An Investment Case for Madhya Pradesh: Is Financial Sustainability Achievable?

This is an abridged article based on the Clinton Health Access Initiative (CHAI)’s analysis. Reproduced with permission.

Key messages

• Issues with the existing centralized model in Madhya Pradesh have led to increasing calls for decentralization of Take-Home Ration.

• Clinton Health Access Initiative undertook a comprehensive diagnosis of the existing versus proposed production models, including looking at the cost drivers and revenue needed to make the decentralized model sustainable at three possible administrative levels.

• This analysis was then compared with the costs involved with strengthening the current centralized model, by introducing barcoding technology.

• The analysis showed that decentralization was only financially sustainable at the divisional and district levels but still considerably more expensive than introducing barcoding into the centralized model.

• Despite the grave challenges of the existing centralized model, in the past 15 years, Madhya Pradesh has managed to achieve a 15% reduction in wasting and 21% decrease in underweight for children under five. It should not hurriedly transition from one model to another without understanding the full financial and health implications.

Introduction

Madhya Pradesh currently has a centralized model for Take-Home Ration (THR), which is racked with issues of leakage and pilferage. Reports and anecdotes from field experiences suggest that the following gaps in the monitoring mechanism lead to unchecked leakages:

1. Lack of a foolproof monitoring mechanism to track actual quantities of THR produced in the facilities, received, and stocked at warehouses, and distributed to Anganwadi Centers (AWCs) and beneficiaries.
2. Substandard quality of THR that discourages consumption and leads to side selling in the market as cattle feed.

These issues have led to increasing calls for decentralization of THR, so that self-help groups (SHG), village collectives and women’s groups can take on the role. The argument is that not only would decentralization address the leakage issues but also give local communities greater control over the variety and quality of meals being provided to undernourished children. Additionally, decentralization would also help generate employment, particularly among marginalized women in rural MP.

Given this, the Clinton Health Access Initiative (CHAI), an NGO supporting critical interventions to improve the health of women and children including combating chronic malnutrition, undertook a comprehensive diagnosis of the existing versus the proposed production models, which included looking at the cost drivers and revenue needed to make the decentralized model sustainable, at the divisional, district and block levels. This analysis was then compared to the costs involved with strengthening the current centralized model by introducing barcoding technology. Key findings from their analysis and its implications for decision-making by state officials are presented in this report.
"Not only would decentralization address the leakage issues but also give local communities greater control over the variety and quality of meals."

Past Brush with Decentralization

Madhya Pradesh had briefly transitioned to a decentralized model in the early 2000s, but discontinued it soon after, chiefly because of the financial infeasibility of the community-based organization to build-up the required infrastructure, and the limitation in working capital required for day to day operations while waiting for bills to be cleared by the government. Some of the major cost drivers that rendered this model unsustainable included:

- **Investment in the manufacturing infrastructure by the state** – this would be a recurring cost every five years.
- **Repair and maintenance of production units** – which would have a high cost impact as delays and closures affect production.
- **Cost of basic ingredients** – these keep fluctuating while ICDS’s cost allocation per beneficiary remains constant.

Renewed Focus on Decentralization

Despite these issues, the calls to decentralize have persisted, most notably because the current centralized system has failed to deliver the much-needed THR to the most backward districts of the state, where malnutrition is rampant. However, since Madhya Pradesh’s first stint with decentralization, a lot has changed. According to a Supreme Court order issued to Secretaries in-charge of ICDS on 9th May, 2012, energy-dense fortified food provided to children between 6 to 36 months should be manufactured at a facility that minimizes infection through any form of contamination, preferably through an automated facility. This directive has important implications, warranting a re-examination of the financial feasibility of the decentralized model, because it adds two important infrastructure and labor-related cost drivers. There is a need to have a semi-automated plant and it is estimated that it would take a minimum of 15 women as plant operators and 5 administrative staff to manage the functions of finance, engineering etc., to run each plant. Given this context, CHAI developed and analyzed three possible decentralization scenarios for financial feasibility. This analysis was undertaken in 2015 and has been slightly updated by the *Sight and Life* team to reflect the new administrative geography of Madhya Pradesh.

**Scenario 1**
One automated plant at divisional level with the production capacity of 1600 Metric Ton (MT) per month

**Scenario 2**
One automated plant for two districts with the production capacity of 700 MT per month

**Scenario 3**
One block level plant with the production capacity of 60 MT per month

Investment needs for the different decentralization scenarios

**Scenario 1**
One automated plant at divisional level with the production capacity of 1600 MT per month

**Investment Needs:**
The total establishment cost of setting up a 1600 MT plant would be approximately INR 11.4 crore (Table 1). Madhya Pradesh would need about 10 such plants to cater to the entire THR demand in the state and the total cost of setting up these units would be about Rs. 114 crore. A full transition from the current centralized model to 10 decentralized automated plants at the district level, across the state, would take approximately two years.

