

# **Country Presentation**

## **Nepal**

The 3<sup>rd</sup> Regional Forum on Sustainable  
Agricultural Mechanization  
Human Resource Development for  
Sustainable Agricultural Mechanization  
9-11 December 2015  
Manila, the Philippines

# **Role of Academic and Research Institutions in Human Resource Development for Sustainable Agricultural Mechanization in Nepal**



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# **Outline of Presentation**

- **Background**
- **Agriculture Scenario of Nepal**
- **Brief Introduction of Dept. of Agricultural Engineering**
- **Need of Agricultural Mechanization in Nepal, its Challenges and opportunities**
- **Role of Academic and Research Institutions, challenges and constraints**
- **Role of stakeholders for sustainable agricultural mechanization**
- **Suggestion for regional cooperation**
- **Conclusions**

# Background

**Total Area= 147,181 sq km ( EW 885 km, NS 193 km )**

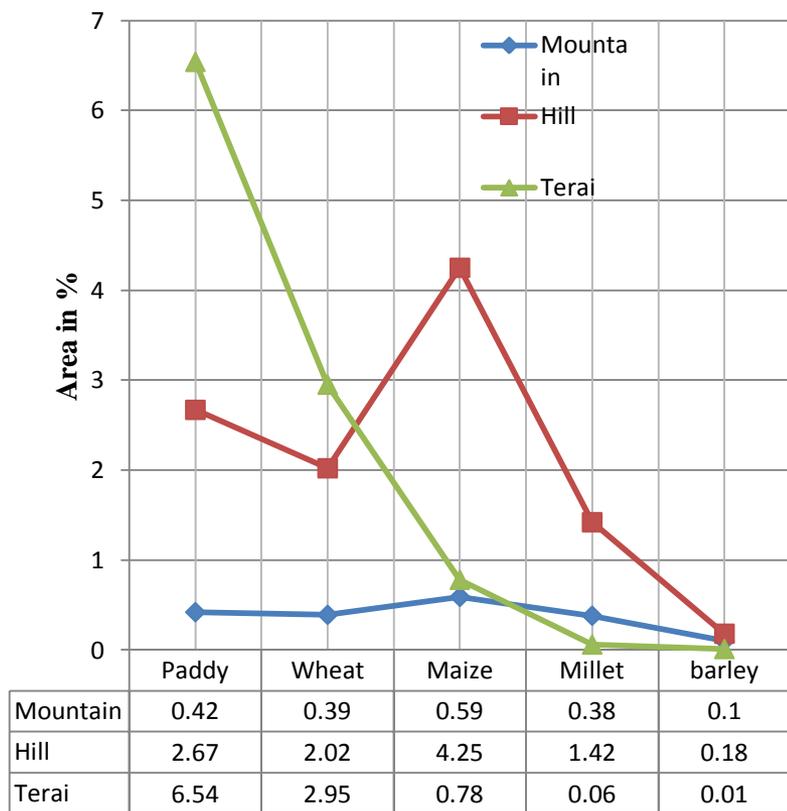
**Altitude = 60 m to 8,848 m**

**Total Populations = 26.5 M**

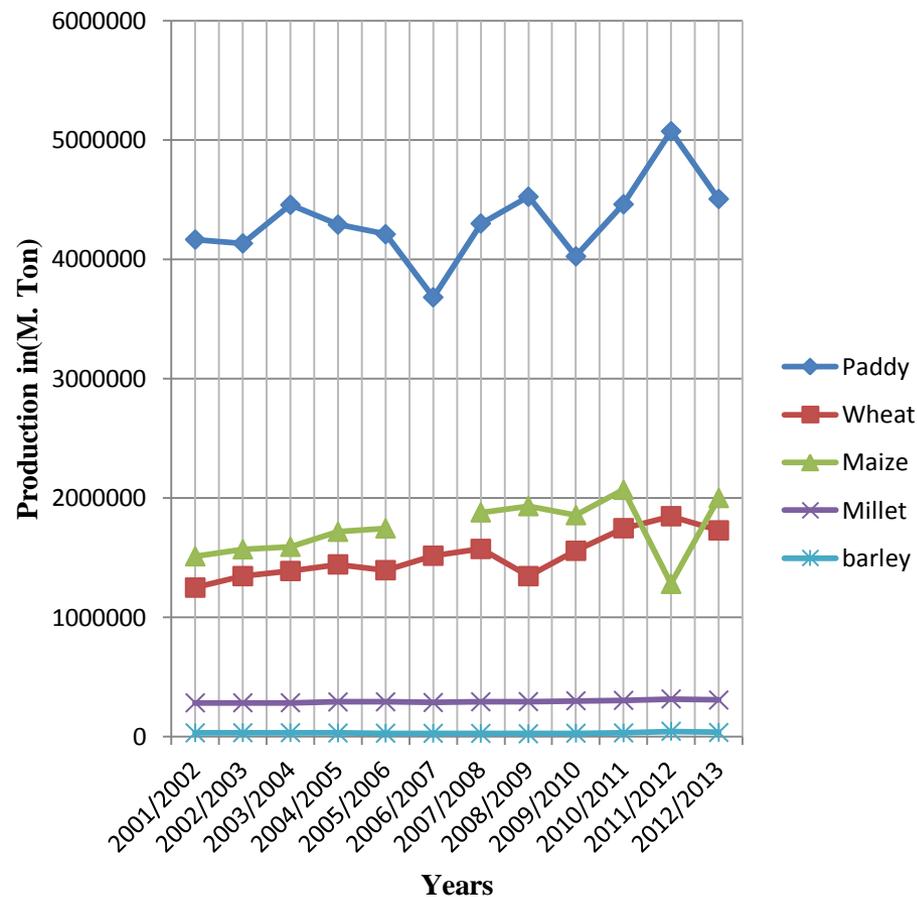
**Population growth rate per annum = 1.35 %**

