

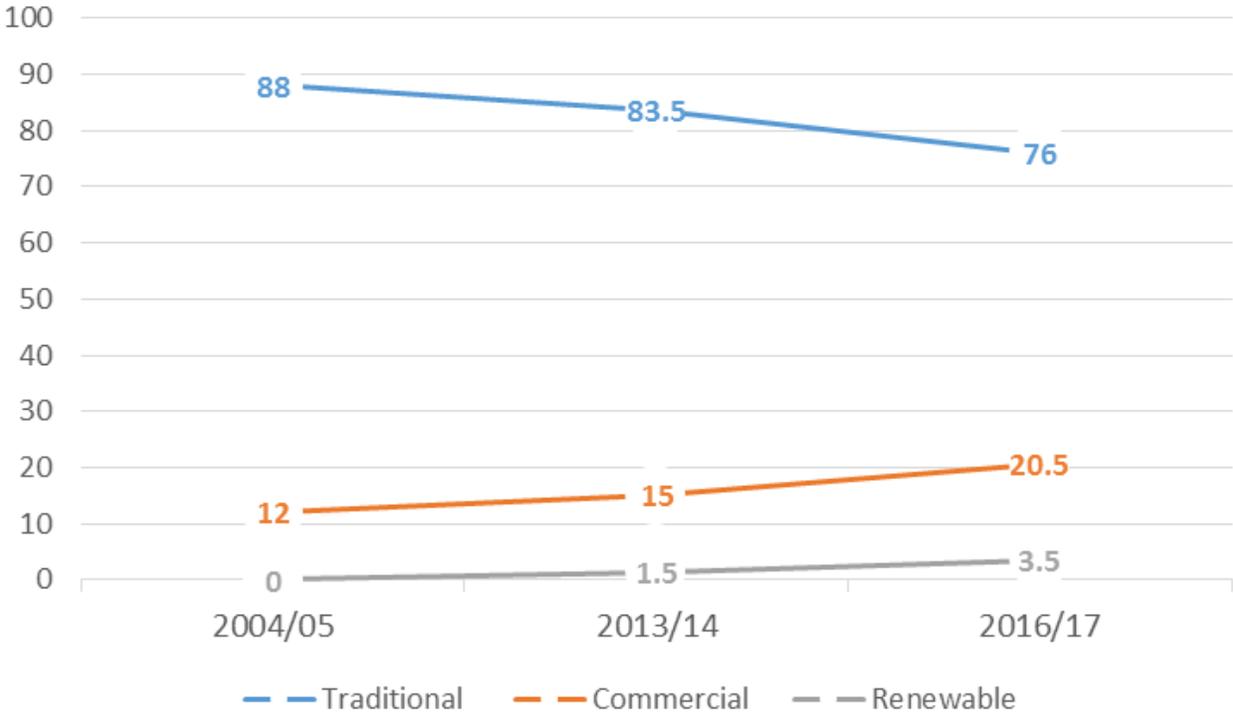
# Renewable Energy Applications for End-Use Sectors in Nepal

Ram Prasad Dhital

Renewable Energy Professional

Former Executive Director, AEPC Nepal

# NEPAL'S ENERGY MIX IS GETTING CLEANER



Sources: MoF (2016/17)

Traditional: Fuel wood, Agro- residue, Animal Residue

Commercial: Petroleum, Coal, Grid Electricity

Renewable: Solar, MH, Bio-gas, Wind etc.

**85% of HHs have electricity access including 18% through RETs**

## RENEWABLE ENERGY AND END USE PROMOTION IN NEPAL

- **Main objectives**

- Improve the living standard of rural people by creating income generating and employment opportunities.
- Reduce dependency on traditional energy
- Attain sustainable development RETs in rural areas and
- Enhance financial sustainability of RE schemes

## MAJOR INTERVENTIONS

1

- Enhance Capacities of existing MSMEs

2

- Establish and operationalize new/ innovative M/SMEs in rural areas

3

- Avail appropriate business development services to M/SMEs in RE catchments areas

## STRATEGIES FOR END USE PROMOTION

- Promotion of MSMEs with RE consumption;
- MSMEs as source of income and employment
- Value addition to local resources as well as indigenous skills;
- Entrepreneurship and skill development trainings and coaching for entrepreneurs;
- Linkages with market, financial services and other business development services;
- Synergy with existing projects, programs and relevant stakeholders;
- Development of economic clusters around larger plants.

