Market/Business Models for scaling up…

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Models for the small millet value chain

DATA AVAILABLE ON THE INTERNET

Stagnation!

Area cropped decrease!
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WE COMMISSIONED A MARKET RESEARCH TO DELVE DOWN INTO AVAILABILITIES & TRENDS

Type of millets available in grocery shops

- Sorghum - Jowar: 49%
- Barnyard Millet - Jhangora, Sanwa: 14%
- Little Millet - Kutki, Shavan: 28%
- Kodo Millet - Koden, Kodra: 18%
- Foxtail Millet - Kangni, Kakum, Rala: 33%
- Finger Millet - Nachani, Mundua, Mandika, Marwhah: 53%
- Pearl Millet - Bajra: 78%

% based on total number of shops

What % does the small millet group comprise in retail arena

Source: Indianet 2017 research: Full report available
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Millet stocking across Tier 1 cities

- **Source:** Indianet 2017 research: Full report available

% based on total number of shops

<table>
<thead>
<tr>
<th>City</th>
<th>Finger Millet</th>
<th>Foxtail Millet</th>
<th>Little Millet</th>
<th>Millets</th>
<th>Rice</th>
<th>Wheat</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kolkata</td>
<td>12</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>96</td>
</tr>
<tr>
<td>Mumbai</td>
<td>12</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>92</td>
</tr>
<tr>
<td>Bengaluru</td>
<td>12</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>86</td>
<td>92</td>
</tr>
<tr>
<td>Chennai</td>
<td>12</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>86</td>
<td>92</td>
</tr>
</tbody>
</table>

Millet stocking across Tier 2 towns

% based on total number of shops

<table>
<thead>
<tr>
<th>Town</th>
<th>Finger Millet</th>
<th>Foxtail Millet</th>
<th>Little Millet</th>
<th>Millets</th>
<th>Rice</th>
<th>Wheat</th>
<th>Dalia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambala</td>
<td>12</td>
<td>60</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Ranchi</td>
<td>100</td>
<td>67</td>
<td>0</td>
<td>0</td>
<td>100</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Hubli-Dharwar</td>
<td>100</td>
<td>88</td>
<td>0</td>
<td>0</td>
<td>100</td>
<td>0</td>
<td>13</td>
</tr>
<tr>
<td>Salem</td>
<td>100</td>
<td>88</td>
<td>0</td>
<td>0</td>
<td>100</td>
<td>0</td>
<td>13</td>
</tr>
</tbody>
</table>

Ambala, Haryana
Ranchi, Jharkhand
Hubli-Dharwar, Karnataka
Salem, Tamil-Nadu
Except for Rice and Wheat, every other grain sold very little in comparison. 34% of the shops claimed selling Wheat which constituted 31-40% of the total sale of grains. In case of Rice it was 27% who said the sales constituted 31-40%. In the case of millet the overall proportion of sales was between 1-10% of the total!

A little over a third of the shops in a survey agreed that the sales of millet have increased over the past. 17% said the sales had gone down and 45% said that the sales remained the same – no change.
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Status of sales of Millets

- Increased
- Decreased
- Remained the same

<table>
<thead>
<tr>
<th>Tier1</th>
<th>Increased</th>
<th>Decreased</th>
<th>Remained the same</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kolkata, Mumbai, Bengaluru and Chennai</td>
<td>41</td>
<td>13</td>
<td>46</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Tier2</th>
<th>Increased</th>
<th>Decreased</th>
<th>Remained the same</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambala, Haryana Ranchi, Jharkhand Hubli-Dhawar, Karnataka Salem, Tamil-Nadu</td>
<td>27</td>
<td>30</td>
<td>43</td>
</tr>
</tbody>
</table>

Source: Indianet 2017 research: Full report available
But average disposable income is increasing, implying that there’s an opportunity to grow small millet related business!
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Opportunity exists to cut into the rice and break market! Our project was really needed
We know that innovative millet inspired recipes exist

**Breakfast**
- Idly
- Kambu dosai

**Snacks**
- Thinai Pongal
- Barupi
- Murukku
- Popped millets
- Biscuits

© Spicy Treats
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...even “westernized”

Millet patty burger
Millet Pie
Millet Pizza
Millet Cereal mix

Pastas
Noodles

AgBusiness market tools to the rescue!

McGill
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Marketing model tools

We put these in context and used these tools for improving our small millet value cluster and to develop a fitting model.

Strategic Initiatives
• Action A
• Action B
• Action C
• Etc.

Tools

- Product & Market Segmentation
- SWOT
- GAP Analysis & Benchmarking
- Value Chain Analysis
- Porter’s Five Forces
- Market Trend Analysis
- Competitive Position Analysis
- Workforce Assessment (10 Bridges)
- Cluster Mapping
- Porter Diamond
- Cluster Linkages Map
- Institutional Analysis
- PAID Framework

Cluster Strategy / Business Model
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...so what does the small millet value chain cluster look like?

