



Empowering women through mechanisation: Where are the opportunities?

So far, development projects in rural mechanisation have mainly addressed the productivity and profitability of smallholder farmers, with little attention paid to the involvement of women in the mechanisation value chain, not just as beneficiaries, but also as controllers or owners of machinery. Here, this article aims to act as a conversation starter.

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While interest is growing in Africa in research on mechanisation and especially on farmers' access to mechanisation services, less attention is given to occupations and entrepreneurship opportunities, particularly for women. In 2017, 68 per cent of the people in developing countries were engaged in agricultural activities, with women comprising an average 43 per cent of the agricultural labour force. But at 16 per cent (as of 2018), the proportion of women in the plant and machine operator and assembler profession remains very low, resulting from barriers such as negative stereotypes about the profession, short-sightedness or lack of awareness on the part of the industry and training providers regarding the needs of women and cultural beliefs of what a woman can or cannot do in society and in the economy. Hence there have never been projects or programmes aimed at training women in tractor operation, maintenance and management specifically to deal with this gap. Based on research done as part of a master's thesis looking at women tractor operators in Ghana, with this article, we would like to put more attention on agricultural mechanisation from a gender inclusive perspective, also looking at how women can help address some of the challenges faced by this industry.

First steps towards a mindset shift ...

Like in many other countries of the Global South, women constitute the bedrock of agriculture in Ghana. While forming just over half of the labour force in the sector, they produce 70 per cent of the country's food stock. In order to sustainably drive women participation and leadership in the operation of agricultural machinery, the Women in the Driving Seat (WiDS) project was established in 2018 (see Box on page 42). It provides five weeks of intensive training on both theory (20 %) and practice in field sessions (80 %). After the training, the trainees are placed with commercial farms to undergo four months of intensive workplace experience learning, which they would otherwise have found hard to acquire for gender reasons. And before the trainees exit the project, they are assisted in developing a business plan in tractor operation, a measure aimed at boosting their entrepreneurial drive so that they can start their own tractor business.

In 2018, the project had 60 places available and attracted 133 applications. A year later 120 young women were trained. It was surprising to have such a high number of applications, given that tractor operation is considered a male occupation. This was an indication that

when the opportunities are created with intent and purpose, young women are willing to take them even if they are in the fields dominated by men or considered unattractive for youth. The women in tractor operation, maintenance and management training has been the first of its kind in terms of the training design and implementation approach tailored for women. The outcome of the project to date has challenged the existing status quo hindering women participation in this male dominated profession and created a new political awareness and commitment to/ for women in tractor operation and gender-sensitive trainings.

Out of the 180 participants in 2018 and 2019, 60 per cent have found employment in various commercial farms, training institutions and agricultural mechanisation service enterprise centres etc. The project revealed that most men who saw or heard about the women tractor operators had different views. Some believed that women were there to complement their efforts on the farms whilst others thought it was an approach to create competition between men and women in tractor operation.

What opportunities have not yet been explored?

Many African countries, including Ghana, Nigeria, Rwanda and Ethiopia, have developed Agricultural Mechanisation Service Enterprise Centres (AMSECs) to enable their farmers to acquire tractors and other machinery. However, these programmes have largely benefited commercial farmers. Consequently, as part of Ghana's accelerated Agricultural Modernization Policy to address the challenges of mechanising agricultural production in a timely and affordable manner, by 2017, the Ministry of Food and Agriculture (MoFA) had imported and sold on a hire-purchase basis about 6,200 agricultural tractors and other implements to Ghanaians keen to establish AMSECs. This also included imports of two-wheel tractors to address smallholder farmers' challenges regarding access to tractor services. AMSECs grew from 12 in 2008 to 201 in 2019. Yet, the involvement of women in such structures remains very low. Often, men conduct commercial transactions of agricultural mechanisation services addressing the use of farm machines and implements at farm level and make decisions and control the resources required to invest in mechanisation (especially capital).

Ghana's MoFA is expected to import about 3,000 tractors between 2018 and 2022 in line with the modernisation strategy to improve



Adam Fati (23) is currently undertaking her four-month internship programme at Chuchulga branch of Mango City Farms Ltd. She had her inspiration to attend the training programme from her sister who got trained from the first batch and is currently working as a tractor operator with a commercial farm in Daboya, northern Ghana.

Photo: Lungelo Cele

THE WOMEN IN THE DRIVING SEAT PROJECT

The Women in the Driving Seat (WiDS) project is being run by Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) in collaboration with Ghana's Ministry of Food and Agriculture (i.e. the Ministry Directorates of Agriculture Engineering Services and Women in Agriculture Development). It has three main objectives: improving skills

food security by reducing food imports from foreign countries. It is also aimed at enhancing agricultural production by reducing drudgery and minimising human labour. The number of women benefiting from the tractor programmes has once again remained very low in terms of employment and ownership. The traditional roles of women have restricted their participation in agriculture mainly to manual labour, which restrains them from using or managing farm machinery. In addition, lacking access and skills regarding farm machinery operation and management, women are often unable to make decisions on purchasing farm machinery for their family farms. Hopefully, however, increasing women capacity in tractor operation, which the WiDS project seeks to achieve, will result in more women operating and owning machinery and in training them in this area will lead to the creation of further encouraging role models.

and knowledge of beneficiaries regarding available modern agricultural machinery and its usage, strengthening local support networks in breaking the barrier and myths surrounding the usage of agricultural machinery by women, and improving the socio-economic status of beneficiary women. The first and second phases of the project took place in 2018 and 2019, when 180 women were trained in all. The intake number for its final phase, in 2020, is yet to be determined. The women are selected based on the following criteria: access to a tractor (not compulsory), aged between 18-40 years, basic literacy and numeracy skills, and a genuine interest in agricultural mechanisation. Training takes place in two Agricultural Mechanisation Training Centres (AMTCs) at Wenchi and Adidome Farm Institutes, where various agricultural machinery and equipment has been procured and stocked as training or learning materials.

