Subsidy in Agricultural Mechanization in Nepal

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Former Deputy Director General

7th Regional Forum on Sustainable Agricultural Mechanization in Asia and the Pacific
Financing for Sustainable Agricultural Mechanization

27-29 November 2019, Jeonju, Republic of Korea
Federal Democratic Republic of Nepal

- Total land area - 147,181 sq. km, Only 0.1% of total land mass of earth (EW-885 km, NS-193 km)
- Three geographical region Terai, Hill & Mountain
- Elevation ranges from 70 m to 8848 m
- Climate temperate to sub tropical
- Rugged terrain and diversity (in all sense) the typical feature
Nepal at a glance

- Predominantly an agrarian country
- Agriculture contributes **29.37 %** to GDP, **60%** employment
- 77 district, 6 Metro City, 11 Sub-Metro, 276 Municipality, 460 Rural Municipality
- Population 28.98 millions, 10 religions
- 125 caste/ethnic groups, 123 languages spoken as mother tongue
- 21 % people still below poverty line as of 2017
- 21% of the land is cultivable (47% rain-fed)
- Average land holding – 0.68 ha
- “feminization of agriculture” has increased from 8 to 19 percent in the last 10 years (6th National Agriculture Census, 2013)
- Major crops: Paddy, Maize, Wheat, potato, lentils, tea, coffee, ginger and large cardamom and Horticulture
- Livestock: Cattles, Buffaloes, Sheep/Goat, Pigs and Poultry
## Trend of Agricultural Mechanization 20 years

<table>
<thead>
<tr>
<th>Types of Equipments</th>
<th>1991/92</th>
<th>2001/02</th>
<th>2011/12</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Holdings using equipments (‘000)</td>
<td>No. of items (‘000)</td>
<td>Holdings using equipments (‘000)</td>
</tr>
<tr>
<td>Iron ploughs</td>
<td>315.1</td>
<td>354.5</td>
<td>870.3</td>
</tr>
<tr>
<td>Power tillers</td>
<td>5.6</td>
<td>1.6</td>
<td>15.6</td>
</tr>
<tr>
<td>Shallow tube wells</td>
<td>50.9</td>
<td>48.2</td>
<td>119.7</td>
</tr>
<tr>
<td>Deep tube wells</td>
<td>20.1</td>
<td>15.7</td>
<td>58.6</td>
</tr>
<tr>
<td>Rower pumps</td>
<td>3.5</td>
<td>3.8</td>
<td>22.7</td>
</tr>
<tr>
<td>Tractors</td>
<td>35.2</td>
<td>5.5</td>
<td>272.9</td>
</tr>
<tr>
<td>Threshers</td>
<td>85.6</td>
<td>19.9</td>
<td>249.5</td>
</tr>
<tr>
<td>Pumping sets</td>
<td>81.1</td>
<td>41.3</td>
<td>210.4</td>
</tr>
<tr>
<td>Animal drawn cart</td>
<td>204.6</td>
<td>198.1</td>
<td>226.4</td>
</tr>
<tr>
<td>Sprayers</td>
<td>50.2</td>
<td>23.4</td>
<td>203.0</td>
</tr>
<tr>
<td>Others</td>
<td>296.5</td>
<td>878.4</td>
<td>449.0</td>
</tr>
</tbody>
</table>

Source: National Sample Census of Agriculture, CBS
## Agricultural Machinery Import, 2016/17

