Drudgery Reduction of farm women through improved tools and implement

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Abstract:

The role of farm women in Indian agriculture is critical, yet they often face physical strain and drudgery in their daily work. The use of drudgery reducing equipment, such as power-tillers and lightweight hoes, has the potential to transform their lives by increasing productivity, improving health and reducing workload. However, access to these tools and the necessary training is still a challenge. This paper highlights the importance of reducing drudgery for farm women in India and the potential benefits of improved tools and implements. Through increasing access and providing training and support, India's agricultural sector can become more sustainable and efficient, and women can play an even more vital role in its development. By reducing drudgery, India can take a step towards improving food security, reducing poverty, and promoting economic development in rural communities.

INTRODUCTION

Farming has been one of the primary sources of livelihood for people across the world for centuries. However, the labor-intensive nature of farming has often made it a physically demanding and arduous task, especially for women who are often expected to perform the majority of household chores, in addition to working on the farm. In recent years, the advent of drudgery reducing equipment has sought to address this issue, providing farm women with the tools they need to perform their daily tasks with ease and comfort.

One of the most significant challenges faced by farm women is the manual handling of heavy loads, such as bags of grain or seed. This can result in back pain, spinal injuries, and other physical problems. To address this, various types of equipment, such as wheelbarrows, hand carts, and backpacks, have been developed to help women move heavy loads with ease. These tools reduce the physical strain on women and allow them to transport heavy loads with less effort, which in turn can increase their efficiency and productivity.

Another major challenge faced by farm women is the manual processing of crops and other produce. This can involve a range of tasks, such as threshing, winnowing, and grinding, which can be time-consuming and physically demanding. To help address these challenges, a range of machines and tools have been developed, including threshers, winnowing machines, and grinders. These machines can perform these tasks more efficiently and quickly than manual labor, freeing up time for women to focus on other tasks or to take a break.

Moreover, drudgery reducing equipment can also improve the safety of farm women. The manual handling of heavy loads and the use of dangerous tools, such as machetes and hoes, can pose a significant risk of injury. By using equipment that is designed to reduce the physical strain and improve safety, women can work in a safer and more secure environment. This can help prevent injuries and improve their overall health and well-being.

Additionally, the use of drudgery reducing equipment can also help to break down gender barriers and promote gender equality in rural areas. In many cultures, women are often expected to perform the majority of household and farm chores, while men are expected to perform more physically demanding tasks.

The availability and accessibility of drudgery reducing equipment is also important for women living in poverty. In many rural areas, women who live in poverty are often forced to perform manual labor and are unable to access the tools and equipment they need to make their work easier. By providing women with access to drudgery reducing equipment, they can perform their work with greater ease, efficiency, and comfort, which can help to improve their overall quality of life and reduce poverty.

Finally, drudgery reducing equipment can help women increase their income and economic independence. By reducing the physical strain of farming and allowing women to perform their tasks more efficiently, they can produce more crops, increase their yields, and sell their produce for a higher price. This can help them improve their financial stability and independence, which in turn can improve their overall quality of life.

The use of drudgery reducing equipment is particularly important in India, where agriculture is the primary source of livelihood for a significant portion of the population. In rural areas, women are often expected to perform a majority of the farm and household chores, and the manual handling of heavy loads and the use of dangerous tools can pose a significant risk to their health and well-being.

Despite the significant role that women play in Indian agriculture, they are often faced with numerous challenges, including limited access to resources, lack of training and education, and social and cultural barriers. The use of drudgery reducing equipment can help to address some of these challenges and improve the lives of farm women in India.

In recent years, there has been an increased focus on empowering farm women in India through the use of technology. The Indian government has launched several initiatives to provide women with access to drudgery reducing equipment and training on how to use these tools. These initiatives aim to improve the efficiency and productivity of women in agriculture, as well as their health and well-being.

The role of farm women in India is critical to the country's agriculture sector, as they constitute a significant portion of the agricultural workforce. According to the National Sample Survey Office (NSSO), women accounted for 43% of the agricultural labor force in India in 2011-12. Despite their important contribution, farm women in India often face significant challenges, including limited access to resources, lack of training and education, and a heavy workload.

One of the major challenges faced by farm women in India is the heavy physical strain of manual labor, which can result in health problems and decreased productivity. In fact, according to a study by the International Labour Organization (ILO), women in India are two to three times more likely to experience musculoskeletal disorders than men.

The Indian government has recognized the importance of reducing drudgery among farm women and has launched several initiatives aimed at empowering them through the use of technology.

One such initiative is the Rashtriya Krishi Vikas Yojana (RKVY), which provides financial assistance to farmers for the purchase of agricultural machinery and equipment. This includes drudgery reducing equipment, such as threshers, winnowing machines, and grinders, which can help to reduce the physical strain of farm work and improve the efficiency and productivity of women in agriculture.

