



WEBINAR : WOMEN FARMERS AND SUSTAINABLE MECHANIZATION: IMPROVING LIVES AND LIVELIHOODS

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March 5, 2021

Background

Agricultural Sector in general

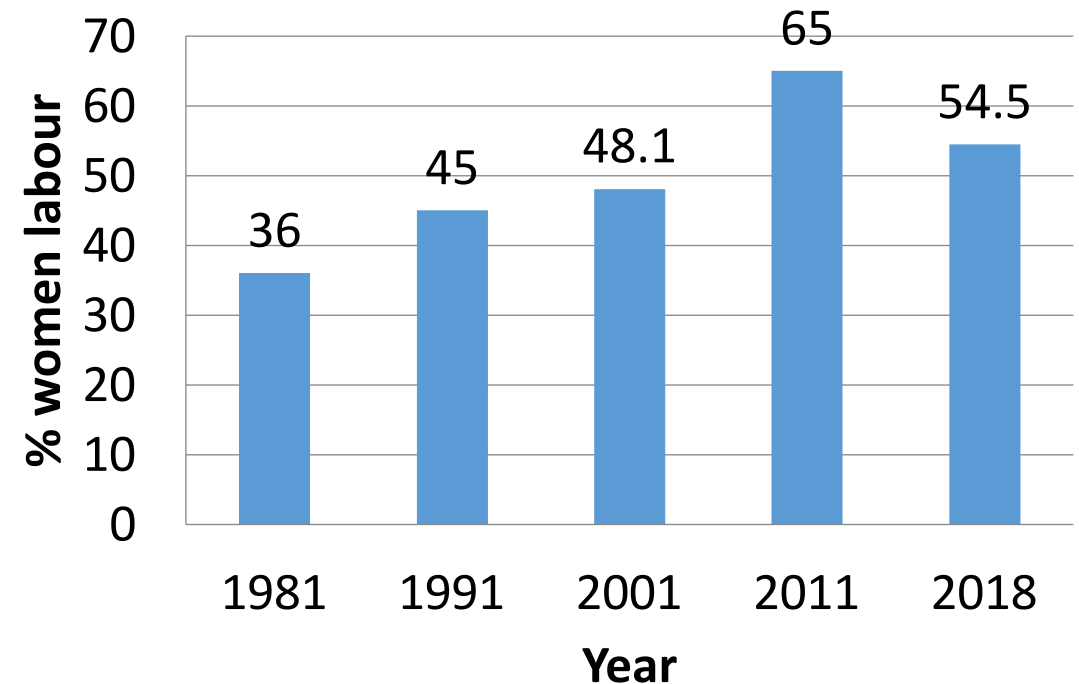
- Agricultural Land is 2.363 million Ha. but characterized by **Low land productivity** (subsistence farming)
- **Diverse agro-ecology, capable of producing various agricultural crops.**
- More than **60% of the population's main occupation**
- **Out migration of men leading to feminization of agriculture leading at times to disturbances in social harmony also (divorce and conflict)**
- Male population (49.6%) 14,519,111; female population(50.39%)14,753,096



Mechanization as an opportunity

- **Increases labour productivity** (timeliness of operations) and saves time.
- Enables **efficient utilization of agri-inputs**-seeds, fertilizers, etc.
- **Reduces drudgery of women due to high workload**
 - On average, **female works 16.3 hours** more in non-economic works whereas male labor is paid works for **7.4 hours** more than female (CBS, 2016).
- **Women need to be technically backstopped.**

Women's participation in agriculture labour force, %



Source: CBS,MOAD

Status of Agricultural Mechanization- Focus on the Hills

Hills

- **Mechanization started only in 2000s** but spreading fast since 2015 with **Approx. 5% area mechanized in Hills.**

Land Preparation/Tillage

- Mini tillers are popular in Hills due to small size and weight. Approximately **50,000 minitiller** (sold in Nepal) with **90% (45,000)** minitiller adopted in Hills and mountain.

Planting/Seeding

- **Minitiller attach puddling wheels** is popular in hill for puddling land.

Harvesting Technology

In Terai - Brush cutter, reapers, combine harvester are spreading **but can they spread to the hills?**



Subsidy Policy and Program

- In 2014 government initiated implementation of subsidy schemes with focus on small-scale appropriate machinery and attachments
- Average of 50% subsidy is provided to 4-wheel tractor attachments, power tillers mini-tillers, and their attachments.
- Providing limited amount of flat subsidy on agricultural machinery may distort the market and under privileged groups of farmers will have difficulty in accessing government subsidy.
- Women's interest for subsidy for machinery is high but obstacle for access to subsidy programs due lack of land ownership document.
- Gradually subsidy for larger machineries introduced like combine harvester, laser land leveler.