There are different approaches to source funding for continuity, while plans are also underway to institutionalise the training at agricultural training centres where those interested can apply and be charged a fee to take part. In addition, measures are being put in place to sustain the training e.g. engagement with commercial farms to absorb some of the training cost and also engage the Ministry in allocating a budget to train more women and retrain past trainees. Moreover, the Ministry has already been taking best practices from the project which are leveraged on in terms of designing and implementing gender-sensitive trainings.

Where is the potential breakthrough for women empowerment in mechanisation?

Interventions and programmes by MoFA have been challenged greatly by the frequent breakdowns resulting from mishandling and improper use of agricultural machines, partly due to the low skill levels of the machine operators, mechanics and technicians. A survey by MoFA revealed that almost all the AMSECs were operated by tractor operators who lacked the knowledge in safety of agricultural machinery and proper handling of the various machinery and equipment. While machinery may pass the international standards under a particular environment, under the African environmental conditions, and with operators lacking sufficient technical knowhow, the same machinery may break down prematurely. This is a challenge that gives a window of opportunity for

OPEN RESEARCH QUESTIONS

Research on women and mechanisation is still in its infancy. Here are just a few of the as yet open questions:

- How could mechanisation be used to increase the number of young women in agriculture and encourage migration into rural areas?
- What would it take to achieve this? Could there be spill-over effects to smallholders as well as commercial farms if more women owned and operated tractors?
- What is the landscape of potential funders for such opportunities for women? What is important in addressing the need to find solutions for collateral issues for women who wish to take up these opportunities?
- Where else could the skills acquired for agricultural mechanisation be transferred to? For example, could women tractor operators in agriculture transfer their skills to other sectors like construction and operate machinery there?
- What diversification opportunities could exist for women as a result of being included in mechanisation?
- How could more women be involved in driving the ICT-enabled mechanisation services? What are the pros and cons for women in using the different types of tractors and other machinery in the 21st century?
- What kind of organisational forms exist that women could consider in pursuing these opportunities? How could women be embedded in mechanisation institutions such as AMSECs? Are there rules and regulations that act as a barrier for women?

cy, unlike their male counterparts. Therefore, employers have to change the way they operate in order to be more inclusive of women in the workplace. Society is also challenged to reimagine what the role of women is at home, at the workplace and in society itself. Myths held at different levels of the social structure are dispelled, inspiring the younger generation of women to test new opportunities.

Still a long way to go

While the agricultural sector provides a critical source of employment for about 300,000 to 350,000 new workers who enter the Ghanaian labour force each year, there is still lack of knowledge about how women can capitalise on the opportunities this sector presents. Along with this trend, the number of tractors continues to rise in Ghana with a deficit reported in 2017 of more than 10,000 tractors needed to mechanise land preparation of about 2.4 million hectares. More research on women empowerment programmes in mechanisation is needed, especially with the changing nature of the future of work and given the need to provide women with decent work (see Box).

The need to push for mechanisation in Africa calls for the need to investigate opportunities for women by doing things differently when it comes to gender equity in agriculture, zooming in on gender-transformative skills development opportunities for women in agriculture, especially young women. Mechanisation is one of the few fields that can change not just the economic status but also the social status of women in rural communities, where gender stereotypes are often a challenge. The inclusion of the gender and women empowerment dimension in the world of agricultural mechanisation is a potential game changer. It can open this industry to new customers, create new awareness and new possibilities of broadening occupations – provided it is undertaken with enabling support, giving new perceptions and perspectives about women for women.



Four-wheel tractors imported from Brazil to strengthen AMSECs in Ghana.

Photo: Eugene Moses Abio/ MoFA

the development of the industry and the inclusion of women.

The involvement of women in mechanisation could help create a mindset-shift not only for women, but also for practitioners, employers and society. Involving women in this field could help them acquire a new dual self-identity as professionals and homemakers. It would enable them to contribute to the security of a stable home environment and make critical decisions in the household about resources and income, changing how they view themselves and the perceptions they have about what is possible in the future, and thus promoting gender equality at home and in the workplace.

Through developing women empowerment projects in mechanisation, practitioners are challenged to think with, not for, the people they are helping. In addition, they gain direct experience of what is possible, which helps them perceive situations with a new awareness that leads to the discovery of newly-found actions. This could include looking at the challenges women face beyond the training, such as cultural beliefs and gaining trust from employers as capable operators, and helping them deal with those challenges.

Hiring women as operators means that employers have to take into account the fact that women go through menstruation and pregnan-

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