MARKET DYNAMICS IN BANGLADESH, NEPAL, RUSSIAN FEDERATION AND VIET NAM

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Outline:

• Background information
  • Scope
  • Framework
  • Objectives
• Methodology
• Main Findings & Conclusions – SWOT
• Recommendations
## Basic information

<table>
<thead>
<tr>
<th>Countries</th>
<th>Major Field Crops</th>
<th>Agri. Machinery Market, 2021 (Billion US$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bangladesh</td>
<td>Rice, Wheat, Jute and Rape &amp; Mustard</td>
<td>1.28</td>
</tr>
<tr>
<td>Nepal</td>
<td>Rice, Maize, Wheat and Sugarcane</td>
<td>0.06</td>
</tr>
<tr>
<td>Russian Federation</td>
<td>Wheat, Sugar beet, Potatoes and Cereals (Maize, Barley and Oats)</td>
<td>5.30</td>
</tr>
<tr>
<td>Viet Nam</td>
<td>Rice, Maize, Sugarcane and Groundnut</td>
<td>0.53</td>
</tr>
</tbody>
</table>
Supply Chain: Bangladesh

Supply chain of machinery and spare parts

Machinery and spare parts production as well as machine importer

Input & machine Supplier
- Chemical Importer
- Scrap Collectors (Local Scrap)
- Ship Breaking Yards (Ship Scrap Metal Inputs)
- Parts Importer (Machine Parts)
- Finish product (Machinery)

Raw Material Wholesaler
- Chemical Supplier
- Scrap Metal Supplier
- Ship Scrap & Metal inputs Supplier
- Machine Parts Dealer

Foundries
- Melting Scrap
- Casting Casts
- Finishing

Engineering Workshops
- Cutting
- Shaping
- Finishing

Machine Manufacturers
- Machining
- Assembling
- Finishing

Wholesalers Foundry Items
- Retailers Foundry Items

Wholesalers Workshop Items
- Retailers Workshop Items

Wholesalers Machine &

Retailers Machine &

Finished Goods Distribution

Retailers Foundry Items

Retailers Workshop Items

Retailers Machine &

Retailers Machine &

Final Users of Goods
- Households
- Farmers
- LSPs
- Lead Firms/ Other Businesses
Main Findings:

**SWOT ANALYSIS**
Supply Chains

• Well-structured and established
• Marketing mechanization technologies
• Identifying future technologies
• Linking with financing institutions
Custom Hiring Services
• Benefitting even smallholders
• High-capacity & multi-featured machinery
• Skillful in operation and R&M of complex machinery
• End-users relieved of ownership costs

Dealer Networks
• Small-medium sized available
• Supply, Service and Spares

Subsidies
• Triggered mechanization pace
• Nepalese stakeholders skeptical once withdrawn (hill farming)
Mechanization level

• High, almost 3rd /final (Russian Federation)
  * Field crops and Livestock
  * Poultry (most mechanized & automated)
  * High-capacity Machinery
  ✓ 60% cropped area – Commercial farming
  ✓ 30% cropped area – Entrepreneurial farming
  ✓ Food Secure – Grain, meat, vegetable oil & fish meal (FS Doctrine 2020)

• Medium, 2nd (Bangladesh & Viet Nam) while Nepal nearing

Minimum Support Price

• All 4 countries (safe-guard against price decline and crop failures)
• Russian Federation – agri. risk insurance portfolio
Inefficient machinery use hampering farm profitability
- low productivity
- high operating including timeliness costs

Russian Federation machinery in use (> 10 years old)
- Grain harvesters 59%
- Forage harvesters 60%
- Tractors 68%
- Limiting global competitiveness of the Russian food

3 Rice Producing Countries (RPCs) – ‘Picture as a whole’
- Low mechanization level in:
  > Paddy stand establishment (except Viet Nam, 65%)
  > Crop management and harvesting (non-paddy segment)
  > Horticulture and value addition
Weaknesses 2/2

• Low credit worthiness of smallholders
  • High-risk clients (nature & market)
• Dearth of financial outlays for smallholders
• High financing cost
• Low capacity of Industry and end-users in:
  • Business management skills
  • Technical skills
Opportunities 1/2

• ‘Agriculture’ holds high potential for Food Security
  • Primary production
  • Value chain
  • Mechanization
• ‘Transform’ Agriculture from
  ✓ High-input, high-output, low efficiency & unsustainable development mode
  ✓ High-yield, good quality, high efficiency, eco-system friendly & food securing one
• Precision Agriculture and Smart Farming
Opportunities 2/2

- Resource use consolidation through policy instrument
  - Subsistence & small-scale segments
    - 90% world’s small farm holders (<2ha) in Asia-Pacific
    - Majority of small farm holders (around 1 ha) in Asia
  - Target semi-commercial agriculture
  - Remittance inflows especially from oil-rich Gulf
  - Target high-end markets
  - Global competitiveness enhancement (GAP and Bilateral Trade Agreements)
  - High value agriculture + industrialization (Viet Nam & Nepal!)
Threats

• Fast-emerging marginalized & fragmented smallholders (<1ha)
  • Scale-appropriate machinery
  • Low quality & spare parts availability challenge
• Urbanization trend of youth in all 4 countries
  ✓ Leaving agriculture to aging labour and women
  ✓ Labour shortages
  ✓ High wages
  ✓ Farm profitability decline
• High farm energy costs
• Degrading natural resource base
• Pandemic
• Climate Change - extreme events & shifting weather patterns
RECOMMENDATIONS
Russian Federation

(Advanced Food Security and Mechanization Levels)

- Gradual replacement of 10 years old machinery with regular servicing and replenishment plans
- Enhancement of State subsidy, preferential leasing & loan programs
- Quality enhancement of local machinery through manufacturing technology and HR upgradation
- Sharpen focus on vegetable production mechanization & value addition
Public Sector

- Land consolidation and mechanized farming
- Enabling environment creation for rural entrepreneurships by educated youth
- Establishment of Common Facility Centres in industrial hubs for quality machinery production and indigenization of imported ones
- Smart subsidy for machinery access through ownerships and rentals
- Tax holiday for FDI in establishing JVs for quality machinery production
- Discounts on energy tariffs for agricultural machinery production
Bangladesh, Nepal & Viet Nam 2/3

- Valuing equally voices of technologists, manufacturers and end-users in R&D for swift commercialization
- Small-scale machinery development for hill farming and women
- ICT and Satellite-based interventions (Robots & Drones)
- Capacity building of industry in business management & technical skills

**Private Sector**
- Enhance interactions among industry, R&D and academic institutions
- Capitalize on auto-vending industry for critical parts development and venturing into high-end markets
• Upgrade business management systems of importers & distributors
• Capacity building of dealers by imparting hands-on quality trainings
• Facilitate R&M beyond warranty periods for timely, quality and cost-effective services (transplanters, combines in Nepal)
• Promote multi-brand dealer centres (Russian Federation and Nepal!)
• Capacity-building in technical and business management skills of mechanization services providers and farmers