<table>
<thead>
<tr>
<th>HS Code</th>
<th>Description</th>
<th>Unit</th>
<th>Quantity</th>
<th>Value in NPR '000</th>
<th>Source Country</th>
</tr>
</thead>
<tbody>
<tr>
<td>87011010</td>
<td>Tractor up to 1800 CC</td>
<td>PCS</td>
<td>12,650</td>
<td>871,737</td>
<td>India, China</td>
</tr>
<tr>
<td>87011090</td>
<td>Tractor more than 1800 CC</td>
<td>PCS</td>
<td>2,761</td>
<td>31,094</td>
<td>India, China</td>
</tr>
<tr>
<td>87019000</td>
<td>Other tractors</td>
<td>PCS</td>
<td>10</td>
<td>4,668</td>
<td>India, China</td>
</tr>
<tr>
<td>84321000</td>
<td>Ploughs</td>
<td>PCS</td>
<td>77,944</td>
<td>46,643</td>
<td>India, China</td>
</tr>
<tr>
<td>84322100</td>
<td>Disc harrows</td>
<td>PCS</td>
<td>7,828</td>
<td>42,251</td>
<td>India, China</td>
</tr>
<tr>
<td>84322900</td>
<td>Harrows (excl disc harrows), scarifiers, cultivators, weeders, hoes</td>
<td>PCS</td>
<td>315,292</td>
<td>861,138</td>
<td>India, China, Indonesia</td>
</tr>
<tr>
<td>84323000</td>
<td>Seeders, planters and transplanters</td>
<td>PCS</td>
<td>1,264</td>
<td>14,856</td>
<td>India, China</td>
</tr>
<tr>
<td>84323100</td>
<td>No-till direct seeders, planters and transplanters</td>
<td>PCS</td>
<td>172</td>
<td>654</td>
<td>India, China</td>
</tr>
<tr>
<td>84324000</td>
<td>Manure spreaders and fertilizer distributors</td>
<td>PCS</td>
<td>25,298</td>
<td>1,613</td>
<td>India, China</td>
</tr>
<tr>
<td>84328000</td>
<td>Soil preparation/cultivation machinery; lawn/sports-ground rollers</td>
<td>PCS</td>
<td>25,319</td>
<td>713,772</td>
<td>India, China</td>
</tr>
<tr>
<td>84331100</td>
<td>Mowers, powered, the cutting device rotating in a horizontal plane</td>
<td>PCS</td>
<td>613</td>
<td>14,322</td>
<td>India, China</td>
</tr>
<tr>
<td>84332000</td>
<td>Mowers (including cutter bars for tractor mounting)</td>
<td>PCS</td>
<td>443</td>
<td>17,339</td>
<td>India, China, Australia</td>
</tr>
</tbody>
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<tr>
<td>84333000</td>
<td>Haymaking machinery</td>
<td>PCS</td>
<td>1,949</td>
<td>51,576</td>
<td>India, China</td>
</tr>
<tr>
<td>84334000</td>
<td>Straw or fodder balers (including pick-up balers)</td>
<td>PCS</td>
<td>677</td>
<td>9,095</td>
<td>India, China</td>
</tr>
<tr>
<td>84335100</td>
<td>Combine harvester-threshers</td>
<td>PCS</td>
<td>1,930</td>
<td>353,761</td>
<td>India, China, Japan</td>
</tr>
<tr>
<td>84335200</td>
<td>Threshing machinery for agricultural produce</td>
<td>PCS</td>
<td>21,933</td>
<td>654,189</td>
<td>India, China, New Zealand, Turkey</td>
</tr>
<tr>
<td>84335300</td>
<td>Root or tuber harvesting machines</td>
<td>PCS</td>
<td>2,711</td>
<td>23,855</td>
<td>India, China</td>
</tr>
<tr>
<td>84335900</td>
<td>Harvesting machinery</td>
<td>PCS</td>
<td>17,802</td>
<td>58,737</td>
<td>India, China, Japan</td>
</tr>
<tr>
<td>84335100</td>
<td>Combine harvester-threshers</td>
<td>PCS</td>
<td>10,580</td>
<td>621,027</td>
<td>India, China, Japan</td>
</tr>
<tr>
<td>84335200</td>
<td>Threshing machinery for agricultural produce</td>
<td>PCS</td>
<td>20,719</td>
<td>665,613</td>
<td>India, China, New Zealand, Turkey</td>
</tr>
<tr>
<td>84335300</td>
<td>Root or tuber harvesting machines</td>
<td>PCS</td>
<td>19</td>
<td>2,654</td>
<td>India, China</td>
</tr>
<tr>
<td>84335900</td>
<td>Harvesting machinery</td>
<td>PCS</td>
<td>1,927</td>
<td>100,291</td>
<td>India, China, Japan</td>
</tr>
<tr>
<td>84336000</td>
<td>Machines for cleaning, sorting or grading eggs, fruit</td>
<td>PCS</td>
<td>356</td>
<td>10,427</td>
<td>India, China</td>
</tr>
<tr>
<td>84341000</td>
<td>Milking machines</td>
<td>PCS</td>
<td>647</td>
<td>27,416</td>
<td>India, China, Netherlands, Turkey</td>
</tr>
</tbody>
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<tr>
<td>84341000</td>
<td>Milking machines</td>
<td>PCS</td>
<td>647</td>
<td>27,416</td>
<td>India, China, Netherlands, Turkey</td>
</tr>
<tr>
<td>84342000</td>
<td>Dairy machinery</td>
<td>PCS</td>
<td>5,430</td>
<td>219,716</td>
<td>India, China, Turkey, Bulgaria, France</td>
</tr>
<tr>
<td>84361000</td>
<td>Machinery for preparing animal feeding stuffs</td>
<td>PCS</td>
<td>123,631</td>
<td>538,136</td>
<td>India, China, Netherlands, Germany, Republic of Korea</td>
</tr>
<tr>
<td>84362100</td>
<td>Poultry incubators and brooders</td>
<td>PCS</td>
<td>593,807</td>
<td>459,269</td>
<td>India, China, UK, Malaysia</td>
</tr>
<tr>
<td>84362900</td>
<td>Poultry-keeping machinery</td>
<td>PCS</td>
<td>1,220,465</td>
<td>942,237</td>
<td>India, China, European Union, Germany, Israel, Malaysia, Namibia</td>
</tr>
<tr>
<td>84371000</td>
<td>Machines for cleaning/sorting/grading seed grain or dried vegetables</td>
<td>PCS</td>
<td>11,098</td>
<td>723,534</td>
<td>India, China, Germany, Republic of Korea</td>
</tr>
<tr>
<td>84378000</td>
<td>Machinery for milling or working cereals, dried vegetables</td>
<td>PCS</td>
<td>9,945</td>
<td>495,736</td>
<td>India, China, Bangladesh, Indonesia, Thailand, Turkey, United States</td>
</tr>
<tr>
<td>84385000</td>
<td>Machinery for the preparation of meat or poultry</td>
<td>PCS</td>
<td>3,521</td>
<td>72,657</td>
<td>India, China, Germany, Canada, Spain</td>
</tr>
<tr>
<td>84386000</td>
<td>Machinery for the preparation of fruits, nuts or vegetable</td>
<td>PCS</td>
<td>3,536</td>
<td>52,647</td>
<td>India, China, European Union</td>
</tr>
<tr>
<td>84388010</td>
<td>Machinery for tea shorting, CTC, tea fermenting, tea drier</td>
<td>PCS</td>
<td>121,077</td>
<td>164,396</td>
<td>India, China, Germany, Japan, Sir Lanka, Taiwan</td>
</tr>
</tbody>
</table>

