need for more trainings on management practices that will ultimately help in maintaining soil quality and improving sustainability of the smallholder agriculture in Nepal.
- ❖ The participatory approach in agricultural research could serve as a practical and cost effective tool for delivering improved soil management practices to smallholder farmers.

## For more information

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