



Empowering Women in Brazilian Family Farming Agriculture: Mechanisation, Challenges, and Progress

By ROOTS

Brazil holds a prominent position in global agriculture, characterised by two distinct forms of production: agribusiness and family farming. Family farming, where family members comprise more than half of the workforce, spans 80.9 million hectares, or 23% of Brazil's agricultural land [1]. This sector particularly proficient in producing staple crops like maize, cassava, and rice, significantly boosts local economies, supplies healthy food to the domestic market, and manages environmental resources sustainably.

Mechanisation is essential for efficient farming and technological advancement in agriculture. However, in family farming, the level of mechanisation remains low. While mechanised farming is more common in certain regions, manual labour predominates in others, particularly in the Northeast, where the mechanisation rate in family farming is only 1.68% for men and 0.53% for women, with just 2.3% of small producers utilising



mechanised equipment [2]. This region hosts roughly half of Brazil's farms, mostly small-scale operations covering under 12 acres (5 hectares) [3].

Presence of machinery (tractor and combine harvester) in family farming				
Country	Region	Gender	% of Gender	Mechanisation Rate
Brazil	Central-west	Men	83%	16.57%
		Women	17%	8.65%
	North	Men	80%	3.46%
		Women	20%	1.54%
	Northeast	Men	76%	1.68%
		Women	24%	0.53%
	South	Men	90%	48.28%
		Women	10%	21.97%
	Southeast	Men	86%	19.85%
		Women	14%	9.51%

Source: IBGE - 2017 Agricultural Census

The Role of Women in Agriculture in the Global South

Women play a vital role in global food production, comprising 20% of the workforce in Latin America and the Caribbean, and over 50% in Africa [4]. According to the Food and Agriculture Organization (FAO), there are currently 60 million women employed in agriculture across Latin America and the Caribbean, holding a crucial position in food production and distribution [5]. Within the region, they are accountable for generating 60% to 80% of the food consumed [6]. Women's participation in agriculture has helped eliminate prejudice, improve family life and social status, and promote agricultural development. Despite their significant contributions, women have often been overlooked in historical narratives, where men have been dominating the spotlight of human progress. Fortunately, women's grassroots organisation



and societal shifts have brought women to the forefront across various spheres, underscoring the significance of acknowledging their role in the rural workforce.

The Changing Landscape in Brazil

Traditionally, the Brazilian agricultural sector has been male-dominated, marginalising women due to the sexual division of labour and entrenched chauvinistic attitudes. Yet, there's a noticeable shift occurring, the presence of women in agriculture has increased and expanded significantly, with roles ranging from operating machinery to overseeing business operations. Women have transcended their traditional domestic roles and are playing a pivotal part in small family farms. In addition, statistics from the Brazilian Institute of Geography and Statistics (IBGE) indicate that approximately 1 million women manage agricultural properties, constituting 20% of all rural establishments, as per the 2017 Agricultural Centre data. This represents a notable growth of 38% compared to the 2006 Census [7].

China and Brazil collaborate on agricultural mechanisation

To enhance the agricultural productivity and living standards of small family farming, especially female peasants, China and Brazil have [initiated](#) a cooperative project on agricultural mechanisation. Since September 2021, China Agricultural University (CAU) and the International Association for Popular Cooperation (IAPC) have been actively collaborating with the Northeast Consortium in Brazil, which has shown great interest in Chinese small-scale agricultural machinery.

It's noteworthy that CAU passionately supports female peasants joining the China-Brazil mechanisation project which actually stems from its legacy of nurturing China's first female tractor driver - Liang Jun.

Born into a poor family in Heilongjiang Province, China, Liang Jun joined the Bei'an Tractor Driver's Training Course in 1948 as the only female trainee. As China's pioneering female tractor driver, Liang Jun was the model for the third series of RMB one-yuan banknotes and she inspired countless Chinese women.



In 1949, women made up only 7.5% of urban workers in China. By 2018, they comprised 43.7% of the workforce, truly realising that “women can hold up half the sky”[8].



The third series of RMB one-yuan banknotes

CAU brings Liang Jun’s pioneering spirit to Brazil as well. During CAU Prof. Yang Minli's first visit to Rio Grande do Norte on July 15, 2023, she gifted a symbolic painting of Liang Jun to the Rural Labour Union. This gesture symbolised the shared inspiration and connection between women in China and Brazil.



On July 15, 2023, during the visit to Apodi, Brazil, the Chinese delegation gifted a symbolic painting of Liang Jun to their Brazilian female counterparts at the Rural Labour Union.

In September 2022, the Brazilian Northeast Consortium, along with CAU, the China Association of Agricultural Machinery Manufacturers (CAAMM), and IAPC, signed a Memorandum of Understanding (MOU) to cooperate on agricultural mechanisation and agro-energy [9].

As the cooperation progressed, 31 pieces of machines from seven Chinese agricultural machinery companies arrived in northeast Brazil at the end of January 2024, marking a pivotal moment in the agricultural machinery demonstration unit project. A team of Chinese [engineers](#) provided professional trainings to Brazilian peasants on the installation and operation of the machines and adapted the equipment to suit local crops, thereby better meeting local needs and supporting agricultural development [10]. The cooperation culminated with the launch of the China-Brazil Agricultural Machinery Demonstration Unit on February 2nd, drawing over 1,000 attendees at Lake Apodi.