Exchange Rate is 1USD = 1USD =113.72 as of 26th Nov 2019

Imports of agricultural machinery and transport equipment amounted to NPR 1,451,700,000 ($12.8 million) F.Y. 2017-2018

Source: Statistical Pocketbook of Nepal 2018, Central Bureau of Statistics

Trend of Tractor/Power Tiller Registered

Source: Department of Transport Management
Background for Subsidy in Agricultural Mechanization

- 2004- Directorate of Agricultural Engineering (DoAEngg), Department of Agriculture (DoA), Ministry of Agriculture Development (MoAD) now Ministry of Agriculture and Livestock Development (MoALD) after Federal System
- 2014-1st National Agricultural Mechanization Exhibition, organized by DoAEngg in joint collaboration with Agricultural Engineering Division (AED) under Nepal Agriculture Research Council (NARC) and Agriculture Enterprise Center (AEC) of Federation of Nepal Chamber of Commerce and Industries (FNCCI). During the exhibition 11-member Ad-hock committee was formed to establish Nepal Agricultural Machinery Entrepreneurs' Association (NAMEA).
- 2014-Agricultural Mechanization Promotional Policy was approved by the cabinet of Government of Nepal (GoN)
- 2014-Capital Subsidy in Agricultural Machinery was implemented by DoAEngg/DoA with approved operation guideline from MoAD
Subsidy in Agricultural Mechanization

- Establishment of Post Harvest Service Center
- Establishment of Seed Bank
- Establishment of Resource Center
- Establishment of AgriMart
- **Demand Based Capital Subsidy in Agricultural Machinery**
- Establishment of Custom Hiring Center
- Installation of Zero Energy and Alternative Energy Lift Irrigation System
- Interest subsidy to establish Post Harvest Service Center
- Interest subsidy in Agricultural Machinery through cooperatives and micro finance
- Interest subsidy to establish cold storage through banks
Demand Based Capital Subsidy in Agricultural Machinery

- **Operational Guideline** for Agricultural Mechanization Subsidy Program approved by MoAD
- **Capital Subsidy Implementation Procedure:**
  1. Notice of Expression of Interest (EoI) of 30 days to select eligible suppliers of Agricultural Machinery
  2. 5-member Selection Committee for evaluation of the EoI