## APPROACHES FOR ENDUES PROMOTION

### Business As Usual Approach

- Spontaneous demands after installation of RETs

### Business Development Approach

- Market driven and with growth potential

### New and Innovative Business Development Approach

- Adaptive research for piloting new and innovative ideas (technology and approach)

### RETs for Enterprise Approach

- Demand for RETs to establish/upgrade enterprises

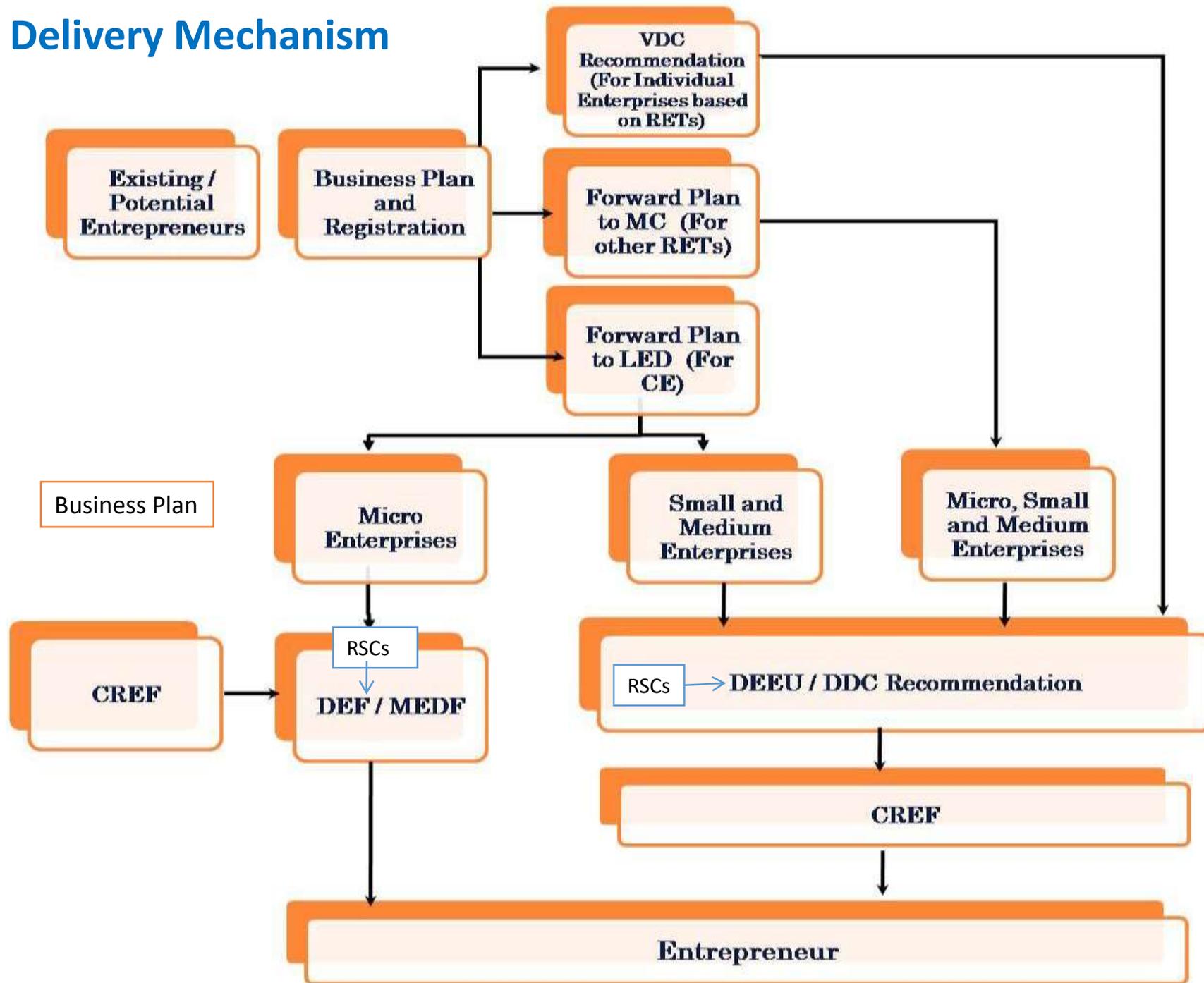
## WORKING AREA AND TECHNICAL SUPPORT

- Locations- Projects areas of Micro/ Mini Hydro Power, solar mini-grid, wind and waste to energy projects
- **Business Development**
  - Business Opportunity Assessment
  - Facilitation for business plan
  - Facilitation for business registration
  - Networking with business development service providers
  - Training
    - Business Orientation/sensitization
    - Enterprise Creation Training
    - Business Management Training
