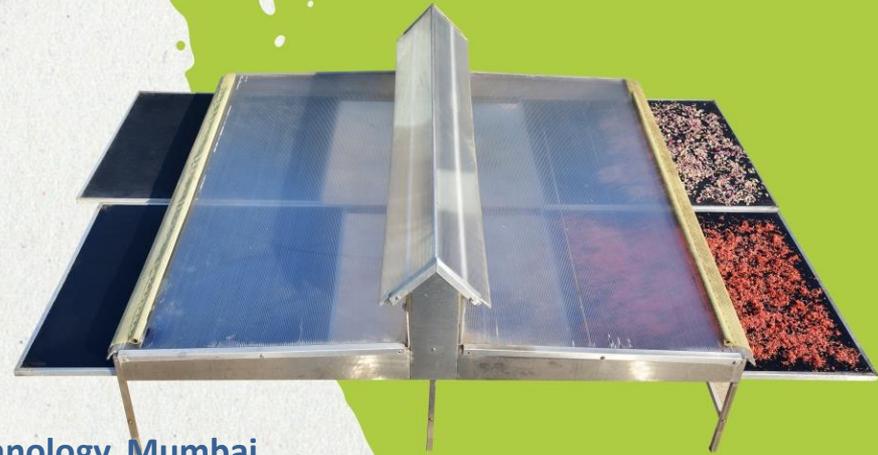


Innovative Way To Enhance Farmer's Income By Unique Food Preservation Process

Solar Conduction Dryer

Vaibhav Tidke,
S4S Technologies and Institute of Chemical Technology, Mumbai
www.s4stechnologies.com



Solar Conduction Dryer

Solar Conduction Dryer (SCD) is a solar powered food dryer to reduce moisture content in agro-marine produce to increase their shelf life up to 1 year without using any chemicals.



Maintains
85-95%
Nutrition
Intact



Wide Variety of products
handled-fruits,
vegetables, spices, fish
and variety of meats



**Highest
efficiency**
in Drying



**Attractive
Payback
Period**



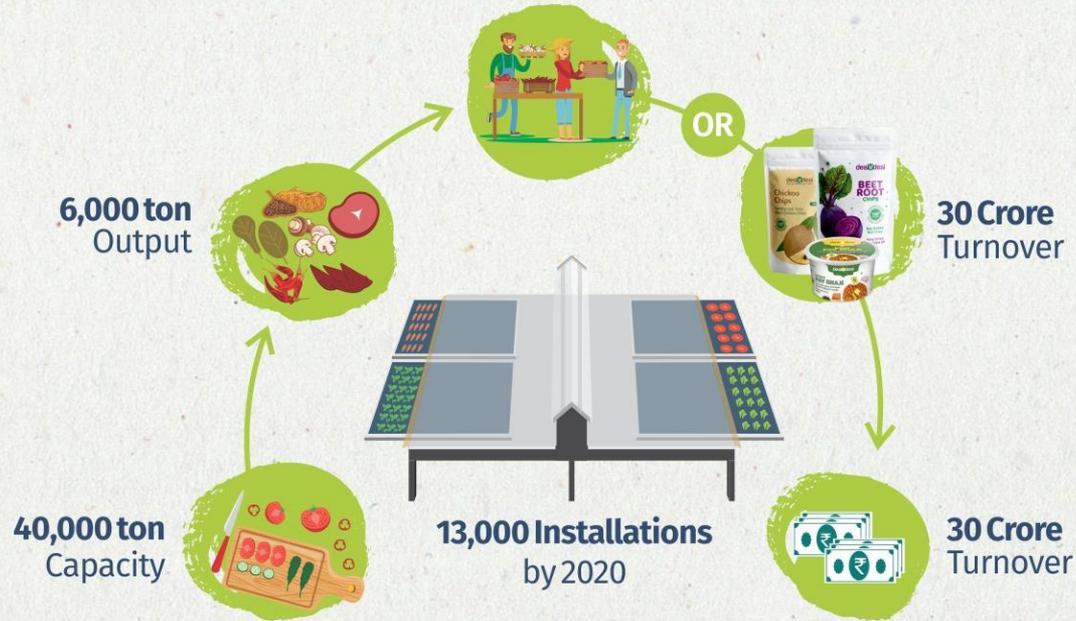
1/10th life cycle cost
compared to
conventional
electrical dryers