Additionally, the National Rural Livelihoods Mission (NRLM) is working to empower women in rural areas by providing them with access to resources, including drudgery reducing equipment, and training on how to use these tools. Through this initiative, women are able to

increase their income and economic independence, which can help to improve their quality of life and reduce poverty by reducing drudgery among farm women in India for their well-being, empowerment, and the sustainable development of Indian agriculture.

In addition to government initiatives, there are also a number of non-profit organizations and private sector companies working to improve the tools and equipment used by farm women in India. These organizations are developing innovative solutions to reduce drudgery, increase efficiency, and improve safety, such as ergonomic tools, low-cost tractors, and small-scale mechanized equipment.

In conclusion, the use of drudgery reducing equipment can play a significant role in improving the lives of farm women in India specially for rural women's. By reducing the physical strain of farm work, improving efficiency and productivity, and increasing access to resources and training, these tools can help to empower women and promote gender equality in rural areas. It is estimated that by reducing drudgery and improving the efficiency of women in agriculture, the sector's overall productivity could increase by up to 30%. This would have a positive impact on food security, poverty reduction, and the economic development of rural communities in India. The continued support and development of initiatives aimed at empowering farm women through the use of technology is crucial for their well-being and the sustainable development of Indian agriculture.

Here are some more in-depth facts and statistical data on the impact of drudgery reducing equipment on farm women in India:Post-Harvest Implements:

Tubular Hand-Held Maize Sheller:

This tubular sheller has four phased fins of light distance essence fitted outside of a 7-cm-long sword pipe that is 6.25 cm in diameter. A has a difference of 39 mm at one end and 26.5 mm at the other between the fin ends. Use one hand to hold the sheller while using the other to fit a dry cob. Twist them counterclockwise. Approximately 20 kg of muck kernels are detached from the cob per hour by the fins.

Comb- Groundnut Stripper:

The groundnut vines' pods are detached by this manually operated device. The device is made up of a rectangular frame with vertical pegs and a horizontal, comb-shaped strip of expanded metal (used in wire fences) fastened to each side. Groundnut vines are yanked across the comb by the handfuls. This involves four persons working simultaneously to remove pods off the vines at a rate of 200–300 kilogram of pods each hour.

Hand-operated Grain Cleaner:

Used to clean Bengal gram, wheat, and soybean of foreign material. Two metal screens in a frame strung by a rope make up this contraption. The sieve is filled with roughly 10 kg of grain, and the cradle-like cleaner is swiftly spun back and forth. Although the screen is broken, grains still fall through. To get rid of smaller particles, the cleaned grain is sieved once again.

Harvesting Implements:

Naveen Sickle

Harvesting wheat and rice crops is where this sickle excels. It has a wooden handle with a custom-designed hand grip that facilitates harvesting. A 12-mm broad, U-shaped strip that is

attached to the handle is welded to the sickle blade, which is composed of serrated carbon steel. In ten hours, ten women can harvest one hectare with Naveen sickles.

Khurpa-Cum-Sickle:

The khurpa-cum-sickle combines the functions of a weeder, hoe, and cutter. Carbon steel sheet is used to create the blade. While the side edge is cured and serrated to cut like a sickle, the front edge is utilized for hoeing and weeding. 12 cm, or around 60% of the length of a typical sickle, is the cured length of the serrated edge. Shisham wood that has been aged serves as the handle. The tool's 300 g weight makes it light enough to use continuously.

Implements Related to Farm Activities:

The majority of women work on farms doing crucial tasks like weeding, sowing, dibbling, harvesting, threshing, etc. In addition, rural women execute various farm tasks like picking, cleaning, and packing grains in addition to removing stalks. The practical technologies and instruments to lessen the suffrage of women in agricultural work.

Twine Wheel Hoe Weeder:

For weeding and inter-cultivation in upland row crops in the black soil region, it is manually operated machinery. Twin wheels, a frame, a V-blade with a tyne, a U clamp, a scrapper, and a handle make up this tool. Weeds are cut and uprooted using a push and pull motion. Lightweight and easy to use, it enhances female workers' posture at work and lessens their burdensome tasks.

Naveen Dibbler:

It is a single-row, manually controlled device used to scatter large and medium seeds in a row or to fill a gap in well-prepared soil. suitable for soy, sorghum, and maize drilling in narrow fields or terrain with hills. It comprises of a seed delivery system, a wooden cell-style metering mechanism, a lever-style power transmission system for the roller, and a jaw-style seed placing device. reduces angle of deviation and grip strain by up to 43% and 74%, respectively. Utilizing this helps people feel less tired physically.

Rotary Dibbler:

It is a push-type device that is manually controlled for evenly spacing rows of big and medium-sized seeds in well-prepared soil. In areas with dark or alluvial soil, it is good for dredging maize, soybean, sorghum, pigeon pea, and Bengal gram.

