PHILIPPINE RUBBER INDUSTRY ROADMAP

Puerto Princesa, Palawan
15 October 2015
PHILIPPINE RUBBER INDUSTRY ROADMAP 2014 - 2020

Targets

- business climate improved
- productivity and innovation capacity increased
- finance access improved
- market access expanded
RUBBER INDUSTRY VALUE CHAIN

UPSTREAM (DA/DTI)
- Input Supply
  - Nursery/Budwood
    - Garden Operators
  - Fertilizers, Pesticides, Tapping Tools, Plastic Bags, etc.
- Farm Production
  - Individual Farmers (Small Holders)
- Primary Processing
  - CUP LUMPS
  - CRUMB RUBBER
  - Traders
    - Consolidators
    - Buying Agents

DOWNSTREAM (DTI)
- Products Processing
- Inputs to Local Downstream ~ 30%
- Exports ~ 70%
- Gloves
- Motorcycle Tires
- Auto Tires
- V-Belts
- Sports/Golf Balls

DOMESTIC PLAYERS
- NO LOCAL PLAYER
- MANHATTAN, GAJAH TUNGGAL
- YOKOHAMA
- MITSUBOSHI, PHILBELT
- DUNLOP

Latex Concentrate
MARKETABLE FORMS

1. Centrifuged latex (pure form)
2. Cup lumps (unprocessed)
3. Crepe sheets
4. Crumb rubber
5. Manufactured rubber
### SWOT

<table>
<thead>
<tr>
<th>STRENGTHS</th>
<th>WEAKNESSES</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Availability of areas (private and public lands) for production</td>
<td>• Tenurial problems (land access not geared to attracting investors)</td>
</tr>
<tr>
<td>• Agro-climatic condition of the country suitable for rubber production</td>
<td>• Inadequate supply of quality planting materials (since rubber is a long gestating crop, this is crucial)</td>
</tr>
<tr>
<td>• Availability of labor and technical information</td>
<td>• Few accredited nurseries</td>
</tr>
<tr>
<td>• Strategic location of the Philippines</td>
<td>• Limited access to credit</td>
</tr>
<tr>
<td>• Support of national government and LGU to the industry</td>
<td>• High cost of inputs (such as seedlings, labor, fertilizers and chemicals)</td>
</tr>
<tr>
<td></td>
<td>• Limited value adding activities</td>
</tr>
<tr>
<td></td>
<td>• High costs of utilities such as electricity and water</td>
</tr>
<tr>
<td></td>
<td>• Disorganized marketing system</td>
</tr>
<tr>
<td></td>
<td>• Un-harmonized rubber product (SPR or PTR)</td>
</tr>
<tr>
<td></td>
<td>• High transport costs</td>
</tr>
<tr>
<td></td>
<td>• Low productivity, poor product quality, insufficient training for tappers and weak implementing capacity as well as R&amp;D.</td>
</tr>
<tr>
<td><strong>Opportunities</strong></td>
<td><strong>THREATS</strong></td>
</tr>
<tr>
<td>---------------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>• Rubber as a reforestation crop gives a long-term prospect to the industry</td>
<td>• Cyclical low and high prices</td>
</tr>
<tr>
<td>• Rubber as high potential income crop helps address rural poverty among small landholders, agrarian reform beneficiaries and indigenous people</td>
<td>• Theft of rubber cup lumps</td>
</tr>
<tr>
<td>• Wide use of rubber from household to industrial needs with tires and tubes as the largest markets</td>
<td>• Occurrence of pest and diseases</td>
</tr>
<tr>
<td>• Market demand here and abroad (especially Asia) offers opportunities</td>
<td>• Expansion of rubber areas in Lao PDR and Myanmar is critical with their cheap land and labor</td>
</tr>
<tr>
<td>• World demand projected to exceed supply in 2020</td>
<td>• Coping with rising input costs</td>
</tr>
<tr>
<td></td>
<td>• Growing competition in the export market</td>
</tr>
<tr>
<td></td>
<td>• Peace and order situation in some areas in Mindanao</td>
</tr>
</tbody>
</table>
## VOLUME OF LOCAL RUBBER PRODUCTION (MT)