<b>S.N.</b>	<b>Region</b>	<b>Total Land Area %</b>	<b>Cultivated Land Area</b>
<b>1</b>	<b>Mountain</b>	<b>35</b>	<b>2.17</b>
<b>2</b>	<b>Hill</b>	<b>42</b>	<b>11.4</b>
<b>3</b>	<b>Terai</b>	<b>23</b>	<b>12.46</b>
<b>4</b>	<b>Total Area %</b>	<b>100</b>	<b>26.03</b>

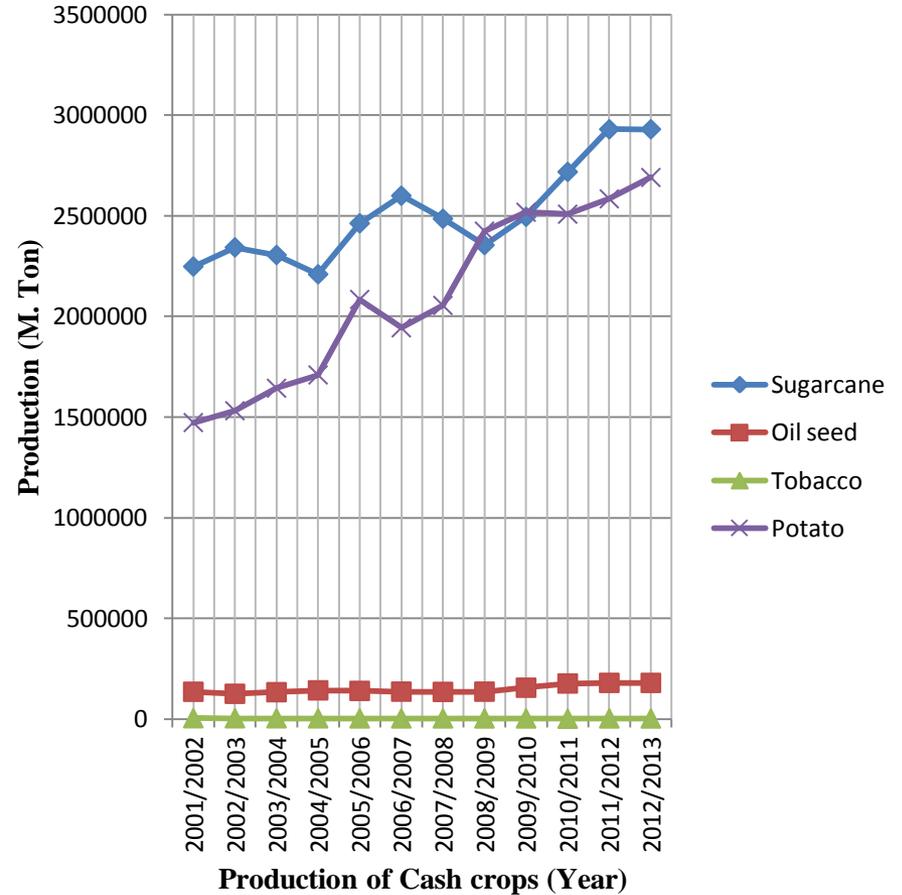
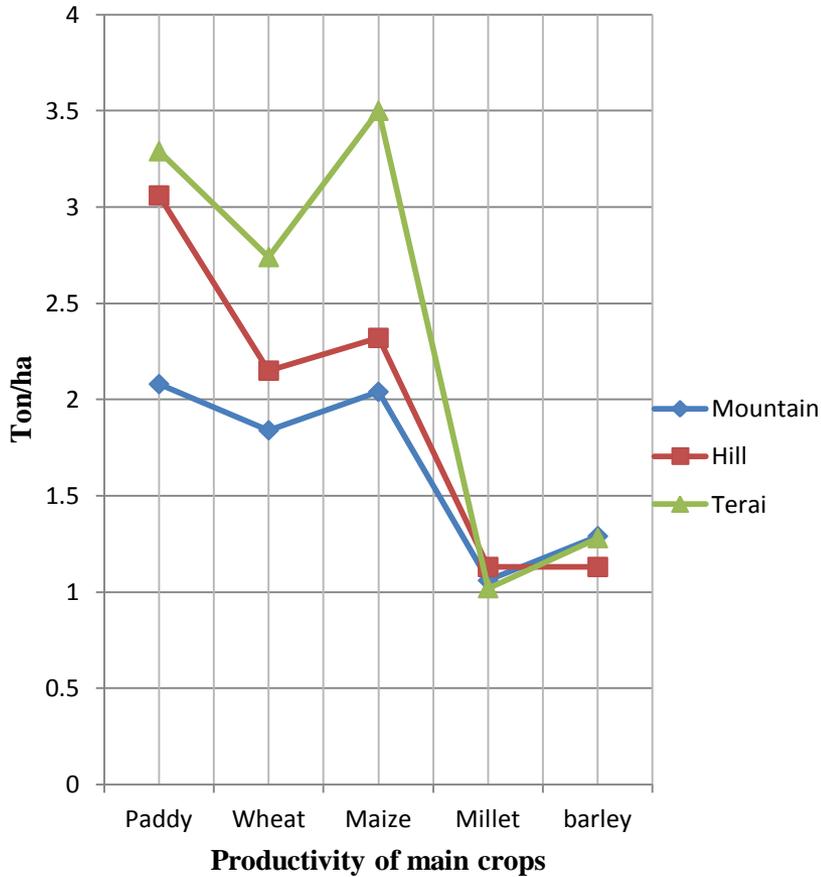
# Agriculture Scenario of Nepal



