



THE ASIAN BULLETIN OF GREEN MANAGEMENT AND CIRCULAR ECONOMY

<http://abgmce.com/> 10.62019/abgmce.v4i1.99.

ISSN (online): 2959-0035

ISSN (Print): 2959-0027

Empowering Rural Women: Examining Their Role in Agriculture and Livestock in Taluka Hyderabad Rural, Sindh, Pakistan with a Focus on Sustainable Development Goals

Hakimzadi Wagan*, Bushra Memon, Abdul Waheed Solangi, Ghulam Hussain Wagan, Jumo Khan Bajkani, Nazia Rais

Chronicle

Article history

Received: May 21, 2024

Received in the revised format: June 2, 2024

Accepted: June 4, 2024

Available online: June 6, 2024

Hakimzadi Wagan, & Bushra Memon are currently affiliated with Department of Agricultural Economics, Sindh Agriculture University, Tandojam, Sindh Pakistan.

Email: hakimzadi@gmail.com

Email: memonbushra6@gmail.com

Abdul Waheed Solangi is currently affiliated with Department Plant protection SAU Tandojam, Sindh, Pakistan.

Email: solangiwaheed@gmail.com

Ghulam Hussain Wagan is currently affiliated with Department of Agricultural Economics, Sindh Agriculture University, Tando Jam, Sindh, Pakistan.

Email: ghwagan@sau.edu.pk

Jumo Khan Bajkani is currently affiliated with PARC-SSRI, Tandojam, Sindh, Pakistan.

Email: jumokhanbajkani@gmail.com

Nazia Rais is currently affiliated with Soil & Environment research institute Tandojam, Sindh, Pakistan.

Email: naziaraais81@gmail.com

***Corresponding Author:**

Keywords: Agriculture, Circular Economy, Rural women, Livestock, sustainable Development Goals.

© 2024 Asian Academy of Business and social science research Ltd Pakistan. All rights reserved

Abstract

This study aims to examine women's participation in agriculture and livestock activities and explore their challenges in Taluka Hyderabad Rural, Sindh, Pakistan, within the framework of Sustainable Development Goals. Data were collected using a purposive sampling technique through a questionnaire administered to 100 respondents. The findings reveal that the majority of the respondents lacked formal education, with 67 out of 100 women being unskilled. Most women were primarily engaged in cutting fodder and spent over nine hours daily on livestock-related tasks due to insufficient technical knowledge. The study identified several critical issues, including the lack of basic facilities such as gas, sewerage, health services, food, and clothing, as well as the absence of credit facilities and training opportunities. The involvement of women in collecting fodder was largely attributed to their low-income levels. To address these challenges, it is recommended that the government and NGOs support these women by providing cheaper fodder and other essential inputs. The provision of technical knowledge and training can significantly reduce the long working hours currently required. Formal education is essential to enhance women's participation and efficiency in livestock activities. Therefore, training programs and workshops should be organized to improve their skills. Additionally, providing credit at low interest rates would encourage greater participation of women in livestock management in this area. Implementing these measures aligns with the Sustainable Development Goals by promoting gender equality, reducing poverty, and improving the well-being of rural women, thereby empowering them to contribute more effectively to their communities and the broader economy. This study underscores the need for targeted interventions to enhance the capabilities and livelihoods of rural women in agriculture and livestock, fostering sustainable development and economic growth in the region.

INTRODUCTION

The agriculture sector is an important part of Pakistan's economy because it provides a road map for poverty alleviation and industrial raw materials. The industry accounts for 23% of GDP and is the largest employer in the country, absorbing half of the total labour force of the total workforce. (GoP 2023). In agriculture sector the role of women cannot be ignored as women actively participate in livestock and related activities worldwide such as cutting grass, milk processing, feeding and grazing, drinking water

and cleaning. Women predominate in livestock production and management activities h(Yasmin, 2003). Women account for 25% of all household workers in agricultural households and 75% of part-time workers, but their role in farm decision-making has yet to be determined. About 2 million 600 thousand women collect cotton from Pakistan's 9 largest cotton growing area (ESCAP, 1997). In some races, especially in southern Pakistan, the husband can marry more than one woman to provide more agricultural labor (PARC, 2008). Women lack basic resources such as funds to significantly contribute in this sector. In many developing countries, such as Pakistan, microfinance has been used as a tool to improve the living standards of the poor families (Akram and Hussain 2011). Farmers in rural areas lack basic technology than farmers in urban areas. In rural areas new technology is very important to increase yield (Rani *et al* 2017). Eighty percent of all economically active women are employed in various sub-sectors, including agriculture. This includes 33% of the agricultural labor force and 48% of self-employed farmers. More than 50% of Pakistan's population and 42% of the workforce live in rural areas. Animal husbandry is very important to Pakistan's agriculture and is regarded as the second sub sector of the agricultural sector. It accounts for 58% of agriculture and more than 19.03% of Pakistan's GDP (GoP, 2020).

The participation rate of women in cotton, rice, beans and vegetables is particularly high. Food processing and storage is one of the areas where the participation rate of women is much higher than that of men. The official labor force participation rate of rural women ranges from 4% to 5% (Mumtaz 2002). Developing rural women, especially poor women, always try to work in a variety of work, have little leisure time, less control of production resources, even their income and labor are not. They were neglected because of the complex mix of social, economic, cultural and political factors, which had a detrimental effect on their social status and economic participation. In the economics of developing countries, the role of women is largely ignored or underestimated. Pakistan is no exception, in this case. The area of female characters' active income at home (Shah, 2002). For agricultural development, rural credit is very important. Total expenditure for the agricultural sector grew by 9.6% in July March 2008-09 stood one billion rupees.151.9 with 24.8% growth last year. The total issuance of commercial banks in this industry was up to Rs.102.9 one billion (GOP, 2009).