<table>
<thead>
<tr>
<th>Rubber (cup lump)</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHILIPPINES</td>
<td>395,237.15</td>
<td>425,704.83</td>
<td>442,998.16</td>
<td>444,817.70</td>
<td>453,052.48</td>
</tr>
<tr>
<td>ZAMBOANGA PENINSULA</td>
<td>171,125.68</td>
<td>188,933.99</td>
<td>188,854.67</td>
<td>195,357.03</td>
<td>191,609.82</td>
</tr>
<tr>
<td>SOCCSKSARGEN</td>
<td>149,964.88</td>
<td>158,994.66</td>
<td>169,745.42</td>
<td>172,953.92</td>
<td>173,976.51</td>
</tr>
<tr>
<td>ARMM</td>
<td>33,496.73</td>
<td>35,634.93</td>
<td>40,848.60</td>
<td>46,833.34</td>
<td>54,051.33</td>
</tr>
<tr>
<td>DAVAO REGION</td>
<td>15,795.44</td>
<td>16,109.86</td>
<td>16,070.10</td>
<td>8,240.80</td>
<td>10,848.94</td>
</tr>
<tr>
<td>CARAGA</td>
<td>14,618.65</td>
<td>15,247.66</td>
<td>16,610.83</td>
<td>10,030.83</td>
<td>10,509.08</td>
</tr>
<tr>
<td>NORTHERN MINDANAO</td>
<td>10,198.86</td>
<td>10,719.98</td>
<td>10,791.66</td>
<td>11,261.00</td>
<td>11,872.60</td>
</tr>
<tr>
<td>MIMAROPA</td>
<td>24.44</td>
<td>36.67</td>
<td>41.94</td>
<td>59.26</td>
<td>102.10</td>
</tr>
<tr>
<td>CALABARZON</td>
<td>12.47</td>
<td>27.08</td>
<td>34.95</td>
<td>72.36</td>
<td>63.95</td>
</tr>
</tbody>
</table>

Source: BAS
MANUFACTURED RUBBER
RUBBER PROCESSORS AND MANUFACTURERS

- Major rubber processors
  Regions NCR, Region 3, Region 4A and Region 7
- 26 Manufacturers (PRIA Members)
- 24 Manufacturers Located in PEZA
- Tires, automotive and industrial parts subsector, sporting goods, footwear and latex
- 70% to 80% capacity utilization (PRIA members only)
- Supplying both the local and international markets
- 4,000 employees (PRIA Members only)
RUBBER PRODUCTS INDUSTRY

The industry consists of 4 subsectors:

1. Tires (car, motorcycle, bicycle)
2. Automotive/industrial (transmission belts, rubber conveyor, radiator and fuel hoses, rubber rings, gaskets, linings, bearing pad, OEM parts)
3. Footwear (footwear, sandals)
4. Latex (rubber gloves, baby feeding nipples, balloons, medicine droppers, surgicals)
<table>
<thead>
<tr>
<th>PRODUCT NAME</th>
<th>QUANTITY MANUFACTURED</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2009</td>
</tr>
<tr>
<td>Radiator hoses</td>
<td>78k</td>
</tr>
<tr>
<td>Ind / Agri hoses</td>
<td>10k</td>
</tr>
<tr>
<td>Gas tank with ply</td>
<td>5k</td>
</tr>
<tr>
<td>TM / ES rubber support</td>
<td>35k</td>
</tr>
<tr>
<td>Rubber band</td>
<td>32,809 kgs</td>
</tr>
<tr>
<td>Tennis balls</td>
<td>5.23 million doz</td>
</tr>
<tr>
<td>Squash balls</td>
<td>250,000 doz</td>
</tr>
<tr>
<td>Shoe sole</td>
<td>340,000</td>
</tr>
<tr>
<td>Rubber lining</td>
<td>10 MT</td>
</tr>
<tr>
<td>Camelback</td>
<td>150 MT</td>
</tr>
<tr>
<td>Moulded bearing pad</td>
<td>20 MT</td>
</tr>
<tr>
<td>Motorcycle tire</td>
<td>600K</td>
</tr>
<tr>
<td>V-belts</td>
<td>2.2 million</td>
</tr>
<tr>
<td>Camelback</td>
<td>480 tons</td>
</tr>
<tr>
<td>Rubber sandals</td>
<td>4 million pairs</td>
</tr>
<tr>
<td>Custom mix rubber</td>
<td>500,000 kgs</td>
</tr>
<tr>
<td>Passenger Car Tires</td>
<td>5,641,000 pcs</td>
</tr>
</tbody>
</table>
TECHNOLOGY

1. Process technology is a mix of low, medium and high.

2. For those with tie-ups with foreign partners, technology used is more advanced.

3. Others use basic machinery/equipment: banbury, boilers, mixing roll, compression molds.
TECHNOLOGY

There are three basic processing techniques:

• **Extrusion**: Rubber polymers are heated and mechanically mixed in a long chamber and through a small opening.

• **Injection molding**: The rubber strips are heated and mechanically mixed and forced under high pressure into a mold.

