Non Pesticidal Management
- An alternative to Endosulfan
in a large scale success story
from *Enabavi, Andhra Pradesh* (India)

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With the support of IPEN
Pesticide Working Group
Enabavi

- A village 80 km north of Hyderabad in Warrangal District
- 51 families
- 182 acres
- Red gram, ground nut, pulses, sesame, cotton, tobacco, chillies, garlic, tomato, brinjal, onion, bhindi, cluster beans, palak, portuluca, amaranthus (green), cucumber, bottle gourd, bitter gourd, ridge gourd and pigeon peas.
- Open well and rain fed cultivation
Agrarian Crisis

- Large scale migration of farmers following drought
- Farmer suicides due to debt traps
- Escalation of input costs due to chemical intensive farming, leaving less savings or margins with the farmers
Non Pesticidal Management

Principles

• Ecological sustainability
• Economic sustainability
• Social empowerment
• Safe Food

Practices

– Prevention
– Precaution
– Management
## Endosulfan usage

<table>
<thead>
<tr>
<th>Crop</th>
<th>Area (acres)</th>
<th>No. of Crops / year</th>
<th>Usage</th>
<th>Quantity of endosulfan in Litres</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paddy</td>
<td>50</td>
<td>2</td>
<td>1 L/Acre</td>
<td>50</td>
</tr>
<tr>
<td>Cotton</td>
<td>6</td>
<td>1</td>
<td>2 L/Acre</td>
<td>12</td>
</tr>
<tr>
<td>Pigeon pea</td>
<td>30</td>
<td>1</td>
<td>2 L/Acre</td>
<td>60</td>
</tr>
<tr>
<td>Tobacco</td>
<td>40</td>
<td>1</td>
<td>0.5 L/Acre</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>130</strong></td>
<td></td>
<td></td>
<td><strong>164</strong></td>
</tr>
</tbody>
</table>

Money previously spent on endosulfan in Enabavi per year @ Rs.300 / Litre = Rs. 49,200
## Comparison – Net Income

<table>
<thead>
<tr>
<th></th>
<th>With chemical inputs</th>
<th>With NPM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment on cotton crop per acre</td>
<td>Rs 15,250</td>
<td>Rs. 8,550</td>
</tr>
<tr>
<td>Total yield</td>
<td>1200 Kilograms</td>
<td>1000 Kilograms</td>
</tr>
<tr>
<td>Total Gross income</td>
<td>Rs. 24,600</td>
<td>Rs. 22,000</td>
</tr>
<tr>
<td>Net Income</td>
<td>Rs. 9,350</td>
<td>Rs. 13,450</td>
</tr>
</tbody>
</table>

Courtesy: Down to Earth (January 1-15, 2009)
## Replacing pesticides with NPM

### Cost of Plant protection / acre

<table>
<thead>
<tr>
<th>Crop</th>
<th>With pesticides</th>
<th>NPM</th>
<th>Savings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cotton</td>
<td>Rs. 5,000</td>
<td>Rs. 1,000</td>
<td>Rs. 4,000</td>
</tr>
<tr>
<td>Chilli</td>
<td>Rs. 15,000</td>
<td>Rs. 2,000</td>
<td>Rs. 13,000</td>
</tr>
<tr>
<td>Redgram</td>
<td>Rs. 1,500</td>
<td>Rs. 300</td>
<td>Rs. 1,200</td>
</tr>
<tr>
<td>Groundnut</td>
<td>Rs. 1,500</td>
<td>Rs. 300</td>
<td>Rs. 1,200</td>
</tr>
<tr>
<td>Castor</td>
<td>Rs. 2,000</td>
<td>Rs. 400</td>
<td>Rs. 1,600</td>
</tr>
<tr>
<td>Paddy</td>
<td>Rs. 2,000</td>
<td>Rs. 225</td>
<td>Rs. 1775</td>
</tr>
</tbody>
</table>

*Courtesy: SERP - Hyderabad*
Institutions and process

- Centre for Sustainable Agriculture (www.csa-india.org)
  - Farmer self help groups
  - Producer Cooperatives
- Society for Elimination or Rural Poverty (Department of Rural Development, Govt. of Andhra Pradesh)
Outcome

- CSA implemented NPM in 45 villages across 6 districts (6000 acres)
- SERP upscaled NPM in 3000 villages across 18 districts (1.2 million acres)
- IT is 5% of total land under agriculture in Andhra Pradesh
- Target 50% coverage by 2014
Lessons

• Prevention is better than cure
• Empower farmer to take control
• Maintaining effective pest balance
• NPM retains the money generated within the community
• NPM is sustainable with inborn incentives
Next steps

- Campaign
- Develop standards for operational programme
- Increase the availability and accessibility of inputs
- Branding and marketing for products