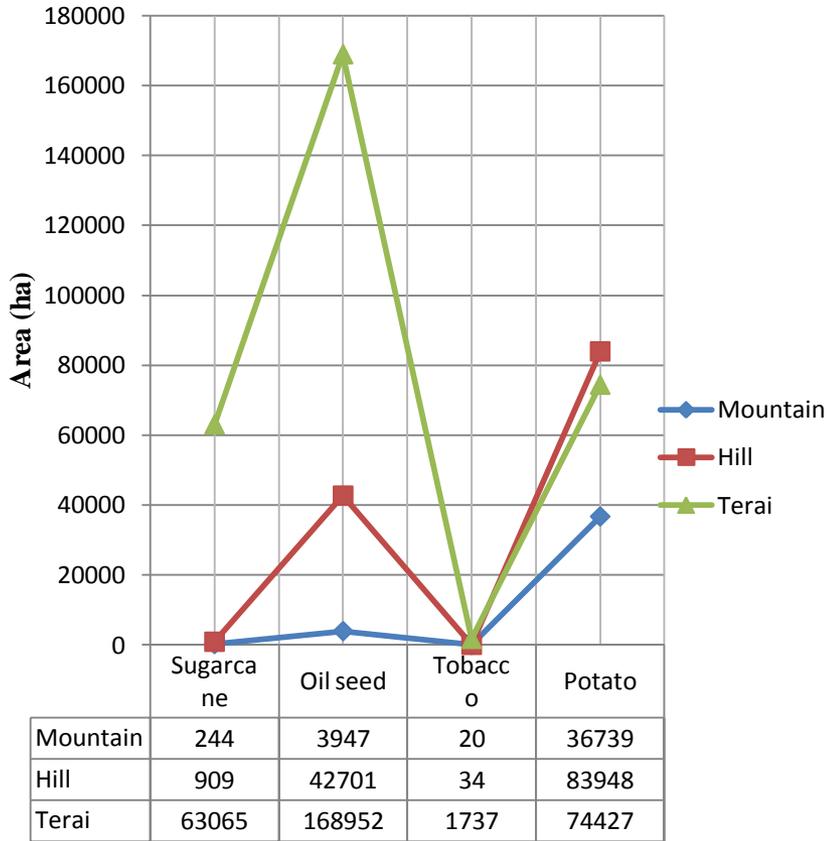
Area covered by main crops



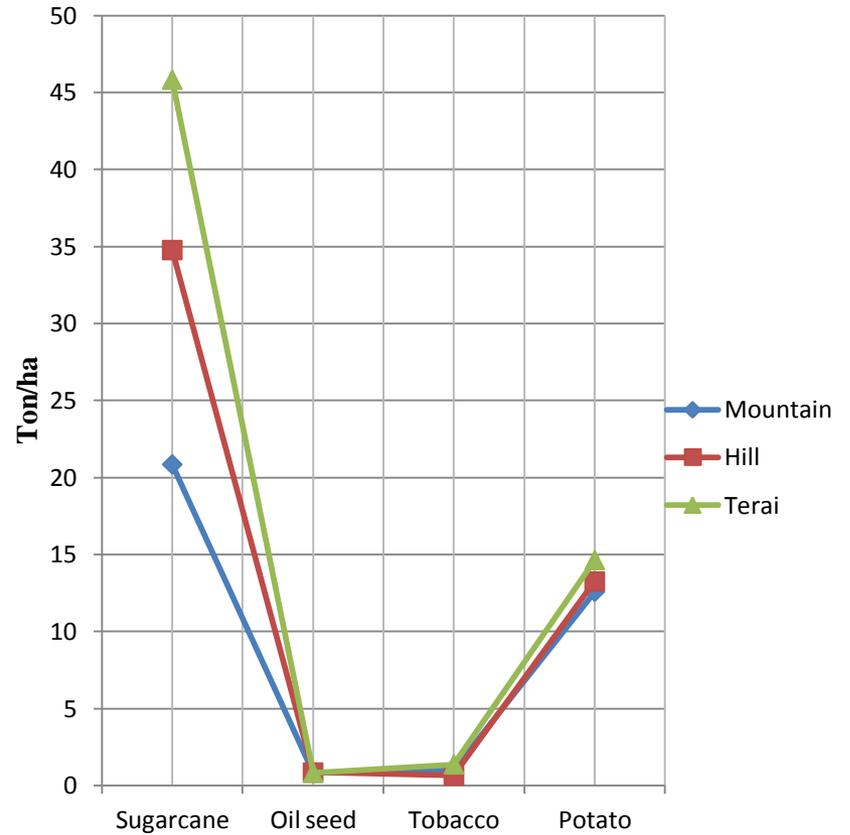
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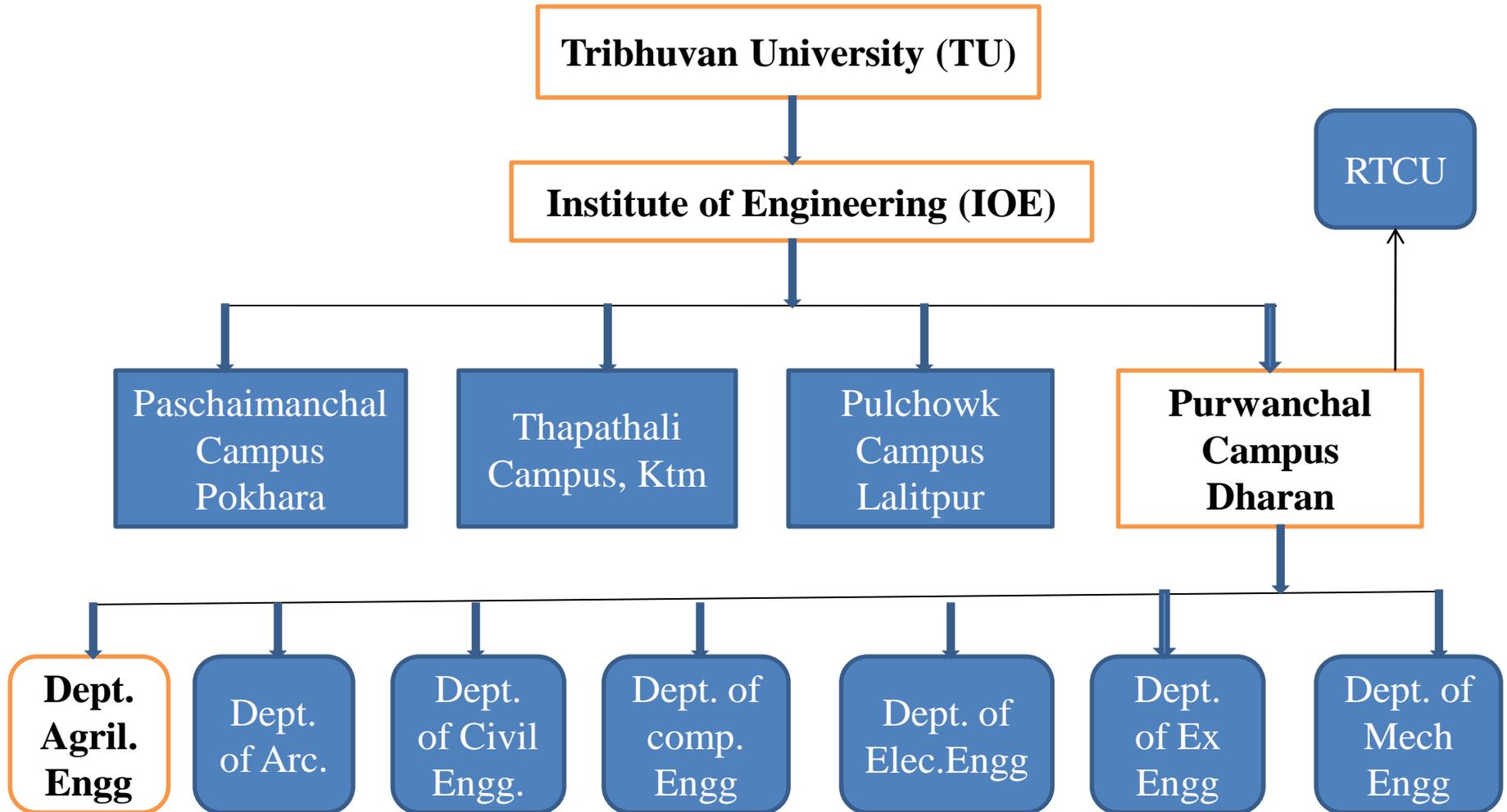


Area covered by cash crops



Productivity of cash crops

# Dept. of Agricultural Engineering at a glance



# **Dept. of Agricultural Engineering at a glance**

- **Campus Established :- 1977 (Project started)**
- **Project was completed:-1986**
- **Low level skill manpower was produced**
- **Since 1992 medium level skill man power was produced**
- ***In the year of 2000/2001 Purwanchal Campus lunched undergraduate four years program in Agricultural Engineering***
- ***300 undergraduate Engineers are handover to the nation***

# **Dept. of Agricultural Engineering at a glance**

## **Courses offering by Dept. of Agricultural Engineering**

- **Farm Machinery and Power Engineering**
- **Soil Conservation and Watershed Management Engineering**
- **Irrigation and Drainage Engineering**
- **Dairy and Food Engineering**
- **Post Harvest Engineering and Technology**
- **Renewable Energy Engineering**

# **Dept. of Agricultural Engineering at a glance**

## **Other Activities**

- **Research, Innovation and Development**
- **Organize the Training jointly with RTCU**
- **Workshop and Seminar**
- **Agricultural Engineering Technology Exhibition**
- **Journal Publication jointly with Agricultural Engineering Students Society**

# **Need of Agricultural Mechanization in Nepal**

- **Agricultural work is drudgeries, time consuming and tedious**
- **Lack of Agricultural worker**
- **Agricultural Occupation is Less Profitable Occupation**
- **Reduction of the Food Deficit Problem of Nepal**