Capital cost is
Up to **2x times
lesser** than other
solar dryers

Indian Patent: 740/MUM/2011 | International Patent No. : PCT/IN2012/000843

Executive Summary



Impact
50,000 lives

Solar Conduction Dryer: Technology

SCD is the first solar dryer that uses all the modes of heat transfer together (conduction, convection and radiation) giving one of the best drying efficiency of **22%**.

Principle:

Heat supply by conduction v/s convection

Convection Dryer:

Air for mass transfer only, heat supply by conduction and radiation

Conduction Dryer:

Air for heat transfer and mass transfer

Outcome:

Air requirement drops by 10X, thus no need of fans or blowers, eliminating need of electricity

Benefits:



No fan,
no electricity



Uniform drying and
highest efficiency: 50% +

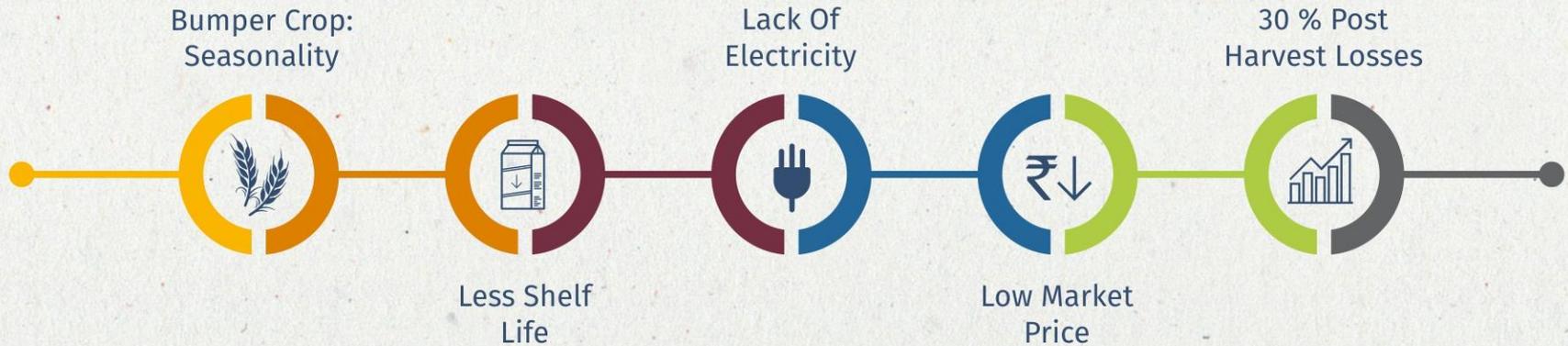


Microbial food safety:
10x lesser than norms



Better nutrition:
20-50%

Customer Need: **Background**



Value Proposition by S4S Technologies

**Zero
Maintenance
Technology**

40% reduction
in post harvest losses

50%
increase in profit



Provide
Market Linkage for
dehydrated products

Increase in shelf life to
6-12 months

Employment for
women farmers

Competitive Advantage



Unorganized

Current Situation - Agri Produce

Sell the produce in fresh form at very low rate OR

Dry in the open sun

Sell the dried products locally

Weakness

Slow, Unhygienic process



Organized

Dry with steam based or electric dryers

Contract farming

Export 90% of the dried produce

Capacity constraint

High infrastructure cost



SCD

Accessible, affordable, accelerated drying

Modular system

Access to market for dried products

Making profitable business with social impact is always the challenge.

