



Research studies in collaboration with International research organizations



● ICRAF : LDSF, GHG Comparison

● ICRAF and Climate works: Exemplar Landscapes in Andhra Pradesh



● UoR : Comparing production system (APCNF VS Organic Vs Conventional Phase 2: Supported by KFW

● Cambridge University PhD Study on APCNF impact on Pollinators



● U.N.F.A.O: Studies on PMDS Impacts –Walter Jehne, Australian Climate Scientist

● Tufts, Wood Hole Institute: Long term panel studies to track the soil health and Yields



● CIRAD : Foresight Study

● James Hutton Institute : PhD study on Nutrient Dynamics



Studies from Indian institutions

- Can Zero Budget Natural Farming Save Input Costs and Fertiliser Subsidies? –Evidence from Andhra Pradesh – A study done by CEEW (Council for Energy, Environment and Water) and SIFF (Sustainable India Finance Facility), India
- Life Cycle Assessment of APCNF and Chemical- a study on Energy and Water C-STEP,
- Comprehensive Survey for Assessing the impacts of APCNF in AP –CESS
- **Zero Budget Natural Farming for Sustainable Development Goals, Andhra Pradesh, India –CEEW**
- Comparative analysis of Water and Energy use reduction in APCNF vs Chemical farms –WALAMTARI
- Research studies on Validating the APCNF practices : ANGRAU
- Impact of 365 Days Green Cover : (ANGRAU, ICAR, ICRAF and RySS)



WALAMTARI



In-house studies


1. Comparative analysis of Water use reduction in APCNF vs Chemical farms -
2. Comparing Earthworms population in APCNF fields and Chemical fields-Science team in RySS
3. Climate Resilience of APCNF from Cyclone –Science team in RySS
4. Bird population in APCNF farms versus Chemical farms in different agroecological zones of A.P
5. Climate resilience of APCNF to heavy rains
6. Impact of Atavi Chaitanya dravanam, liquid and Solid Jeevamrutham on growth and yield of Paddy
7. Impact of modified Saguna Rice Technology on water reduction and yields of Paddy
8. Impact of Dry paddy on growth and yield of Paddy
9. Impact of liquid and Solid Jeevamrutham intervals on growth and yields of different crops
10. PMDS and its impacts on growth and yield of different crops –PMDS +ZBNF, only ZBNF and Chemical Paddy

Summary of findings from few important studies

- Land Degradation Surveillance framework: 40 to 60% of the lands in AP are degraded, low tree density (only 53 species dominating, High run-off in chemical farms compared to Natural farms)
- GHG emissions: The greenhouse gas emissions are 23 to 60% low in APCNF farms when compared to chemical farms (Published data)
- University of Reading: There is no yield penalty in APCNF and APCNF outperforms organic and chemical farms (Published data)
- Water study: APCNF uses 50 to 60 % less water and less electricity when compared to chemical farms
- CESS Study: The yields are 20 to 30% high in APCNF when compared to chemical farms
- Bird population : The bird visit are significantly high in APCNF farms when compared to chemical farms, Sparrows are returning back to farms (published data)


Various in-house experiments in Rabi 2021

01 Effect of Jeevamrutham (Ghanajeevamrutham and Dravajeevamrutham) prepared from different sources of soil




To study the effect of Ghanajeevamrutham and Dravajeevamrutham prepared from different sources of soil and its impact on soil health and Crop yield

02 Effect of Atavi Chaitanya dravanam on Soil fertility, microbial activity and yield of crop



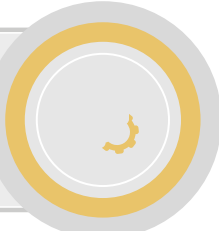
To study the impact of Atavi Chaitanya dravanam on growth and yield /a substitute for Jeevamrutham

03 Impact of Jeevamrutham prepared from different animal dung and urine



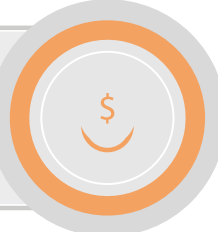
To study the impact of Jeevamruthams prepared from the dung and urine of different animal breeds

04 Impact of number of seeds and varieties (18 to 24) on crop yields and soil health



To study the impact on yields in various varietal combinations

05 Impact of SRT method on intercropping, water use efficiency and yield of the crop in APCNF and Conventional farming



Comparing SRT and conventional farming on water use and yields

Scientific Publications in International Journals

- Climate impacts of Natural farming a comparison of Greenhouse gas emission in natural farming vs. chemical farms (LCA analysis)- Rosenstock, T. S., Mayzelle, M., Namoi, N., & Fantke, P. (2019). Climate impacts of natural farming: A cradle to gate comparison between conventional practice and Andhra Pradesh Community Natural Farming. *Research & Reviews: Journal of Agriculture and Allied Sciences*. <https://doi.org/10.31220/>
- Impacts of Zero Budget Natural farming on yields - A study done by University of Reading U.K. Published in (Duddigan, S.; Collins, C.D.; Hussain, Z.; Osbahr, H.; Shaw, L.J.; Sinclair, F.; Sizmur, T.; Thallam, V.; Ann Winowiecki, L. Impact of Zero Budget Natural Farming on Crop Yields in Andhra Pradesh, SE India. *Sustainability* 2022, 14, 1689. [https:// doi.org/10.3390/su14031689](https://doi.org/10.3390/su14031689))
- Walker G, Osbahr H, Cardey S. Thematic Collages in Participatory Photography: A Process for Understanding the Adoption of Zero Budget Natural Farming in India. *International Journal of Qualitative Methods*. January 2021. doi:[10.1177/1609406920980956](https://doi.org/10.1177/1609406920980956)
- Hussain, Z., Boppana, B., Anisetti, H., Soma, R. and Gangisetty, S. (2022) Do Birds Return to Agri- cultural Landscapes through Adoption of Natural Farming Practices? A Comparison of Natural Farming vs. Chemical Farming in Andhra Pradesh. *Agricultural Sciences*, 13, 358-377. <https://doi.org/10.4236/as.2022.133025>