# **Mechanization Challenges in Nepal**

- **Diversified topography**
- **Small land holding size (< 0.65 ha)**
- **Lack of infrastructure development**
- **Traditional thinking of farmer**
- **Lack of education**
- **Low investment capacity of farmer**
- **Lack of trained manpower**
- **Lack of local level developer**
- **Lack of spare parts of machineries and maintenance facilities**
- **Lack of coordination between related stakes holders**
- **Lack of commercialization of agriculture**
- **Weak government policy**

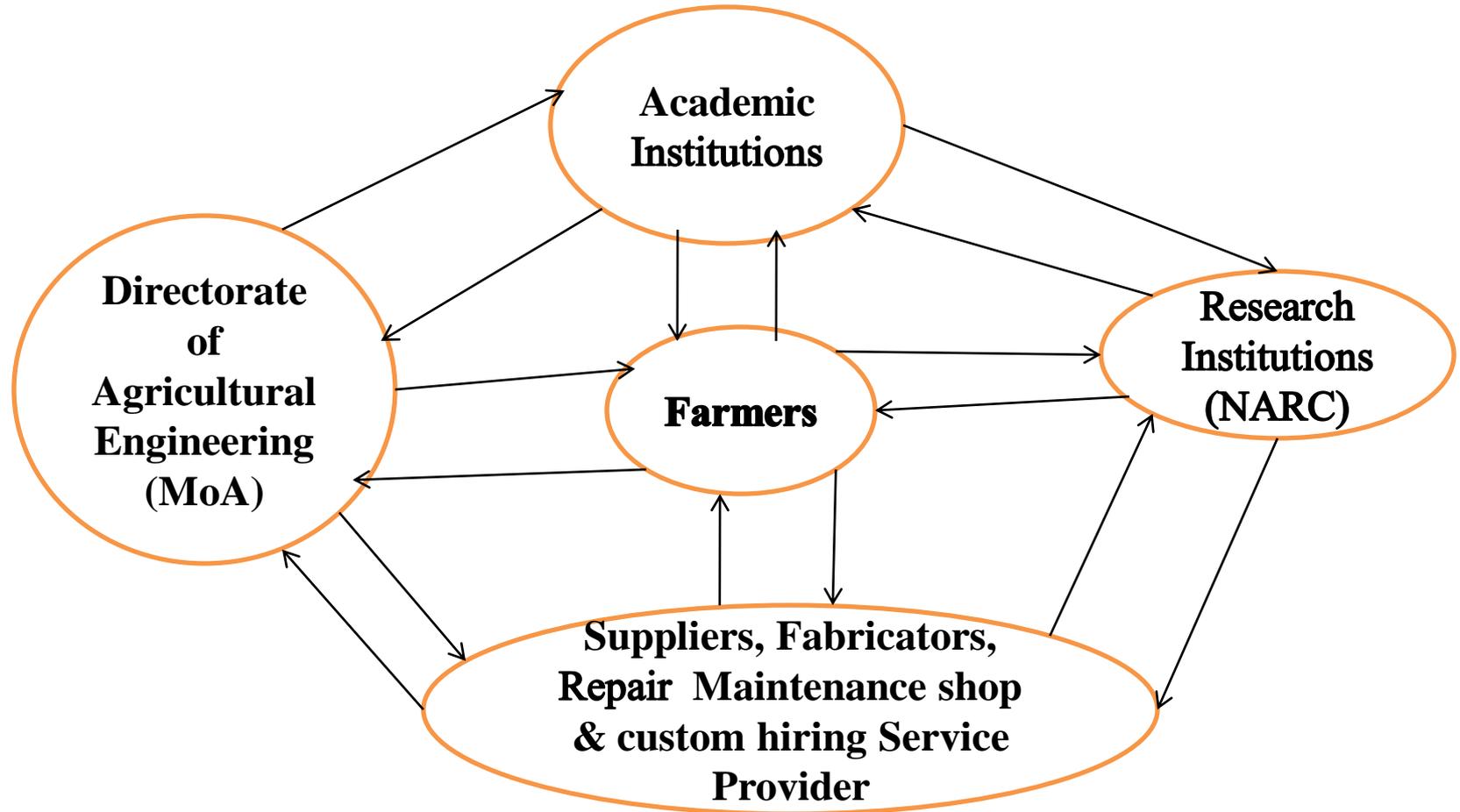
# **Mechanization Opportunities in Nepal**

- **Design, development and modification of hand tools, animal drawn implements and small size power operated machines in mountain region**
- **Design, development and modification of hand tools, animal drawn implements and power tiller operated implements in hilly region**
- **Design, development and modification of hand tools, animal drawn implements, power tiller operated implements and Tractor drawn implements in terai region**
- **Establishment of small scale industries for machine and implements fabrication**
- **Establishment of repair and maintenance workshop**
- **Establishment of commercialization agriculture system**
- **Establishment of custom hiring business**
- **Establishment of cooperative farming and land consolidation system**
- **Bust up the agri-business**

