

# Innovations in food/ agro processing for rural India – case study of Jaggery processing

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## Content

- Rural market and customer dynamics and challenges
- Jaggery technology development and offerings
- Market dissemination strategies and approach

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## Rural areas backdrop

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| <ul style="list-style-type: none"> <li>• Advantages           <ul style="list-style-type: none"> <li>• Quality of life</li> <li>• Social connect</li> <li>• Harmony with nature</li> </ul> </li> </ul> | <ul style="list-style-type: none"> <li>• Constraints           <ul style="list-style-type: none"> <li>• Infrastructure</li> <li>• Facilities</li> <li>• Resources</li> </ul> </li> </ul> |
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## Rural customer attitude

- Buying power – ticket size
  - Reduce hardship – low labor dependence
  - Connect with urban habitat – opportunity to enjoy facilities
  - Provision for basic amenities – water, energy, entertainment (TV, internet, mall etc)
  - Look for recognition – social status
- Moving from conservative society to consumer society

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## Rural customer income sources

### Income sources

- Basic agriculture - BA
- Agri-allied activities- AA
- Labor- farm or agri-allied activity or Government schemes MNREGA - L
- Small business supporting local needs like daily needs shop, tailor, barber etc. - SB
- Government jobs- GJ
- Private jobs-PJ

### Typical combo for income source

- BA + GJ or PJ
- SB + BA
- SB + AA
- BA + AA
- L + BA

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## Rural market dynamics

### • Cycles of purchase

- Weekly : Weekly market vegetable and daily needs – habitual
- Monthly : Grocery shop branded daily needs – essential
- Seasonal : Winter, summer and monsoon – preparation
- Festival : Capital goods, luxury item – pleasure
- Harvest : Nice to have or aspirational purchase – empowered
- Celebrations : Marriage, birth, birthday – recognition

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## Technology venture addressing following areas

- Local resource utilization
- Provision of basic resources and facilities
- Wealth creation opportunity
- Reducing drudgery
- Reducing dependency
- Recognition

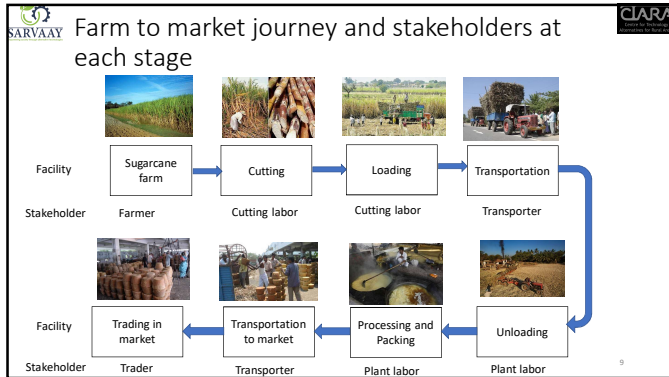
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## Challenges for technology adaptation


- Reluctance to change
- Risk averse mentality
- Fear of new environment
- Avoid dependency
- Difficulty in articulation
- Lenient responses

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### Sugarcane processing for jaggery making

- Jaggery is a condensed form of sugarcane juice, used as a major sweetener in Indian food and it has good nutritional value
- Jaggery production involves juice extraction, evaporation of water, controlled cooling, molding to solid chunks
- The jaggery processing is a farm level value addition for farmers to increase his income more than two times



### Jaggery units in India : market size

Sugarcane production FY14-15 (million tons)

262.5	75%
52.5	15%
35	10%

- Indians consume 3.7 kg jaggery / capita leading to 4.81 lakh ton jaggery / year
- Typical 10 TCD plant jaggery plant in the range of 25000-30000

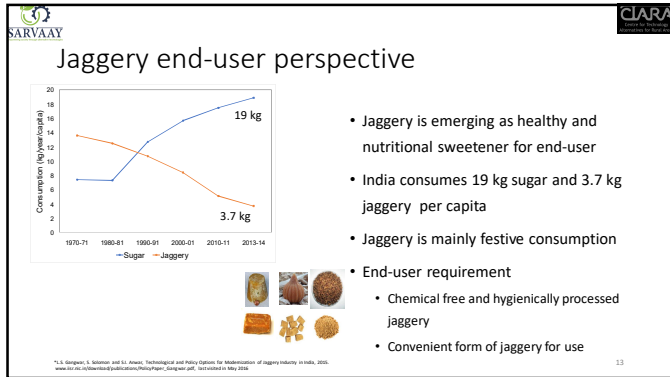
\*S. Srinivas, S. Subramanian and S. Anand, Technological and Policy Options for Modernization of Jaggery Industry in India, 2016. www.icaa.in/Download/Publications/PolicyPaper\_Jaggery.pdf. last visited on May 2018

### Jaggery sector ground realities




- Jaggery processing is an option for farmers
- Sugarcane farming has challenge for right price and timely payment\* from sugarcane factories
- Challenges for traditional plant operation
  - Inefficient technologies and unhygienic operations
  - Labor and space intensive drudgery prone operations
  - Use harmful chemicals for color and hardness
  - Dependence on process expert
  - Lack of consistent quality

\*Total areas to sugarcane farmers in India Rs 12,700 crore, Tol Jan 2019



**REJP plant features**

- A skid mounted semiautomatic REJP plant has 500-600 kg jaggery /day
- Key features of REJP plant
  - Discipline of industry** – measured and scientific process management (no gut-feel based decision making)
  - Independence** –operations without the jaggery expert (**Manageable operation**)
  - Labour productivity** – ergonomic design and automation
  - Compact and package solution** –reduction in footprint and installation period
  - Strong business case** – consistent, superior quality and chemical additive free produce : higher market price : **ROI less than 2.5 years**
  - Pride in ownership** –patented technology, chemical free process, smart operations and hygiene friendly design

**What is rewarding in the journey ?**

- Pleasure of execution
- Learning on team building
- Improve decision making for do's and don'ts
- Expanding circle of influence
- Capacity building in society
- Improving financial strength
- Walk the talk
- Social image

**Jaggery plant video**

- More Jaggery Video on YouTube : Search SARVAAY Solutions channel
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