Agriculture Development Strategy(ADS)

- 20-year strategy of agricultural development document (2015-2035).
- Strongly recognized the need for promotion of agricultural mechanization for the commercialization and development of competitive agriculture.
- The importance of integrating GESI provision has been recognized throughout the ADS process.
- Improvements in the landownership by women from 16 percent to 50 percent during 2015-2035 .
- Silent on quantifying either the proportion of the women in the agricultural research or technology cadre.

Agricultural Mechanization Promotion Policy, 2071 (2014)

Main Objectives

- To increase productivity as per the economic and geographical need in order to develop the sustainable, competitive and commercial agriculture sector
- To develop the services and business of agriculture machineries through coordination among the government, private sectors and cooperatives
- To identify and promote women and environment friendly agriculture machineries. (encouraging the use of tools to reduce the workload of women, empowerment, and design, adopt appropriate machinery etc..)
- To establish and strengthen the organizational structure of quality standardization, regulation, monitoring and promotion of agriculture machineries for agricultural mechanization.

Agricultural Mechanization Promotion Operational Strategy (AMP-OS under approval)

Targets set for raising the level of Agricultural Mechanization

Indicators and unit	Short-term (2016-2019)	Medium-term (2022)	Long-term (2025)	Current status
% of AM	50	60	70	40% Terai-61%, Mid-hill 15%, mountains-2%)
Power use in Kw/Ha (Mechanical)	0.74	0.85	1.19	0.67

NARC develop women friendly technologies

Help to reduce women's' drudgery in agriculture sector.

Agricultural technology and machinery

- Zero minimum tillage technology
- Rice weeder
- Pedal paddy thresher for wheat thresher
- Manual corn sheller
- Water management technology for early rice and wheat
- Low cost solar dryer
- Improved cardamom dryer
- Improved plastic house for off-season vegetable cultivation
- Jab seeder/planter

Gender Responsive Budget

- The government of Nepal has institutionalized of GRB system in all government mechanism.
- Introduced a GRB system in the financial year 2007/2008 in Nepal(MOF).
- Increased GRB from **11.09 percent to 37.42 percent** in **twelve years** from 2007/2008 (*Source:MOALD, 2018*).
- The GRB in agriculture is oriented primarily towards the livelihood support in the areas of:
 - food security
 - income generation and
 - marketing

Strategies for Reducing drudgery of women farmers in hills

Mechanization technologies for various crops (cereals, vegetables and fruits)

Cultivation	Power tiller and mini tiller
Sowing -	Power tiller with seed drill, seeder, potato planter, maize planter (jab seeder).
Mechanized irrigation	Diesel, petrol pump, solar pump, electric pump and papa pump.
Inter-culture operation	Power weeder, cono weeder
Insecticide/pesticide operation	Battery sprayer, power sprayer
Harvesting	Power tiller reaper, mini tiller reaper, brush cutter, serrated sickle
Threshing	Small size thresher, maize and millet thresher (Millet thresher reduced women farmer's workload in threshing and pearling millet about 65-85%.)
Postharvest and Processing	Utilization of Godown, Rice, wheat, maize, Combine mill, grader, cleaner, solar dryer.

Government role in women friendly mechanization

- Effective Implement of **women friendly policies**
- Scale up NARC developed drudgery reducing technology.
- **Priority of local manufacturing** women friendly machineries.
- Subsidize machineries on **women centered mechanization** program.
- **Budget allocation** for mechanization technology innovation
- Easy access and availability of **Credit facility** without collateral.
- **Empowerment of women** through capacity building.
- **Recruitment of women Engineers** in research and extension.
- **Internship provision** of women Engineer in research and extension.
- **Survey/study/statistics/design** for extension on woman mechanization

Ways Forward

Policy level

- Scale appropriate machineries that are locally manufactured through direct subsidy to promote hill mechanization
- **Encourage entrepreneurship development and increase access** through custom hiring along with development of **mobile apps** for custom hiring.
- Training program for scale appropriate mechanization
- Priority in research and design of location specific women friendly machineries

Program level

- Expanding Women Farmers' Groups and promote women as active entrepreneurs and managers in machineries technology.
- Provide Regular budget and support program to increase woman in mechanization along with targeted capacity building
- Provide Regular budget in subsidy for women CHC for mechanization along with improving Credit flow

Thank you