    - Skill Development Training
- **Facilitation for Marketing and Market Linkage**
- **Regular Follow-up and Monitoring**

## GOVERNMENT FINANCIAL SUPPORT

- Maximum subsidy amount of up to 40% of total investment in hardware, equipments and not exceeding US\$1000/ for micro enterprises
- Maximum subsidy amount of up to 30% of total investment in hardware, equipments and not exceeding US\$3000/ for small and medium sized enterprises
- Maximum subsidy amount of up to 50% of total investment cost and not exceeding US\$3000/ MHPs as an enterprise
- Maximum subsidy amount of up to 60% of total investment cost and not exceeding US\$10000/ for lift irrigation project in MHP catchment areas
- Additional subsidy of up to 10% not exceeding US\$100/<sup>8</sup> for targeted beneficiary groups

# Delivery Mechanism





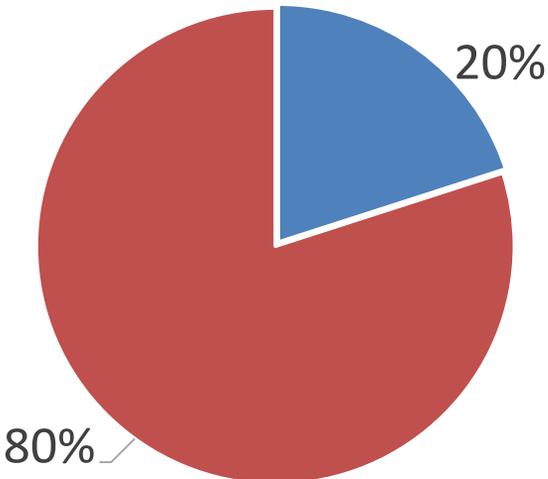
- **MSMEs – 1,163**
- **(353 MSMEs are in pipelines)**