Interview Insights from Apodi

The Ministry of Agrarian Development of Brazil (MDA) visited Apodi in Rio Grande do Norte to oversee the testing of Chinese small-sized machinery aimed at enhancing productivity and supporting the Brazilian domestic family farming sector. Local peasants Camile Ingrid and Jaleska Lima, both daughters of family peasants in rural communities, have endorsed the machines. For more details, please refer to their [interviews](#) [11].

ROOTS also interviewed female participants of the China-Brazil demonstration farm training to understand how machinery impacts female peasants' expectations, experiences, and lives. Ivone Brilhante was trained with Huilaibao (also known as HUili) tractors during the Federal Institute of Rio Grande do Norte (IFRN-Apodi) training week, now the president of Rural Workers' Union of Apodi (STTR-Apodi), shared her insights.



Camile Ingrid harvesting rice in the field to test the Sifang harvester.



Jaleska Lima practising the Sifang tractor driving after her training.



Ivone Brilhante driving the Huilaibao (also known as Huili) tractor to the opening ceremony of the China-Brazil Agricultural Machinery Demonstration Unit at Lake Apodi.



1. Mechanisation's Influence on Women's Economic Empowerment

The empowerment of women in contemporary agriculture signifies a revolution. In a rural community in Brazil, women are breaking barriers in agriculture, challenging traditional gender roles, and advocating for gender equality in training and access to resources. Women not only make substantial contributions to global food production but also bring valuable traditional knowledge, especially in crop selection. Participating in machinery training programs for family farming has been significant for women in Apodi, offering empowerment and opportunities for economic independence.

2. Land and Labour Productivity Changes from Mechanisation

Mechanisation brings about tremendous changes in family farming, notably in time-saving and enhanced productivity and efficiency. With the utilisation of small tractors and manageable machinery, women in agriculture can efficiently manage daily tasks in fields and backyards. This enables greater autonomy and independence for individuals, particularly women, who no longer need to rely on others for production. The resulting boost in self-esteem is invaluable, as women embrace their capabilities and demonstrate strength. Mechanisation not only enhances income but also empowers women by affording them more control over their working time and resources.

3. Female Views on Machinery Training

Women in Brazil have historically faced significant barriers in accessing agricultural training and mechanisation. Despite being equally capable, women often encounter resistance, skepticism and doubt from their male counterparts, leading to instances where their competence is questioned, and their abilities underestimated.

There's this assumption that some tasks requiring physical strength or handling heavy equipment are beyond women's abilities. This bias extends even to companies in the automotive and agricultural sectors, where female representation remains scarce due to perceived inadequacies.



Nevertheless, the inclusion of women in the training sessions tend to become increasingly prevalent nowadays in Apodi, challenging entrenched norms. Participating in machinery training for family farming has been vital and rewarding, marking a significant departure from what was once deemed impossible.

During the training session on Chinese agricultural machinery, these female trainees demonstrated their capabilities and determination, excelling in their training endeavours. After the training experiences, knowledge was shared with other participants, fostering empowerment and camaraderie within the settlement. Ivone emphasised the crucial role of women's inclusion in agricultural training programs and highlighted the positive impact of mechanisation on their daily lives.

The impact of the training on the women's lives has been transformative. Not only has it saved them time and increased their productivity, but it has also bolstered their self-esteem and asserted their autonomy and independence. Mechanisation has allowed them to cultivate their land more efficiently, small Chinese machinery enable them to mitigate the soil compaction and environmental damage caused by heavier machines, marking a pivotal gain for both agricultural productivity and the sustainability of their land.

4. Challenges

Reflecting on the experiences of female trainees in Apodi, broader issues of gender inequality were also discussed. These included discrepancies in access to credit and training opportunities, as well as instances of gender bias and discrimination during the training. Female trainees mentioned doubts were raised about their abilities and unequal treatment compared to their male counterparts, but together they created strategies and found support to overcome these challenges and establish practices of equality during training. Furthermore, disparities persist in access to credit from public policies, with women often receiving smaller loans compared to men.



Conclusion

Despite these challenges, the female trainees in Apodi remain optimistic about the future. They are determined to challenge stereotypes and advocate for equal opportunities in the agricultural sector. They believe their unwavering advocacy and continuous support from public policies will help bridge these gaps, enabling them to fully realise their potential as independent and successful peasants.

Actually, in general, women have also observed positive changes happening in public policies, with greater access to credit and recognition of their rights and heightened awareness of gender discrimination. This is a result of the processes of organisation and mobilisation of rural and peasant women workers in Brazil.

Numerous female peasants' stories serve as formidable testaments and sing of strength, a symphony of resilience. These women warriors, in agriculture's dance of defiance, display their determination to fight for equality. While acknowledging improvements in public policies targeting women, their voices rise, seeking further flight. They underscore the imperative for continued progress to secure gender equality across all aspects of agriculture. For in every furrow, in every seed's call, our women peasants only dream of a harvest where equality stands tall.

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