**Pre evaluation**
- eligibility legal paper
- experience of the suppliers
- 3 years of audited report
- authorization from the principal company/manufacturing proof
- brochure & catalog of the machine
Demand Based Capital Subsidy in Agricultural Machinery

- Capital Subsidy Implementation Procedure:

3. Detail evolution for financial and technical capacity of Suppliers
   - Financial capacity 30% weightage
     - net worth
     - increment of capital
     - profit before tax etc. of last three years
   - Technical capacity 70% weightage
     - administrative & technical professional
     - spare parts availability
     - sales outlets
     - service centers
     - experience of the company
     - related experience etc.

above 60% eligible for subsidy program
Demand Based Capital Subsidy in Agricultural Machinery

- Capital Subsidy Implementation Procedure: -

4. Selection of machine before 60th day from the date of notice published
   - Categories same specification machine in one
   - Lowest price in the category will be the benchmark for subsidy
5. Agreement between eligible suppliers and DoAEEngg
6. All eligible suppliers detail with their machine and price published in the field level agriculture offices
7. Notice of 15 days published in the national daily to apply at the district level agriculture office

Benefits
- Farmers
- Farmers groups
- Cooperatives
- Private farms etc.
It will also be advertised in FM and TV
Demand Based Capital Subsidy in Agricultural Machinery

- Capital Subsidy Implementation Procedure:

8. **Field level agricultural office** will evaluate
   - relevant documents
   - shortlist the beneficiaries
   - send the district wise demand to DoAEngg within 30 days of notice published in national daily.

9. **DoAEngg** will
   - Collect the demand throughout the country
   - Allocate the district wise budget according to Fiscal Year allocation for subsidy
   - High priority will be given to less mechanized districts

10. **Field level agricultural office** will again
   - shortlist the needy beneficiaries
   - recommend them to the nearest dealer point of the district of the selected suppliers by the beneficiaries within the allocated budget
Capital Subsidy Implementation Procedure:

11. The beneficiaries will submit
   - recommendation letter from the field level agricultural office to the nearby dealer of the suppliers
   - Beneficiaries pay their part and take the machine they selected as per their demand according to the approved list of DoAEngg.

12. The suppliers will
   - compile all the documents district wise of their supply
   - claim for the subsidy amount to DoAEngg

13. DoAEngg will
   - verify all the documents submitted by the suppliers
   - pay the subsidy amount through bank payment to the suppliers
**Demand Based Capital Subsidy in Agricultural Machinery**

- **Capital Subsidy Implementation Procedure:**
  - This was demand based subsidy program before federal system
  - The subsidy is 50% in general

- The machine for subsidy are Tractor, Power Tiller, Mini Tiller and Attachments

- Fiscal year wise subsidy in agricultural machinery through DoAEngg
  - 2013/14 - NPR 40,000,000
  - 2014/15 – NPR 70,000,000
  - 2015/16 – NPR 120,000,000
  - 2016/17- NPR 180,000,000
  - 2017/18-NRS 90,000,000

*Exchange Rate is 1USD =113.72 as of 26th November 2019 of Nepal Rastiya Bank*
Demand Based Capital Subsidy in Agricultural Machinery

- Capital Subsidy Implementation Procedure:

  Now no more DoAEngg and no subsidy program of this nature in the Central Government.

  But 7 Provincial Government adopted this type of subsidy program in two type-
  1. Shortlist the Suppliers first and collect demand from the Beneficiaries
  2. Collect demand from the Beneficiaries first and short list the Suppliers

  Both the process has some pros and cons

  Subsidy percentage varies and overall budget of the Nation has gone up to
  7 times than DoAEngg
  Fiscal year 2018/19 – NPR 790,000,000 and increasing every year as demand is increasing

Exchange Rate is 1USD =113.72 as of 26th November 2019 of Nepal Rastiya Bank
4th National Agricultural Mechanization Exhibition - 2019

Date-22-25 November 2019
Venue- Chitwan Expo Center, Bharatpur, Chitwan
Exhibition Focus on B2C model
Visitor from 60/77 Districts of more than 30 thousands (Real figure yet to come)
to observe the machine and technology for future subsidy program

5th ReCAMA Member Meeting was held in the same venue

Date-22-24 November 2019
4th National Agricultural Mechanization Exhibition

Some Clips
4th National Agricultural Mechanization Exhibition

Some Clips
Thank You All

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