



## Innovative Solar Solutions for Farmers

*Mr. Sangappa Basappa Sankanagouda, founder of SPACPT Pvt. Ltd. & Consultancy Centre, has developed five innovations, viz., Push-type high-clearance Solar Sprayer, Solar-operated Green Fodder Hydroponic Machine, Solar operated high tech Vertical Farming system, Power tiller tractor equipment and Solar-operated Flourmill-cum-Mixer as part of farm mechanization solutions to support small and marginal farmers.*



Mr. Sangappa Sankanagouda from Shiraguppi village, Taluk, Jamakhandi, Bagalkot, District- Karnataka graduated in Agricultural Engineering from the University of Agricultural Sciences, Raichur, Karnataka. After his graduation, he underwent AC&ABC training in Bangalore, organised by SPM, Belgam in 2014. Each letter in the name of his company - SPACPT represents **Solar Power, AgriCulture, Power, Technology** - pillars of his innovation and combining these, makes agriculture profitable says Mr Sangappa.

Being from a farming family he was aware of agricultural problems and wanted to address them with affordable solutions. With his knowledge of electrical systems, mechanical system, solar energy, and engineering, he developed affordable machinery in the sector to address these problems and support small and marginal farmers. With minimal resources Mr Sangappa Sankanagouda came up with five innovative solutions viz., a Push type Hi-clearance Solar Sprayer which he has filed a patent, Solar operated Hydroponic Machine, Power tiller tractor equipment and Solar operated high tech vertical farming system and Solar operated Flourmill-cum-Mixer.

His main objective was to utilize the abundantly available solar energy through technology which would be useful for spraying, producing fodder and also decrease the operational cost and water usage. His vision was to empower farmers through technology innovations and improve their economic status.

## Startup Product Details

### Commercially available products

**Push type Hi-clearance Solar Sprayer:** This is user friendly, has an inbuilt torch, direction control and is affordable. The width and height of the sprayer are adjustable as per the requirements in the field with reference to row spacing and plant height. Due to the flexibility in its operation, this sprayer can be used for spraying on almost all crops. The solar sprayer is lightweight and collapsible which makes transportation easy and also easy to use. The wheels have tubeless tyres eliminating the chances of punctures. As an extra feature, a mobile phone charging point has been provided. The solar sprayer works well with pesticides, weedicides and insecticides. The patent for the sprayer is in the final stage of getting granted.

**Solar operated Green Fodder Hydroponic Machine:** This helps produce healthy and nutritious green fodder & leafy vegetables etc. within a limited area and reduces land usage by 97%, reduces water usage, reduces the feed cost by 40% and is automatic. The machine collects solar energy, which is then converted into electrical energy and stored in batteries.

### Products in progress

**Solar operated high tech Vertical Farming system** is used to grow the vegetables, small crops and plants and it helps to save power and water, better usage of the land, requires minimal labour and time. Addresses the problems of limited land and adverse climatic conditions.

**Power tiller tractor equipment** can be used in inter cultivation, wheel width adjustments as required, tools for easy paddling, harrowing equipment, soil loosening, Furrowing, Blade harrow, etc. and other mechanization equipment are in the development process.

**Solar operated flour mill cum mixer** is a portable machine used to get the flour. It is solar power driven hence economical, easy to operate, skilled labour is not required.



Mr. Sangappa is earning a revenue of ₹15 lakhs per annum approximately. Business operations include manufacturing and sales of the agricultural equipment; sale of drainage pipes, drip irrigation system and installation; training students and farmers to improve awareness. His strategy for marketing the products is by word of mouth, on Indiamart, Amazon, on Facebook and WhatsApp. He networks with stakeholders in Agri Expos and Melas (Fairs) to increase dealership.

His organization is at a formative stage. Although Mr. Sangappa started three years ago, he faced challenges at every step, due to minimal resources and lack of financial support. He recently borrowed ₹10 lakhs from KVG Bank.

His competitors are Knapsack Sprayer manufacturer, Power sprayer manufacturer and Boom sprayer manufacturer.

## Area of Operation and Coverage

Currently, sales have reached Bagalkot, Bangalore, Chikkamangalore, Raichur, and Tamil Nadu. His stakeholders include NGOs, Veterinary and Agricultural Institutes. Till date, 110 farmers have adopted the Solar sprayer and 33 farmers have adopted the hydroponic system.



*Testimonials from beneficiaries and compliments received from farmers give immense pleasure and I feel I am getting closer to my goal.*

- Mr Sangappa

## Recognition and Awards



MANTHAN-2014 award & 1.5 lakh rupee cash prize from Federation of Karnataka Chamber of Commerce and Industry (FKCCI), Bangalore



Best Innovator Award from National Institute of Rural Development & Panchayati Raj (NIRDPR), Hyderabad



Village Entrepreneur Award-2018 from Y4D Foundation New Delhi



National Entrepreneur Award-2018 with ₹5 lakh cash prize from Government of India



Grantee under the RKVY RAFTAAR, DAC&FW, MoA&FW, Gol



## Association With MANAGE and Key Takeaways



*“Training has helped with business basics, MANAGE has encouraged me with mentoring support, promoted my ideas and motivated me. Not just the funding support to foster business growth for my five innovations but also gained immense knowledge and support as an Entrepreneur. I am still mentored by MANAGE in my business operations and will also receive going forward.*

- Mr. Sangappa



## Vision as an Entrepreneur

His vision is to increase the production of solar operated hydroponic units and High clearance solar sprayer; other need-based low-cost agricultural machinery, identify the farmers' problems and provide solution-based technologies; make renewable energy storage structures and godowns and provide training to farmers, agricultural engineers and aspiring students.



**Company Name**  
SPACPT PRIVATE LIMITED

**Date of Incorporation**  
26 April 2019

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