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Agricultural Mechanization



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Gender Mainstreaming in Sustainable Agricultural Mechanization

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Empowering Vietnamese Woman in adopting Agricultural Mechanization

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Vietnam Country Context

Population

- Total population: 99 Million people
- 60% living in rural areas, 40% in urban areas
- 50.6% are woman, 49.4% are man
- 14% are agricultural workers (woman: 49%, man: 51%)

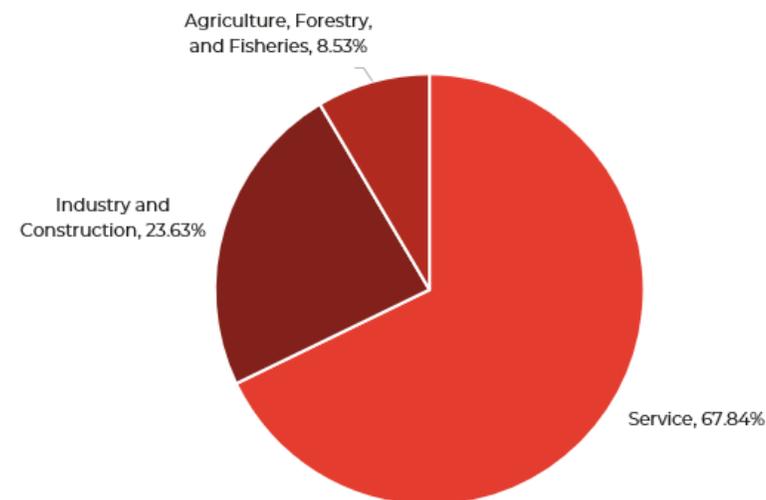
GDP

- Total GDP in 2022: \$409 Billion
- GDP per capita in 2022: \$4,086
- GDP growth rate in 2022: 8%

Agricultural sectors overview:

- Agricultural sectors: 8.53% of GDP.
- Main exports are walnuts, coffee, and rice.
- Rice exports: The 3rd world largest rice exporter (7.05 million tons in 2022)
- Previously: low value. Now: high standard food products thanks to mechanization

Proportions of Contribution to Vietnam's GDP Growth in Q2 2023 by Sectors



Source: General Statistics Office of Vietnam

Vietnam Agricultural Mechanization Status

- **Statistics:**

- 7,800 mechanical enterprises
- 270 scientific research organizations
- 539,000 mechanical workers.

- **All phases of agriculture (tilling, fertilization, irrigation, harvesting, and post-harvest) have been mechanized. High mechanized fields:**

- Crop production: 70 to 100% (includes the use of tractors, trucks, combine harvesters, countless types of farm implements, drone, and other vehicles)
- Livestock: 55 to 90%.
- Aquaculture: 70-90% (Aerators, water temperature monitors, harvesters, and pond infrastructure machines are widely used)



Gender gap in Agriculture

Issues	Man	Woman
<input type="checkbox"/> Agricultural Labor Force	<input type="checkbox"/> 7.1 million men	<input type="checkbox"/> 7 million women
<input type="checkbox"/> Roles	<input type="checkbox"/> heavy work (tillage, harvest, post-harvest jobs, transportation etc.)	<input type="checkbox"/> informal works, planting, seeds, weeding, fertilizing, caring for crops, harvesting, animal husbandry
<input type="checkbox"/> Right to make decisions in farming	<input type="checkbox"/> 95% of men	<input type="checkbox"/> 5% of women
<input type="checkbox"/> Benefit received	<input type="checkbox"/> the ownership of agricultural land, receipt of loans for production development	<input type="checkbox"/> limited land property rights and less access to agricultural extension services and credit than men
<input type="checkbox"/> Participation rate on agricultural extension program	<input type="checkbox"/> 90% of men	<input type="checkbox"/> 10% of women

Gender Gap in Agricultural Mechanization

(Rice production)