**IGAs – 3,151**  
**(3,112 IGAs are in pipelines )**

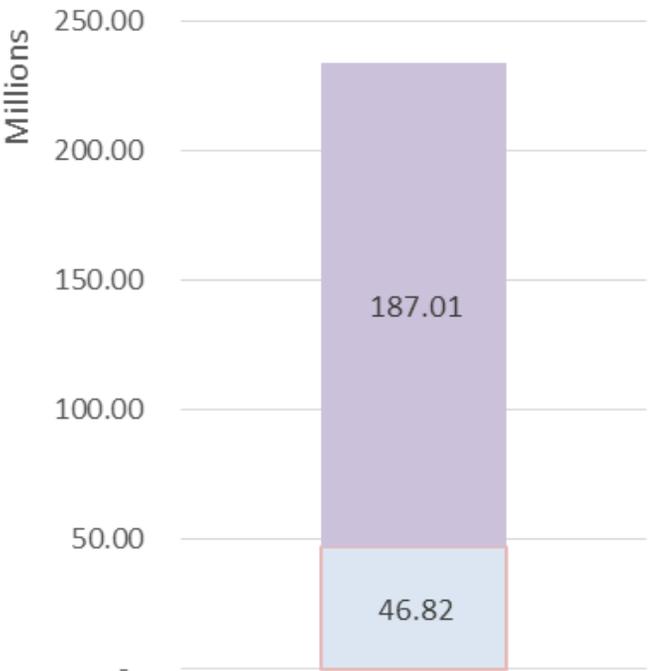


**: 4,483**

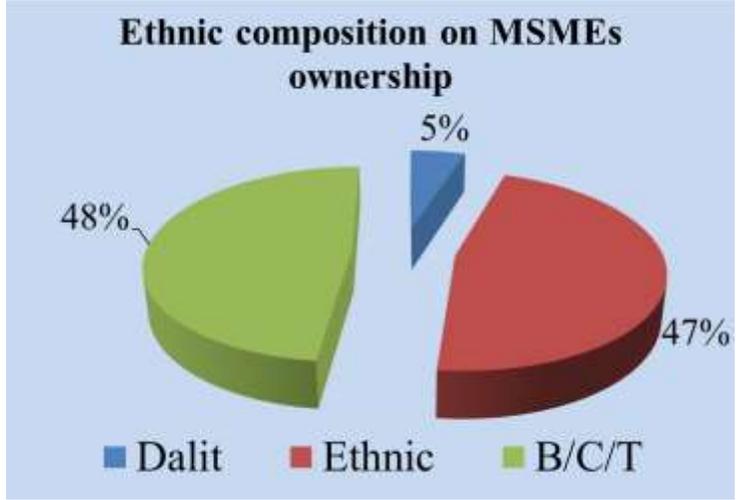
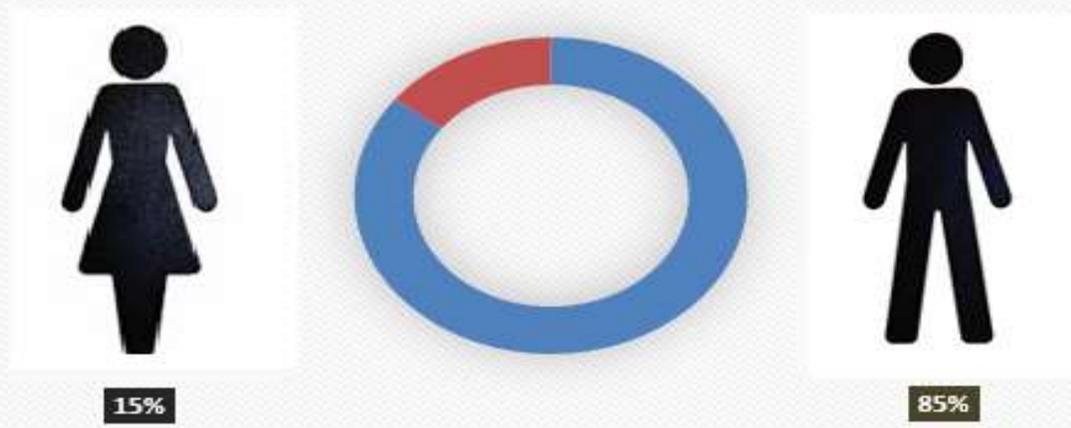
# Investment Subsidy Ratio for MSMEs



