Country Presentation Paper

(Nepal)

Regional Roundtable of National Agricultural Machinery Associations in Asia and the Pacific

Connection for Cooperation and Development
28-30 October 2014
Wuhan, China

(Mahendra Pd. Kandel)
Political map of Nepal

- Area: 1,471,181 sq km (EW-885 km, NS-193 km)
- Only 23% of the total area is flat plain (Tarai), Mid Hill covers 42% and Mountain 35% of the total area
Physiographic Regions

Farming systems: Rice-wheat in Tarai, Maize based in mid Hills and potato and livestock based in Mountains

Cultivable land area

- Wet land and River: 3%
- Pasture: 12%
- Others: 18%
- Forest: 39%
- Cultivable: 28%
Nepal Agricultural Machinery Entrepreneurs’ Association (NAEMA)

- Formed on the occasion of National Level Agrifare last April
- 96 Members from all over Nepal
- Mainly National Level Members, Importers, Retailers, Fabricators
- Increasing Membership including District Level Member
- No. similar organization exist
TOTAL CULTIVATED LAND

- Forest: 39%
- Cultivable land: 7%
- Cultivated land: 21%
- Others: 18%
- Water: 3%
- Pasture: 12%
## Average Land Holding Size

<table>
<thead>
<tr>
<th></th>
<th>No. of Holding</th>
<th>Area Of Holding</th>
<th>Av holding size, ha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mountain</td>
<td>298,223</td>
<td>218,707</td>
<td>0.73</td>
</tr>
<tr>
<td>Hill</td>
<td>1,586,406</td>
<td>1,038,615</td>
<td>0.65</td>
</tr>
<tr>
<td>Tarai</td>
<td>1,479,510</td>
<td>1,396,716</td>
<td>0.94</td>
</tr>
<tr>
<td>National</td>
<td>3,364,130</td>
<td>2,654,037</td>
<td>0.79</td>
</tr>
</tbody>
</table>
Characteristics of Nepalese Agriculture

- Dominated by subsistence and small holding agriculture
- Contributed 35% GDP
- Low investment
- Shortage of manpower due to migration to international market
- Low utilization of Machinery
- Diversity due to varied Agro-economic zones (60 m to 8848 m)
- Marred by the huge subsidies given by Neighbouring countries
- Low Priority by Governments in past
Status of Agriculture Mechanization

Traditional

- Largely dependent on draft power
- Improved plough is limited to only 26% farmers
Status of Agricultural Machanization
Contd…….

Tillage

➢ 8 % use Tractor all over Nepal and it is 18% in Tarai
➢ Four wheel tractors are the major tillers in tarai
➢ Custom Hiring is well established there
➢ Mini Tillers have increased in hills as they are portable
Status of agri. Mechanization contd.

Planting and seeding

- Rice is manually planted
- Wheat is broadcasted
- Seed drills are being used for maize, lentils, and even in wheat
- Companies are promoting zero till seed drills
Irrigation

- Need to depend on rain water to plant crops
- 42% area irrigated and 18% year around
- Deep boring are abundently used for irrigation
- Pump sets are used for irrigation
- Low cost drip and sprinkle irrigation is used in vegetables
- Solar Irrigation system introduced
Agri mechanization contd.

Harvesting

- Still majority is through human power using sickles
- Mini Tiller and walk behind tractor reaper and increasing
- Four wheel tractor reaper and combined harvesters are increasing
Agri mechanization contd.

Theshing

- 4-5 Hp portable threshers are used
- Bigger thershes and combined harvesters are also used
- Combined harvesters are used in custom hiring
Agri Mechanization contd.

Transportation

- Four wheel tractor, walk behind tractor are replacing Draft power
- Human, Animal and Mechanical power
Agri Mechanization contd.

Processing

- Seller, Huller, Grinding Mill, Oil expeller, are common
- Need efficient and easily handling machines for processing coffee, cardamom, Jinger
The distribution/supply chain of agricultural machinery

- Black smiths: Traditional iron plough, sickles, tools, etc.
- Small Fabricators: paddy threshers, Trailers
- Importers: All Machines
- Dealers/Sub dealers: sales and repair maintenance
- Small service centres/workshops
- Custom hiring
  - Threshers
  - Four wheel tractor
  - Combined Harvesters
Agricultural Mechanization policies including trade and investment policies

Highlights of the recent policy

➢ To ensure Productivity, competitiveness, sustainability and commercialization
➢ Adopted PPP approach, women and environment friendly
➢ Support on Technology Transfer to traditional Machines
➢ Trade shows, advertisement to increase machine use.
➢ Govt to provide Subsidy on purchase of Agri Machines and subsidy on interest rates to purchase Machines
➢ No policy for investment in agriculture
➢ Foreign Companies are barred in Trading sector
Challenges and constraints for a sustainable agricultural machinery sector

- Little knowledge and Exposure towards Machinery
- Availability of appropriate Machinery & Tools for different agro economic zones
- Mechanization is limited due to difficult terrain and land fragmentation.
- Traditional blacksmiths are required to be trained on fabrication of spares and tools.
- Limited Research & Development and regulatory Mechanism
- High Bank interest
Bigger roles for the Associations in promoting domestic Agricultural

- Promoting agri-Mechinazation.
- Establish regional co-operation to identify and develop suitable machines
- Identify suppliers and quality of product
- Formulation of new policies and programs
- Sharing of information and experience
- Joint trade shows and advertisement
- Reach to remote places
The need and feasibility of Regional Network/Council

- It is time to establish a Regional Network/Council
- It's feasible
- To bring all in one common platform
- Will help to access international market
- Sharing of ideas, techniques and policies
Possible structure and functions and Benefits of Network/Council

Structure:

- A general assembly of all members
- An executive committee consisting of 9 or 11
- Chairman and 4 vital posts elected by Gen assembly
- Rest members selected on consensus

Benefits:

- NAEMA is recently formed baby organization
- Access to international market
- Sharing of techniques
- Access to new thoughts, processes, policies
We talk about food security, productivity. But see the food wastage. We need to change ourselves.
THANK YOU