• **Compression molding**: The rubber strips are compressed around a mold under pressure.
NATURAL RUBBER
CHALLENGES AND CONCERNS

1. Rubber plantations placed under land reform program
2. Big plantations reduced into small land-holdings
3. Farmer beneficiaries lack technical, financial and marketing assistance
4. Replanting senile trees never took place
5. Lands sold, leased to banana planters, converted to cash crop lands
CHALLENGES AND CONCERNS

6. Process input
   • High cost of utilities (major issue)

7. Technical issues
   • Inadequate milling standards of cup lumps
   • Capability of PRTC to perform the required test procedures for crumb rubber
MARKET
MARKET DRIVERS

Drivers that influence market:

1. Product price (most important)
2. Quality
3. Marketing channels
4. Industry standards
MARKET OPPORTUNITIES

1. Increase in demand (exports)
   – 25.6 % increase for natural rubber

2. Increase in imports of rubber products
   – From US$ 56.856 million in 2013 to US$65.851 million in 2014 or an increase of about 15.8%

3. Expansion of Yokohama
   – From the current 7 million tires/yr to 17 million tires/yr by 2017
INDUSTRY DEVELOPMENT
DEVELOPMENT MODEL

Three-prong development model for the sector:

- Compete
- Conform
- Connect

Enhance manufacturing skills in order to compete with foreign manufacturers, conform to required technical and market standards, and link with both local and foreign markets.
DEVELOPMENT PROGRAMS

1. Materials and supplies assurance
2. Price stabilization campaign
3. Manufacturing process enhancement
4. Equipment retrofitting
5. Technical services partnership
6. Labor productivity campaign
7. Product standards
8. Research and development
9. New product development
10. Dominate the local market campaign
11. Export marketing campaign
12. Trade harmonization and rationalization
DEVELOPMENT ACTIVITIES

COMPETE

• Sector-wide availability of materials and supplies
• Stable price of certified crumb rubber
• Drive forward productivity of labor
• Enhance knowledge and skills on ways to increase productivity
• Improve process skills in manufacturing
• Refurbish machinery and equipment
• Forge closer integration with the tool and die industry
DEVELOPMENT ACTIVITIES

CONFORM

• Set adequate standards
• Establish/enhance testing and laboratory facilities
• Establish regulatory measures
DEVELOPMENT ACTIVITIES

CONNECT

• Develop new rubber products for the local and export markets
• Expand local sales of rubber products vis-a-vis imported brands
• Gain a foothold in foreign markets especially in the ASEAN region
INITIATIVES
DOST-PCAARRD INITIATIVES

Science and Technology Community Based Farm (STCBF) on Rubber Production

- Formation of clusters by farmers’ associations
- Capability building
- Application of recommended production technologies
- Rehabilitation of unproductive trees

Jose Rizal Memorial State University
Zamboanga del Norte
DOST-PCAARRD INITIATIVES

Validation of varietal integrity of promising rubber clones through DNA fingerprinting

- Accuracy of varietal integrity is number one consideration in increasing production areas
- Can be done through molecular techniques or be genetic/DNA fingerprinting

University of Southern Mindanao
South Cotabato
DTI INITIATIVES

DTI regional and provincial offices in nine (9) regions implemented its Rubber Industry Cluster Initiatives (2013-2016) in coordination with partner agencies and institutions

- Rubber Quality Improvement Advocacy
- Productivity improvement for rubber producers, processors and rubber coops through the SSF Program
- Initiated the organization of National Rubber Inter-Agency Technical Working Group (NRIAT) and was renamed as the Philippine Rubber Technical Working Group or PHLRUBBER
DTI INITIATIVES

BPS-DTI through the BPS TC-16 adopted in July 2013

Provided laboratory equipment for the Philippine Rubber Testing Center (PRTC-USM) under the SSF Program

Acts as the Team Leader of the PhlRubber in pursuing the development of the rubber industry
2015 ACCOMPLISHMENTS

INDUSTRY CLUSTER INITIATIVES

1. Trainings/Seminars
2. SSF Projects
3. Inclusion of Rubber in the 2014 to 2016 Investment Priorities Plan
4. Local Study Missions/Benchmarking Activities
5. Creation of the Price Management Committee for Rubber
6. Distribution of Info Materials on Rubber Farm Management
7. Region 12 facilitated the submission of the application for accreditation of University of Southern Mindanao Philippine Rubber Testing Center (USM PRTC) to Philippine Accreditation Bureau on March 18, 2015.
8. The market matching activities of Region 12 resulted to the generation of P24.11 M in sales of raw rubber and exports of processed rubber in the amount of US$0.6 M.
RUBBER INDUSTRY DEVELOPMENT ROAD MAP
2014 - 2020

Success Measures

• Farm productivity or yield
• Rubber farmers’ income
• Expansion of primary production areas
• Investments
• Import Substitution
• Job Creation
• Export Revenues
End