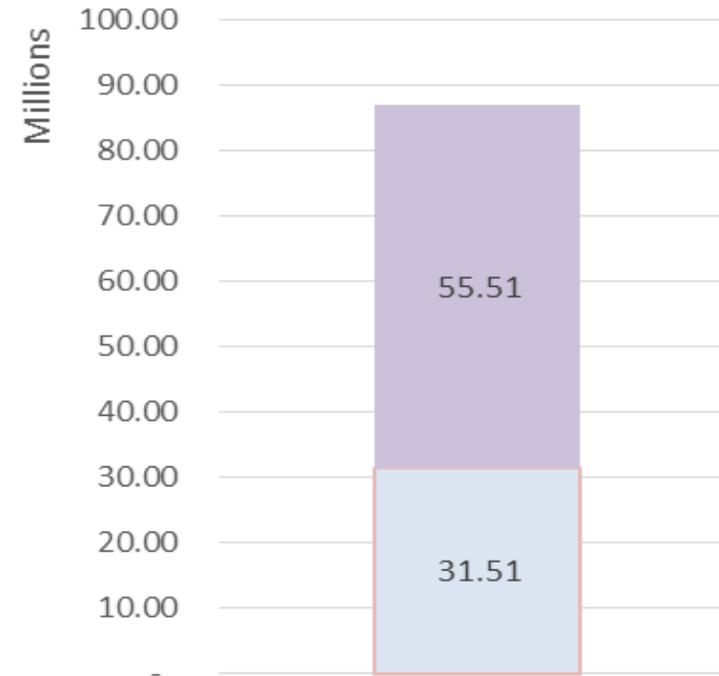
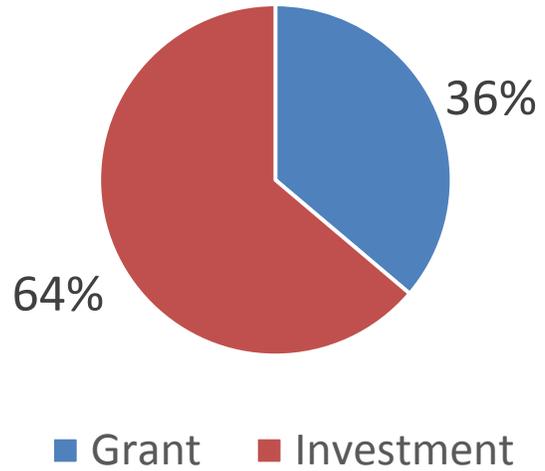
■ Subsidy + Additional subsidy ■ Investment



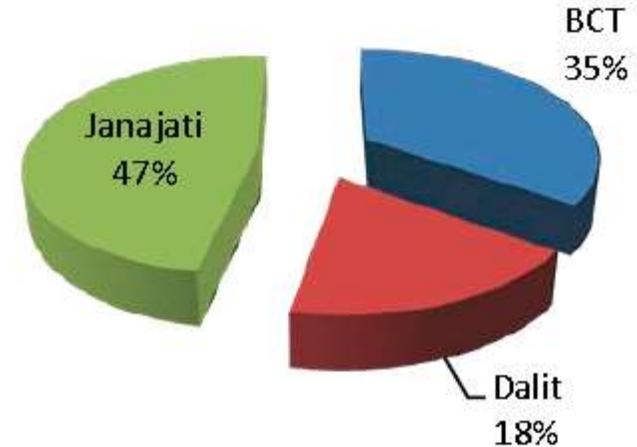
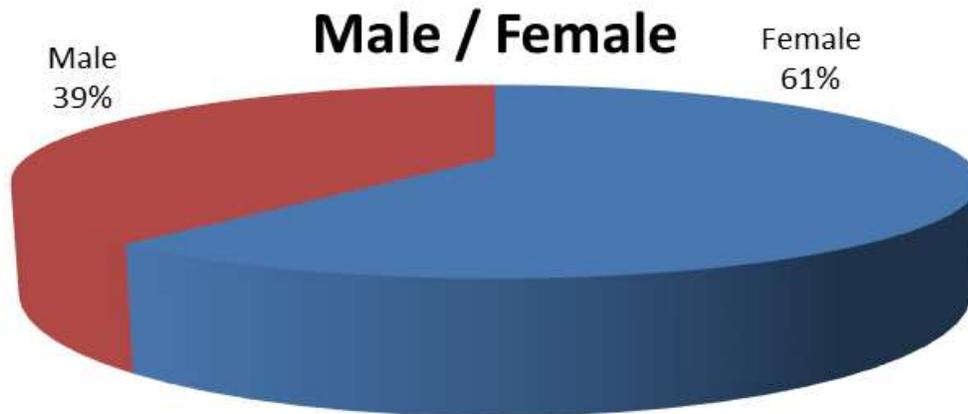
## MALE / FEMALE RATIO IN MSMEs

