



# ZBNF

## Soil Science



## ZERO BUDGET NATURAL FARMING (ZBNF)

This research project will focus on the efficacy of ZBNF within the Indian state of Andhra Pradesh. The state government supports ZBNF, with the intention that 6 million farmers will implement ZBNF by 2024.

# A collaborative study between the University of Reading and local partners, led by Rythu Sadhikara Samstha (RySS) in Andhra Pradesh, India

## WHAT IS ZBNF?

**Zero Budget Natural Farming (ZBNF)** is a locally developed grass-roots farming system that does not use chemical fertilizers or pesticides. Instead it focusses on the following inputs:

- *Bijamrita* – seed coating using cow dung and urine
- *Jiwamrita* – inoculum containing fermented cow dung and urine
- *Achhadana* – cover crops and/or mulching

## OBJECTIVES

Our collaborative project aims to provide scientific evidence underpinning the environmental benefits of the ZBNF system. Five co-developed elements for research include: nutrient budgeting; carbon dynamics; resilience to climatic stress; soil microbial ecology; quantifying water use.

## APPROACH

**Knowledge exchange is at the centre of this project.** All experiments have been co-designed by the partners in India and the University of Reading. Training on research techniques is provided in India and the UK. Implementation in the case study is led by RySS, a government office in Andhra Pradesh specifically mandated to research and advise ZBNF practises.

## METHODOLOGY

Field plot experiments have been designed and implemented by Andhra Pradesh's Natural Farming Fellows (NFFs) in 5 different agro-environmental zones, ranging from temperate coastal plains to arid montane. Field trials have been designed to compare and contrast the following:

- How ZBNF performs compared to conventional (chemical based) and organic agriculture
- The relative contribution of each of the ZBNF components to the system

## OUTCOMES

We will provide the scientific evidence to feed into policy and promote the future application of this hugely promising approach to other regions of India.