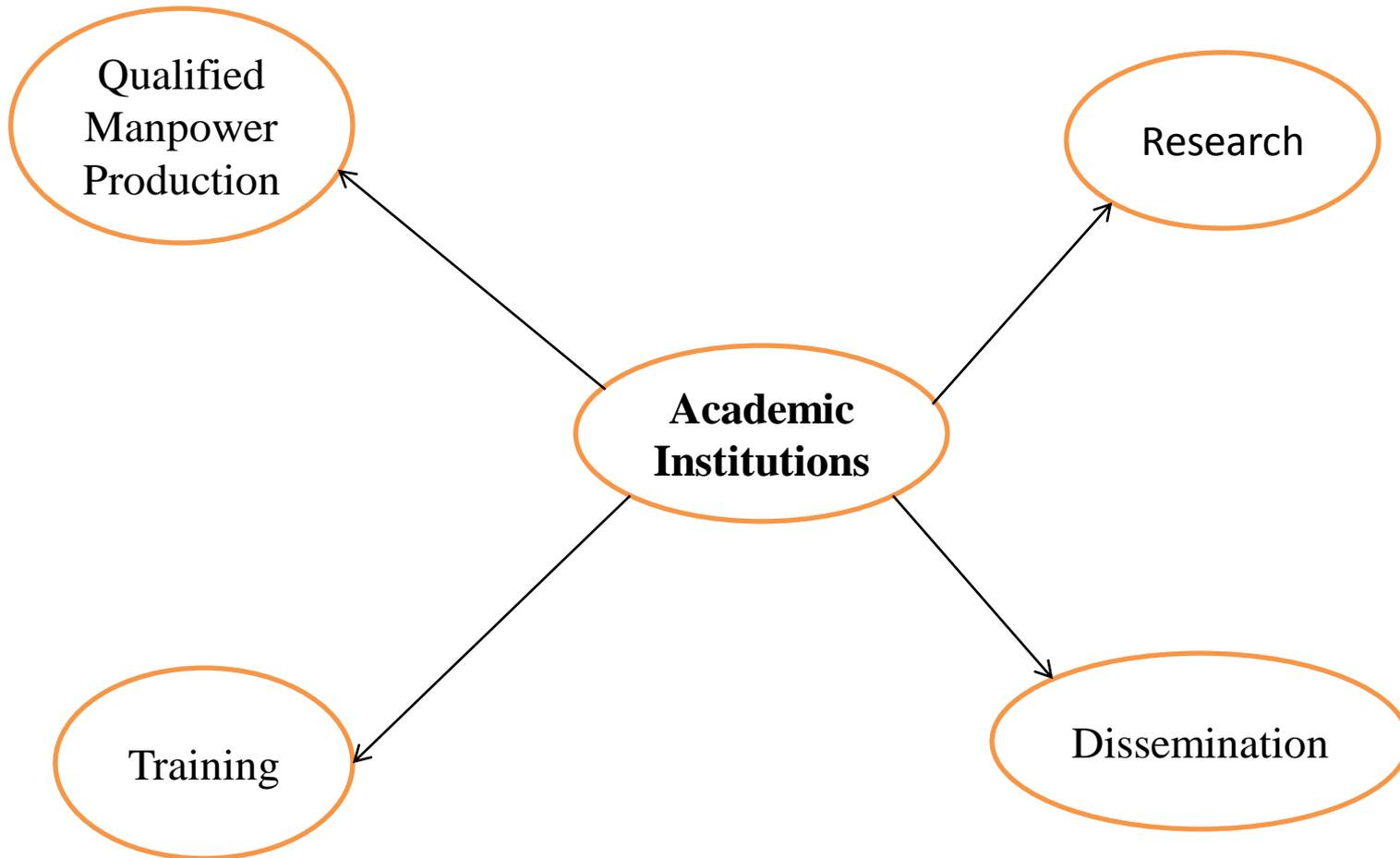
# **Agricultural Mechanization Stakeholders in Nepal**

- **Academic Institutes (IOE; Purwanchal Campus, Department of Agricultural Engineering)**
- **Research Institutes ( NARC, Agricultural Engineering Division)**
- **Directorate of Agricultural Engineering (MoA)**
- **Suppliers, Fabricators, Repair Maintenance shop & custom hiring Service Provider**