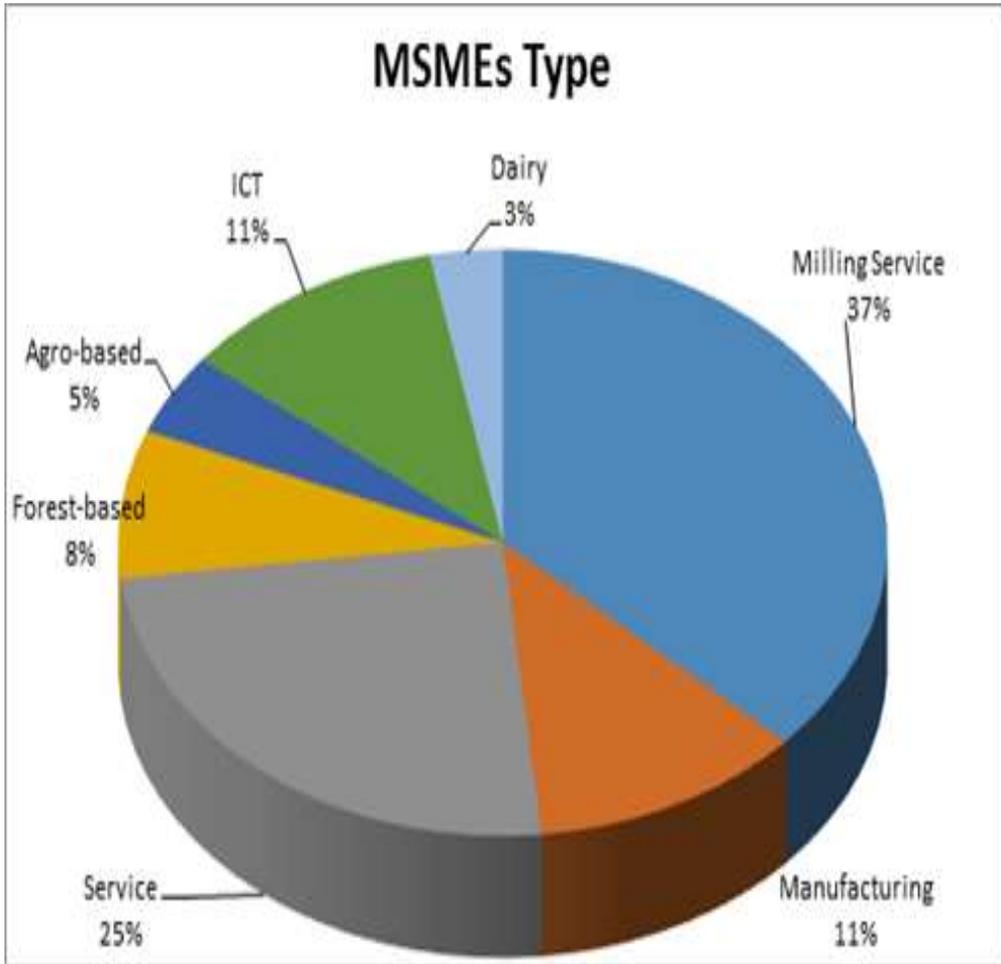


## Investment Grant Ratio for IGAs



## Ethnicity of IGA HH





- Forest Based

- Furniture, Lokta, Essential oil
- Agro Based

- Masala, Coffee, Tea
- ICT

- Computer and FM
- Dairy

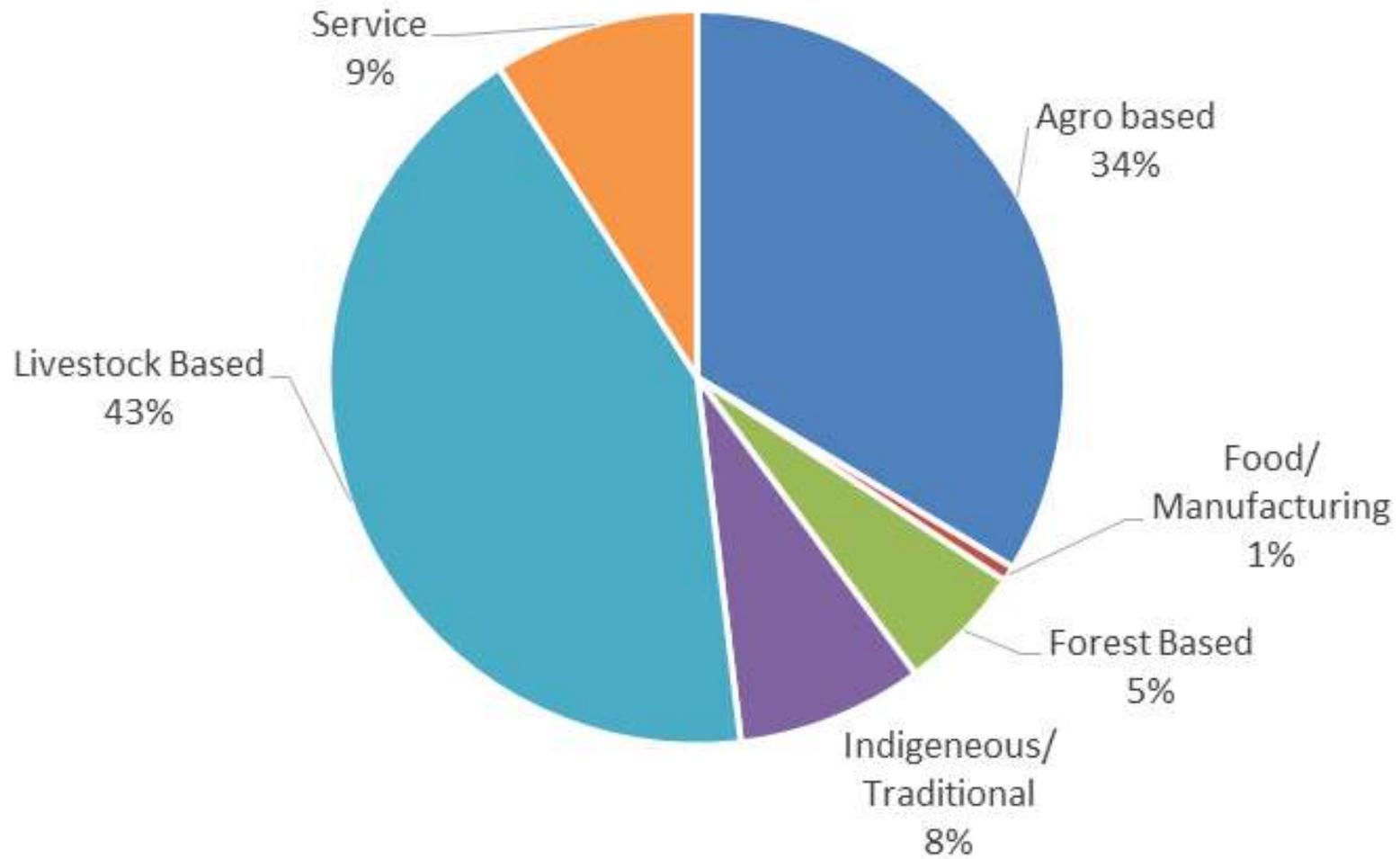
- All dairy product like cheese making, Churpi, Chilling center
- Service

- Tailoring, Fresh house, Poultry, Photocopy, Money Transfer , Offset Press, Dairy
- Milling Service

- Hulling, Grinding and Expelling
- Manufacturing

- Bakery, Stone, Aaran, Grill, Block, Chowmein

## IGA by Category



# Key Lessons and Actions

- Not reliable supply of power from MHPs
- Remote area and lack of business services
- Lack of financial services for business promotion
- Registration of enterprises
- High target Vs. not adequate human resources
- Not proper coordination among the programme
- Support in Policy Change
  - MHPs are connected to grid
- Performance based support
- Strong Technical Assistance
  - Capacity development at all levels
- RE project
  - as an enterprise
  - For enterprise

Demonstration



Expansion



Mainstreaming



Upscaling

# Introduction Innovative Technologies



Electrical Lokta Boiler Machine

# Introduction Innovative Technologies



**Electrical Khuwa Making Machine**

# Micro Hydro Operated Lift Irrigation System



Thank you very much for listening to me.

For further information;

Ram Prasad Dhital

RE Expert, Nepal

Phone: +9779851076006

Skype: ramdhital

Email: [rpdhital@yahoo.com](mailto:rpdhital@yahoo.com)