**Scenario 2**
One automated plant for 2 districts with the production capacity of 700 MT per month

**Investment Needs:**
The total establishment cost of setting up a 700 MT plant would be approximately INR 4.8 crore (Table 2). Madhya Pradesh would need about 25 such plants to cater to the entire THR demand in the state and the total cost of setting up these units would be about INR 120 crore. A full transition from the current centralized model to 25 decentralized automated plants...
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"As the placement of the plants moves lower in the administrative value chain, the financial viability of the model becomes weaker."
TABLE 2: Scenario 2 | Capital cost structure of one automated plant (production capacity of 700 MT/month) at district level

<table>
<thead>
<tr>
<th>S. NO</th>
<th>PARTICULARS</th>
<th>RS. (CRORE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>New building construction (Rs.500 per sq ft)</td>
<td>0.50</td>
</tr>
<tr>
<td>2.</td>
<td>Plant &amp; machineries, power connections</td>
<td>2.00</td>
</tr>
<tr>
<td>3.</td>
<td>Atomization including modern equipment</td>
<td>1.00</td>
</tr>
<tr>
<td>4.</td>
<td>Miscellaneous assets (furniture and fittings)</td>
<td>0.26</td>
</tr>
<tr>
<td>5.</td>
<td>Expenditure for statutory licenses</td>
<td>0.16</td>
</tr>
<tr>
<td>6.</td>
<td>Total</td>
<td>3.92</td>
</tr>
<tr>
<td>7.</td>
<td>Preliminary &amp; preoperative expenses (@ 10% on #6)</td>
<td>0.39</td>
</tr>
<tr>
<td>8.</td>
<td>Total capital expenditure (after #7)</td>
<td>4.32</td>
</tr>
<tr>
<td></td>
<td>Contingencies (@ 10% on #8)</td>
<td>0.43</td>
</tr>
<tr>
<td></td>
<td>Total establishment cost (in crore)</td>
<td>4.75</td>
</tr>
<tr>
<td></td>
<td>Total establishment cost (in Rs)</td>
<td>4,74,78,205</td>
</tr>
</tbody>
</table>

Key Considerations: Centralized or Decentralized?

The above analysis in Madhya Pradesh uncovers key aspects of financial viability that states should evaluate for each of the three decentralization scenarios. These include:

1. Retained earnings of SHGs at each level of decentralization
   - Are these enough to cover technical assistance required for set-up and operation?
   - If not, is a grant available through development partners or a government scheme?
2. Capital expenditure costs at each level of decentralization
3. Access to working capital at each level of decentralization
   - What is the prevailing interest rate?
   - How long is the payback duration?

An evidence-based approach would be to test the SHG model at the divisional level or the district level for a considerable duration before a final decision is taken. The financial analysis makes it clear that block level decentralization plans should be discontinued. At the same time, it is recommended that the centralized model with a barcoding system to improve reach and curb leakage, be tested for evidence-based decision-making. CHAI estimates that rolling out a statewide barcoding system in the existing centralized scenario would cost only INR 31 to 40 lakh. Thus, it was concluded that introducing barcoding in the centralized system would produce better results in Madhya Pradesh with much lower costs, effort and better quality control and assurance, as there are fewer units to monitor compared to the 10 to 333 units in any of the semi-automated decentralized scenarios.

"CHAI estimates that rolling out a statewide barcoding system in the existing centralized scenario would cost only INR 31 to 40 lakh."

Despite the grave challenges of the existing centralized model, in the past 15 years, Madhya Pradesh has...
managed to achieve a 15% reduction in wasting and 21% decrease in underweight for children under five. Just like any other state, Madhya Pradesh should not hurriedly roll-out and transition between the different models, without fully considering the financial implications and health impact on millions of beneficiaries.

**FIGURE 1:** Comparison of the 3 decentralization scenarios

<table>
<thead>
<tr>
<th>LEVEL</th>
<th>IRR</th>
<th>EXPECTED MARGIN</th>
<th>BREAK-EVEN YEAR</th>
<th>NO. OF PLANTS</th>
<th>ANNUAL PRODUCTION (Metric Tonnes)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DIVISIONAL</strong></td>
<td>5%</td>
<td>6%</td>
<td>7</td>
<td>10</td>
<td>19,091</td>
</tr>
<tr>
<td><strong>DISTRICT</strong></td>
<td>2%</td>
<td>6%</td>
<td>8</td>
<td>25</td>
<td>8,400</td>
</tr>
<tr>
<td><strong>BLOCK</strong></td>
<td>1%</td>
<td>11.5%</td>
<td>8</td>
<td>333</td>
<td>671</td>
</tr>
</tbody>
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