..conceptualized from our research
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...we also derived the existing market model

...characterized by inadequate innovation, and interconnectivity
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Typical Agbusiness models are …one size fits all

...but we need customized models
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...and a right structure and culture

<table>
<thead>
<tr>
<th>Disruptive Innovation</th>
<th>Customer Intimacy</th>
<th>Operational Excellence</th>
<th>Product Leadership</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;Skunk Work Structure&quot;</td>
<td>&quot;Matrix Structure&quot;</td>
<td>&quot;Project Structure&quot;</td>
<td></td>
</tr>
</tbody>
</table>

- **Disruptive Innovation**
  - **Cultivation culture**
  - "Skunk Work Structure"

- **Customer Intimacy**
  - **Collaboration culture**
  - "Matrix Structure"

- **Operational Excellence**
  - **Control culture**
  - "Project Structure"

- **Product Leadership**
  - **Competence culture**

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**Extraverted**

- **"Cultivation"**
  - Success, Innovation, Passion, Adventure, Risk, Challenge, High Pace

- **"Competence"**
  - Thoroughness, Dependability, Security, Independence, Respect

**Introverted**

- **"Control"**
  - Image, Prestige, Power, Perfectionism, Result, Independence, Strength

- **"Collaborative"**
  - Pleasure, Unity, Balance, Together, Consensus, Friendship, Listening

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**Our vision:** Improving nutrition & drudgery
Models for the small millet value chain

...our brainstorming canvas

<table>
<thead>
<tr>
<th>KEY PARTNERS</th>
<th>KEY ACTIVITIES</th>
<th>VALUE PROPOSITION</th>
<th>CUSTOMER RELATIONSHIP</th>
<th>CUSTOMER SEGMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farmers</td>
<td>Innovate</td>
<td>increase consumption of small millets in the daily diets of the population for better nutrition and health.</td>
<td>Happy, efficient farmers</td>
<td>Indian Populace (low-mid income class, consumers and farmers alike)</td>
</tr>
<tr>
<td>Processors</td>
<td>Grow</td>
<td></td>
<td>Healthy populace</td>
<td></td>
</tr>
<tr>
<td>Marketers</td>
<td>Process</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Financiers</td>
<td>Market</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Researchers</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

KEY RESOURCES

TECHNICAL RESOURCES: TNAU, DHAN & MCGILL UNIVERSITY EXPERTISE

BUSINESS RESOURCES: TNAU, DHAN & MCGILL UNIVERSITY LED

TECHNICAL:

Business:
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Reducing drudgery & improving nutrition

New market: rice & wheat consumers

Other potential markets

License, spin out, divest

Internal technology development

Research, Partnerships

External technology insourcing

Credit access, marketing, improved marketing

Production

Open innovation driven models

Ref: Open Innovation: Renewing Growth from Industrial R&D, 10th Annual Innovation Convergence, Minneapolis Sept 27, 2004
Models for the small millet value chain

...overall ecosystem of the models

Leadership
- Encourage Innovation
- Social Purpose (not for profit approach)
- Open door for advocate

Networks
- Millet growers network
- Millet marketing network
- Millet processing Units

Labor
- Processors
- Retailers
- Growers
- Machine Operators

Infrastructure & Machinery
- Equipment and machinery fabrication
- Telecommunications
- Transportation & Logistics
- Zones, incubators, co-working, clusters

Government, NGO & Research Institutes
- Investment, support
- Financial support e.g. for R&D, jump start funds
- Policy support
- Applied & Developmental research
- Technological transfer
- Conferences
- Business plan contests

Financial Capital
- Micro-loans
- Angel investors
- Debt

Engagements
- Social experiments
- Advertisements
- Feedback & Surveys
- Behavioural Analysis

Professionals
- Legal
- Quality Control
- Technical experts, advisors

Model Drivers

Markets

Human Capital

Support

Customer Intimacy

Supports

Business Support HUB
Models for the small millet value chain

..for scaling up, we proposed this iterative model

[Diagram showing the iterative model with steps such as Partnership development, Organizational process, Delivery mechanism (value chain), Production process, Product development, Evidence of effectiveness, Financial model (value proposition), Niche tests, Building space in the socio-technical regime, Building space in organizations and institutions and regulations, Training/Capacity building, and Market development.]
Pulses model provided by Dr. Laurette Dube and Dr. Tribhuvan Nath.
...for ancillary services, we adapted a zooming in/out model

1. sustainable practices, both at the farm and higher system levels;
2. learning those practices;
3. facilitating the learning;
4. institutional frameworks that support such facilitation, comprising markets, science, extension, networks of innovation, etc.
5. conducive policies.

Paul Ven Mele 2006.
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...to ultimately lead to a business incubator for millets

**Need**
- Capture nutrition from millets
- Technology transfer
- State-of-the-art equipment

**Function**
- Access to modern equipment
- Training and operation
- Reduce financial burden
- Help farmers to develop a new product
- Help improve and scale-up the process
- Promotes entrepreneurship
Bigger picture

Development of new products and businesses.

- Increases revenue during good season
- Minimizes capital and operational costs
- Have promoted new Govt. subsidy schemes
- Extended shelf life → Later revenue
- Provides confidence and hope
- Reduces financial stress → may lower suicide among farmers
Models for the small millet value chain

...tapping from typical success stories: FPBI at TNAU, India

✓ Multi product Research, Teaching and Production facility

✓ State of the art food processing equipment
Models for the small millet value chain

- Raw material storage
- Plate heat exchanger
- Tubular heat exchanger
- Evaporator
- Spray dryer
- Scraped surface heat exchanger

...vision
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...vision
Models for the small millet value chain

Grain processing area

Plate Mill

Pulverizer

Ribbon blender

...vision
Models for the small millet value chain

...progress made
Models for the small millet value chain

New Four Roller Dehuller

...progress made
CONCLUSIONS

• Directed model development for business services and marketing improvement of the small millet value chain.

• Open innovation driven, customer intimacy type of marketing models have been developed.
  – Wide spread
  – Easy acceptability
  – Feedback & continuous improvement
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