	Previous	Present
Ploughing/tillage	<ul style="list-style-type: none"> Done by men and used buffalos 	<ul style="list-style-type: none"> Men's work with the machines on large land plots
Rice planting	<ul style="list-style-type: none"> Primarily done by women (women helped each other mutually). Men helped with carrying rice seedlings to the farms by bikes or loads 	<ul style="list-style-type: none"> Women are still the doers but it saves time because ploughing machines are used so the transplanting must be done quickly Men help with carrying rice seedlings to the farms by using machines
Spraying pesticide	<ul style="list-style-type: none"> Primarily done by men 	<ul style="list-style-type: none"> Women can do it using machines
Weeding	<ul style="list-style-type: none"> Done by women 	<ul style="list-style-type: none"> Done by women
Harvesting	<ul style="list-style-type: none"> Done by both men and women 	<ul style="list-style-type: none"> Done by both men and women. They use harvesting machines in large-area fields
Carrying rice home	<ul style="list-style-type: none"> Mainly done by men. It was a heavy task because farmers had to carry on bikes or loads 	<ul style="list-style-type: none"> Done by men. Hire a tractor or use a ploughing machine to carry home
Rice plucking	<ul style="list-style-type: none"> Use simple machine controlled by foot 	<ul style="list-style-type: none"> Use rice-plucking machine

Women in Agricultural Mechanization

Where does Vietnam stand?

Vietnam woman farmer

- Labor force: 7 million
- Their responsibilities: house works, family care, taking the main responsibility for the caring tasks like weeding and fertilizing.
- Their jobs on farm: involved at every stage and most of the agricultural activities from the land preparation and planting to taking care of crops by weeding, fertilizing, harvesting and processing products. Women take the main care of animal husbandry in the family as well

The level of woman on-farm mechanization

- 70% of smallholder woman farmers relying on hand labor
- 30% using draft animals
- 2% using tractor power
- 95% of women in rural areas using very basic techniques and non-mechanized

Barriers for Woman to adopt Agricultural Mechanization

No specific directions, requirements or guidelines on gender mainstreaming in agriculture resulting in low adoption of mechanization;

Lack of financial services and collaterals to access machines and equipment;

Social norms that put women to low-skilled and time-consuming tasks;

Their limited participation in local groups, organizations and networks with access to mechanization services;

Difficulty in communicating with machinery dealers, sales- and service agents;

Limited participation in field demonstrations and testing of the machines at farm level;

Poor access to information and training on the safe operation and maintenance of powered machines;

Some machines not suitable for women farmers because machines are big and heavy

Case Story: Ms. Lanh and her dream for a great farm



Picture of Ms. Lanh – taken in 2022

- 15 years ago, she had a farm of only 1 hectare in Thai Binh Province and produced rice with traditional methods where all operations (seeding, cultivation, harvesting, etc.) are done manually.
- 2008, she bought: grain threshing machine, tractors and combined harvested machine to do on her own farm and provided with other farmers with agricultural mechanization service in rice production. The hiring service was low and did not afford the investment cost.
- In 2014, she decided to rent more land to widen her farm with just above machines. By buying more machines, she was able to increase the farm size to 200 hectares. She kept provides with other farmers with services of rice threshing, plowing and soil preparation as not all famers can afford to buy machines for rice production.

Case Story: Ms. Lanh and her dream for a great farm



- In 2022 till now, she's had three tractors, 01 combined harvested machine, 02 drones T10 and T20 for fertilization, 02 rice-picking machine. With this drone, she can give pesticide for a field of 50 hectares at the same time.
- Besides, Ms. Lanh has also bought a grain drying machine and invested in a warehouse for rice storage to ensure that the price of rice is not under value.

How we empower Women to adopt Agricultural Mechanization

AT MACRO LEVEL

1. Governments need to review to reform policies and programmes related to agricultural mechanization that women can benefit.
2. Hold awareness-raising sessions on gender and social issues around mechanization at national and local levels.
3. To create favorable credit policies and financial programs for women to buy agricultural machines.

How we empower Women to adopt Agricultural Mechanization

AT MESO LEVEL

1. Carry out a gender-responsive mechanization assessment to identify local mechanization needs and opportunities.
2. Agricultural machines need to be designed in a manner that is suitable for women farmers' body size, physical strength.
3. Organize training workshops and practice cultivation techniques and pest control on farm sites.
4. Separate training groups for men and women: women can attend trainings without facing social barriers.
5. Organize training on business development skills, machinery operation, maintenance and repair.

How we empower Women to adopt Agricultural Mechanization

AT MICRO LEVEL

1. Women need to confidently join groups and clubs to connect and receive information to have the opportunity to access new agricultural machines to improve the productivity and quality of agricultural products.
2. Men can be a great agent for change and empowerment for woman and driving force in changing their role (from a household role to a role in a community)

Conclusions

There is still a significant gap between men and woman in adopting Agricultural Mechanization in Vietnam.

So, gender equality in agriculture is an ongoing journey. As a member of Vietnam Agricultural Mechanization Association, we will continue to prioritize it across our research and implementation.



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Thank you



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