Groundnut-Cum-Castor Decorticator:

This is a piece of manual machinery used to remove groundnut and castor bean kernels from their pods. Both a sitting and a standing position can be used to operate this. With the employment of this equipment, work productivity can be enhanced at a low cost and physiological and muscular efforts can be reduced. This equipment consists of a frame, handle, and oscillating arm with cast iron/nylon shoes to achieve shelling.

Groundnut/Sunflower Decorticator with Feeder & Separator:

This equipment is also manually operated and it has auto controlled feeding system to break the groundnut pods and then separate the kernels from crushed mixture. It consists of frame, hopper, controlled feeder, handle, concave pegs, oscillating arm and separating unit.mIt can also be used for sunflower seed decorations by changing sieve and shoe. The use of this also enhances the work output and reduces the physiological and muscular efforts.Simple to operate and single women can operate it easily for hours together. Work can be completed with less effort and time and the end product of high quality can be achieved.

- Drudgery reducing equipment can increase productivity: A study by the International Fund for Agricultural Development (IFAD) found that the use of drudgery reducing equipment, such as power-tillers, can increase the productivity of farm women by up to 25%.
- Women are still largely excluded from access to technology: Despite government initiatives to empower women in agriculture, a report by the World Bank found that women in India are still largely excluded from access to technology and other resources, including drudgery reducing equipment.
- Lack of training is a major barrier for farm women: A study by the Food and Agriculture Organization (FAO) found that the lack of training on how to use drudgery reducing equipment is a major barrier for farm women in India. This highlights the importance of providing training and support to women in rural areas on how to use these tools.
- Drudgery reducing equipment can improve women's health: A study by the International Labour Organization (ILO) found that the use of drudgery reducing equipment can help to reduce the physical strain of manual labor, which can improve women's health and reduce the risk of musculoskeletal disorders.
- Improved tools can help women to take on more tasks: The use of drudgery reducing equipment can help to increase women's efficiency and reduce their workload, enabling them to take on more tasks and increase their overall productivity.
- Increased access to drudgery reducing equipment can benefit rural communities: By reducing drudgery and increasing the efficiency of farm women, the overall productivity of the agricultural sector can increase, which can have a positive impact on food security, poverty reduction, and the economic development of rural communities in India.

These facts and statistics demonstrate the importance of reducing drudgery among farm women in India and the potential benefits that can be achieved through the use of improved tools and implements. By increasing access to drudgery reducing equipment, providing training and support, and empowering women in rural areas, India's agricultural sector can become more efficient and sustainable, and women can play an even more critical role in its development.

In conclusion, drudgery reduction through improved tools and implements is a crucial aspect of empowering farm women in India. Women constitute 43% of the agricultural labor force in the country and are more likely to experience musculoskeletal disorders due to the physical strain of manual labor. The use of drudgery reducing equipment, such as power-tillers and lightweight hoes, can increase the productivity of farm women by up to 25%, improve their health, and reduce their workload. However, women are still largely excluded from access to technology and resources, and a lack of training is a major barrier to the adoption of these tools.

Efforts must be made to increase access to drudgery reducing equipment and provide training and support to women in rural areas, so that they can effectively use these tools and achieve greater efficiency and productivity in their work. This, in turn, can help to improve food

security, reduce poverty, and spur the economic development of rural communities in India. By reducing drudgery and empowering women in agriculture, India's agricultural sector can become more sustainable and efficient, and women can play an even more critical role in its development.

Conclusion:-

- Women constitute 43% of the agricultural labor force in India and are more likely to experience physical strain and drudgery in their work.
- Drudgery reducing equipment, such as power-tillers and lightweight hoes, can increase the productivity of farm women by up to 25% and improve their health.
- Despite government initiatives, women are still largely excluded from access to technology and resources, and a lack of training is a major barrier to the adoption of these tools.
- Efforts must be made to increase access to drudgery reducing equipment and provide training and support to women in rural areas, so that they can effectively use these tools and achieve greater efficiency and productivity in their work.
- Reducing drudgery for farm women in India can have a positive impact on food security, poverty reduction, and economic development in rural communities.
- By empowering women in agriculture through drudgery reduction, India's agricultural sector can become more sustainable and efficient, and women can play an even more critical role in its development.

RECOMMENDATION AND SUGGESTIONS:-

- Government and private organizations should increase investment in research and development of drudgery reducing equipment specifically designed for women in agriculture.
- The government should prioritize the allocation of resources for drudgery reduction initiatives and provide financial support to women farmers to purchase drudgery reducing equipment.
- Private sector companies should collaborate with government and civil society organizations to promote drudgery reducing equipment and provide training and support to women farmers.
- Drudgery reduction initiatives should be designed and implemented with a gender-responsive approach, taking into account the specific needs and perspectives of women farmers.
- The agricultural sector should prioritize the inclusion of women in decision-making processes and encourage gender equality in all aspects of agriculture.
- Finally, it is essential to understand that reducing drudgery for farm women is not only a moral imperative but also a strategic one, as it has the potential to improve the efficiency, productivity, and competitiveness of the agricultural sector and contribute to sustainable development in rural communities.

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