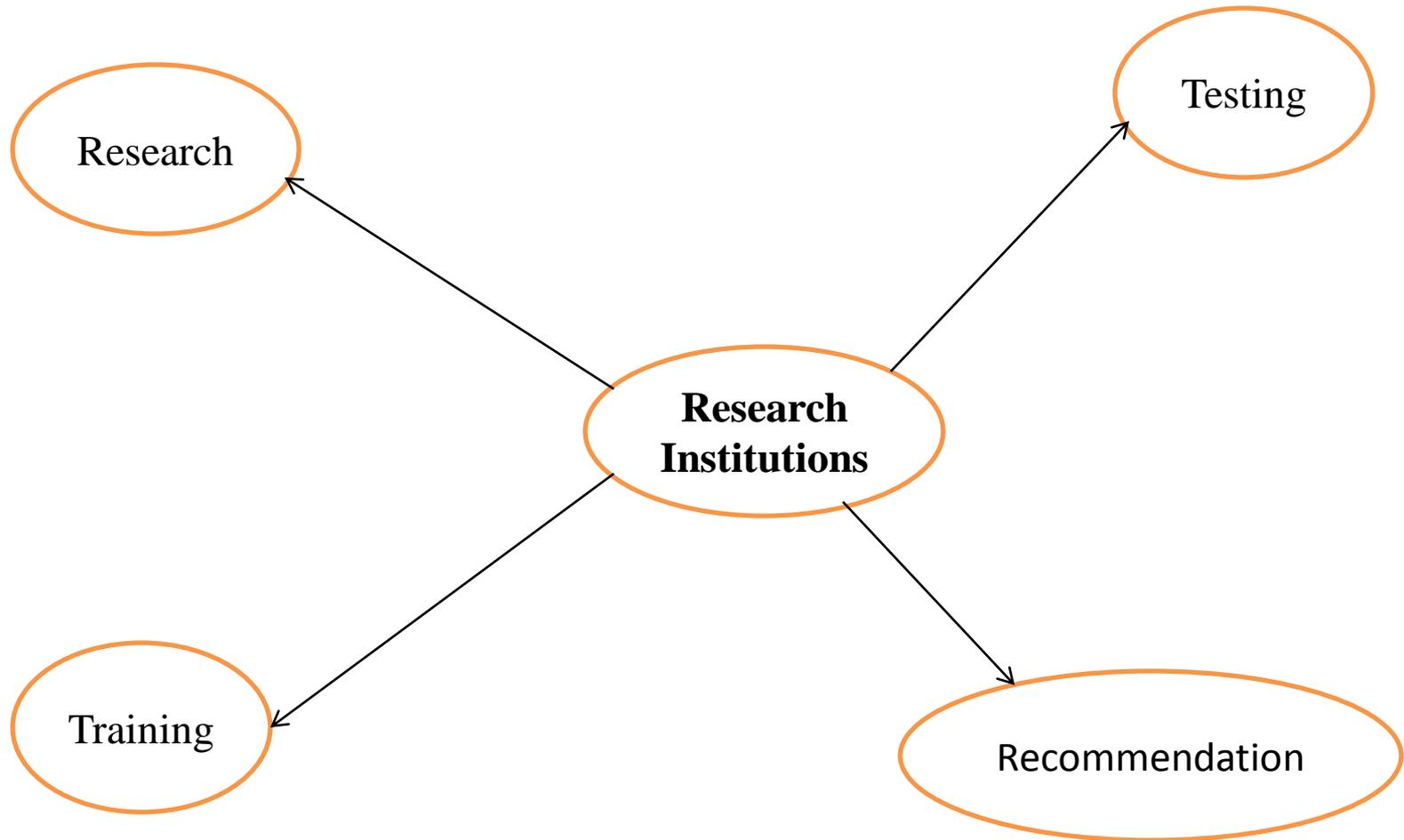
# Relation Between Agricultural Mechanization Stakeholders



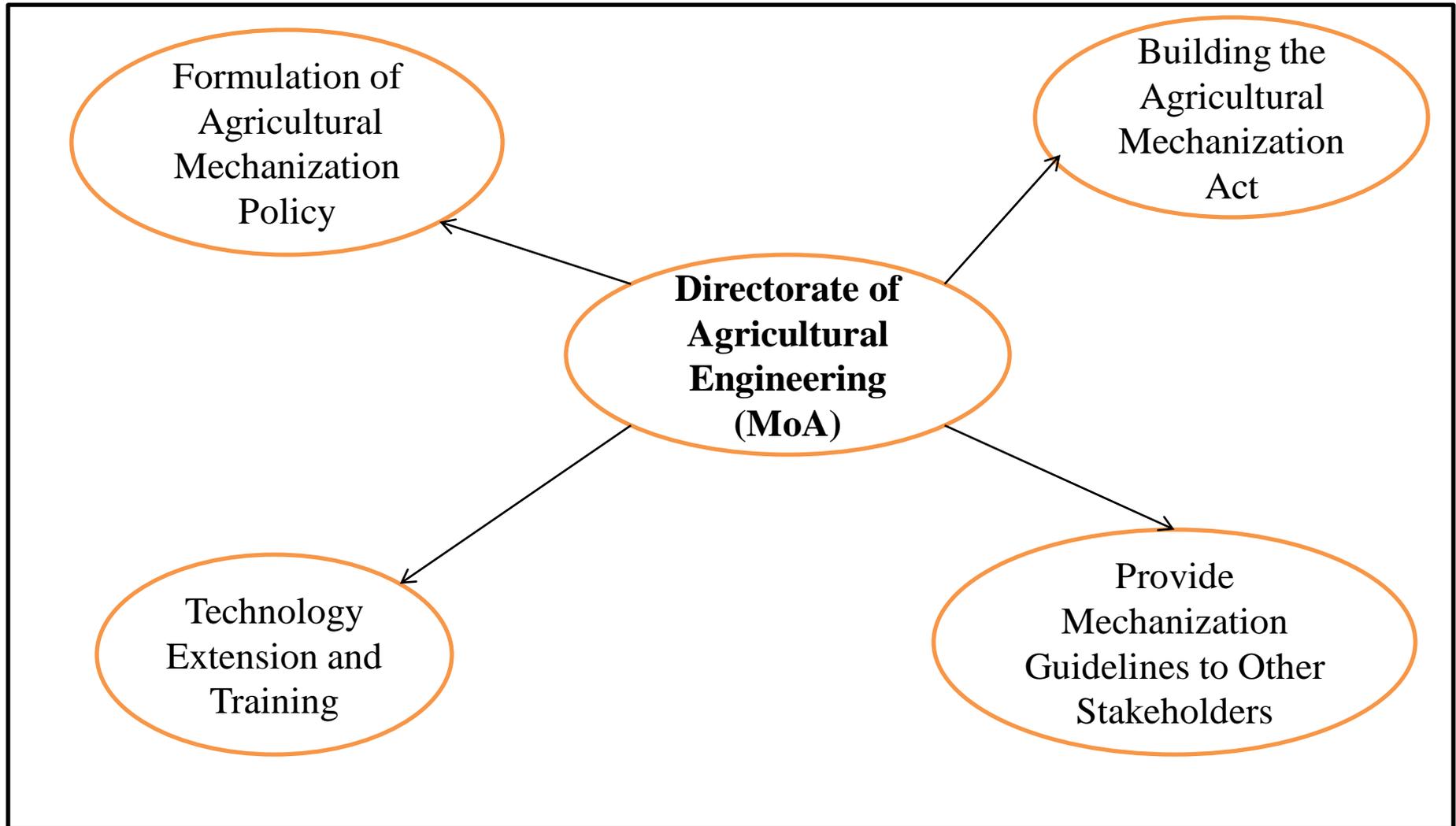
# Role of Stakeholders for Agricultural Mechanization