Market Segment

Market Potential: SCD and Dried Produce



Dehydrated
Product Market



SCD Global
Market Size



Crop Specific SCD
Market Size

2020: Target 2% Onion Market and 5% Ginger Market in India

Social Impact



15000 women farmers
empowered



1200 SCD
Installations

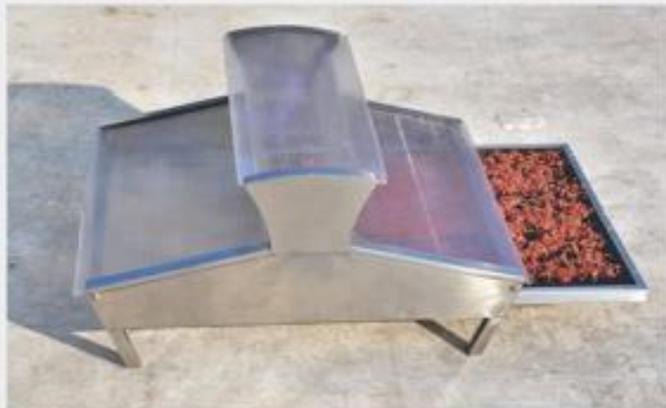


8 countries
worldwide



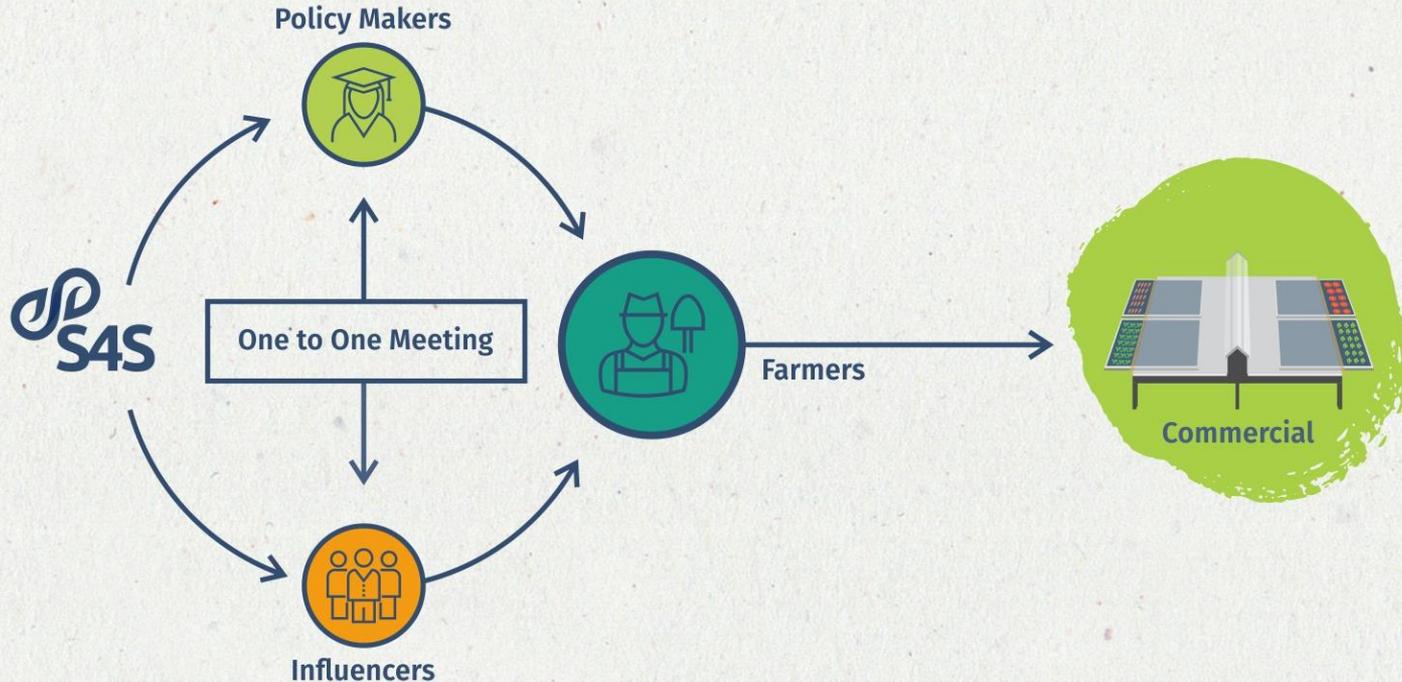
Upto 50% more
profit for farmers

Solar Conduction Dryer in Action



Value Chain: Present

Multilayer Approach: In Maharashtra



Value Chain: Pilot Stage



Multilayer Approach:

Scale up in other states



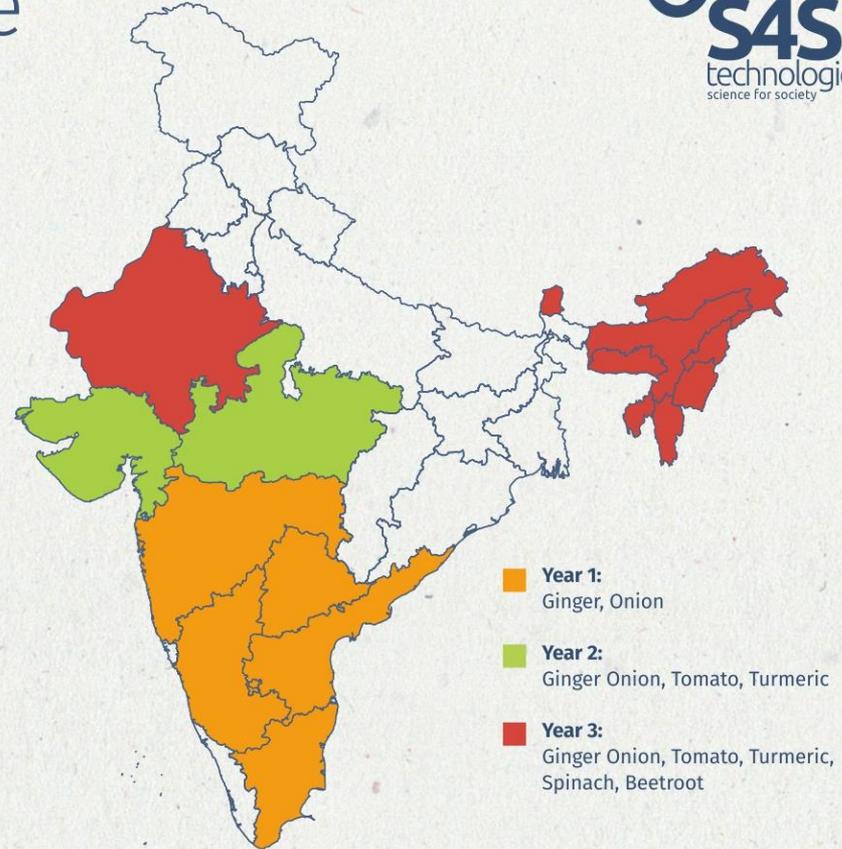
Crop Specific Approach

- Integrated Value Chain: Crop/ Geography Specific approach
- Strategic food partnership: ITC, 24 Mantra



Government Lead Mega Project

- Nepal: 500 SCD project
- Nandurbar: 500 SCD project for tribes



S4S Team



Vaibhav Tidke
Ph.D. Sustainable Technology,
Institute of Chemical Technology,
Mumbai, India.



Ganesh Bhare
M.Tech,
Institute of Chemical Technology,
Mumbai, India.



Ashwin Pawade
M.Tech.
(Technology and Development),
IIT Mumbai



Shital Somani
MBA, Welingkar Institute
of Managment,
Mumbai, India



Swati Shimpi
M.Sc. Biotech,
North Maharashtra,
India



Pranav Komarraju
B.Tech.,
Institute of Chemical Technology,
Mumbai, India.

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out of a pack



From the makers of
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desivdesifoods.com
sales@desivdesifoods.com



S4S Technologies, Plot no 43, Sector 6, Sanpada East,
Navi Mumbai 400-705

Email: sales@s4stechnologies.com

Phone: +91-9960459770, +91 9833461181

www.s4stechnologies.com