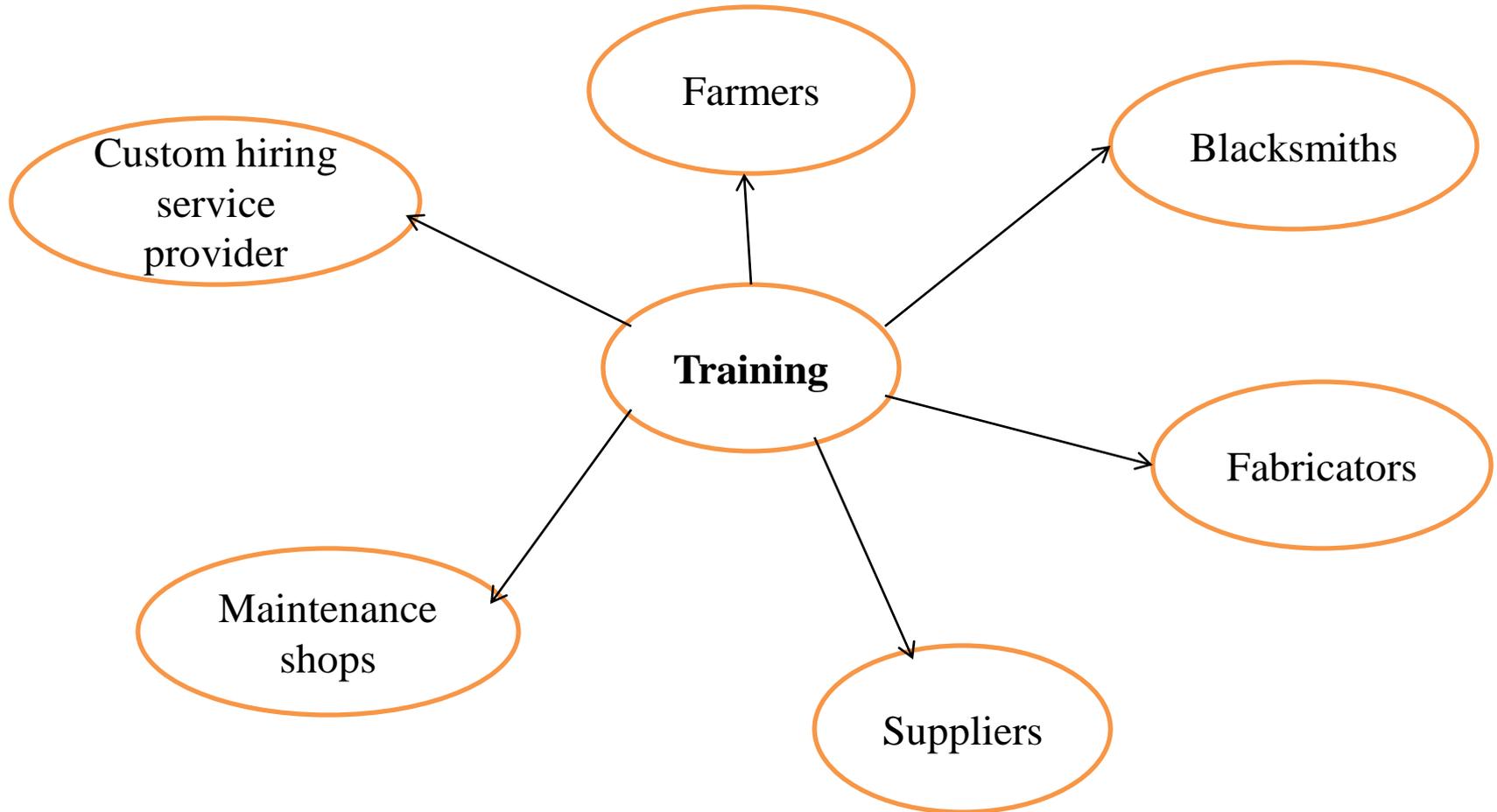
# Role of Stakeholders for Agricultural Mechanization



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# Role of Stakeholders for Agricultural Mechanization



# **Suggestion for Regional Cooperation for Agricultural Mechanization in Nepal**

- **Bust up the Capacity of Academic Institutions Providing the Training to the Human Resources**
- **Scholarship to the Faculty Members and Students Should be Provided by Regional Cooperation**
- **Bust up the Capacity of Academic and Research Institutions Providing Laboratory Facilities and Fund**
- **Research exchange program should be established With regional cooperation and Academic and Research institutions of Nepal**

*Sustainable Agricultural Mechanization is not Possible With a Single Stakeholder; Therefore, Mutual Cooperation is Necessary of all the Stakeholders and Regional Cooperators to Solve the Problem Faced in Agricultural Mechanization in Nepal*

**THANK YOU**