Although women are actively involved in the agricultural sector, they have less access to assets, services and opportunities than men. This gender gap is widespread in access to inputs, services, land ownership, livestock and technology, education, extension and financial services. Experimental evidence shows that if women have the same access to production resources (machinery, market, stakeholders, etc.) as men, their agricultural output may increase by 20-30% (FAO 2019). Women do the best in cutting grass, covering grass, collecting fallen leaves, branches, and bark. In Pakistan, most peasant families are poor, and women in these families work with male family members, thereby increasing the total family income (Maqbool, 2014). This is also the case in the agricultural district of Karachi, where women work with men and participate in all agricultural activities (Rukhsana and Shah 2017). Rural women regularly participate in livestock management in Sindh, 81% of rural women clean livestock sheds, 70% of water animals, 67% of Malik livestock, 82% of poultry industry and 73% of livestock keepers (FAO 2020). Most of the hired labor has less land, and small farmers face poverty. In order to reduce this kind of poverty, women's work should be recognized and paid the same as men's work (Ishaq and Memon 2016).

Women are not only energetic workers in farms and fields, but they also complete activities such as raising agricultural productivity, such as seedbed preparation, weeding, harvesting and threshing, grain cleaning, food storage, cottage industries, etc (Mohiuddin et al., 2020). Though the women contribution is substantial in livestock sector but their contribution is often not acknowledged. Considering this gap in the literature, the current study will examine the women participation in livestock. This study will explore the problems of women participation in livestock in detail and recommend policy recommendations in this regard. Following are the objectives of this study:

- To study socioeconomic characteristics of the respondents.
- To examine women participation in livestock activities in the study area.
- To examine problems faced by respondents in the study area.

LITERATURE REVIEW

The literature review provides background knowledge of the research question and helps the researcher determine his/her direction. The most important aspect of a literature review is to provide the necessary information on specific issues related to past events. Aziz et al. (2021) conducted a study on women's empowerment in agriculture in Pakistan, using the Agricultural Women's Empowerment Index (WEAI) to examine its impact on household food insecurity. The study found that women's leadership, including ownership of rights, agricultural production, land and livestock resources, and viable land, significantly impacts diet and insecurity. However, women can also gain these rights and improve their families' weaknesses. The study also found that women's empowerment had positive results in income, but non-economic mechanisms like patriarchal customs can prevent them from controlling household incomes.

The research highlights the importance of focusing on cultural factors in empowering women to reduce food insecurity. Datta and Sahu's (2021) examined the role of microfinance institutions in changing borrowers' borrowing and livelihood practices in West Bengal. With 350 borrowers, the study found that microfinance can help borrowers develop income-generating activities and invest in human resources. The research contributes to existing microfinance literature by comparing pre-lending and post-lending stages, determining the role of microfinance institutions in the contemporary era. The findings can help policymakers design further policies and determine the resources needed to thrive under current conditions. Patel and Patel's (2021) examined the impact of microfinance on rural women in North Gujarat, focusing on social, economic, and political empowerment. The study involved 512 respondents from Aravalli and Mehsana districts, selected based on their highest and lowest rural women populations.

The results showed that women were significantly empowered after joining Self-Help Groups (SHGs), but only somewhat empowered from a social perspective. Politically, women were not significantly empowered after joining SHGs. Overall, women were more empowered after joining SHGs. Akhtar et al. (2020) conducted a study in Pakistan to determine the participation of women in animal management practices. They selected 110 female farmers from the Shiva Union Committee and used a questionnaire to collect data. The study found that women spend an average of 4.81 hours per day on livelihood management practices. Factors such as education, family size, and livestock income significantly impacted women's participation. However,

female age and size also played a significant role. The study emphasizes the importance of including non-females in government plans and agricultural policies in the livestock sector. Additionally, providing agricultural credit facilities and animal training facilities can encourage women to participate in animal husbandry and seek decision-making power in management practices. Hussain and Zaheer (2020) examine Pakistan's dairy industry. According to them women in rural areas of Pakistan play a direct and indirect role in livestock management. Given the role of the dairy industry in export earnings, the services of its main labor force (rural women) should not be overlooked. This article seeks to discuss the development of Pakistan's dairy industry and export earnings and the relevant role of rural women in the country's food security and poverty alleviation.

Jabeen et al. (2020) conducted a study on the traditional economic activities of women in rural areas of Khyber, Pakistan. The study aimed to assess the factors affecting their productivity and the traditional economic activities they engage in. The study included 480 women from 600 respondents, with 68.33 being illiterate, 47.71 aged 31-40, and 47.92 living in a shared family system. The study found that 71.78% of women's economic activities were conducted at home due to patriarchal principles and men's values. NGOs and government development projects played a crucial role in providing credit, training, and awareness, especially in the Northern and Southern regions. Samineni and Ramesh (2020) found that women in self-help groups (SHGs) can enhance their economic opportunities through microcredit, making them a valuable resource. By focusing on income-generating activities and building confidence, SHGs can increase economic opportunities and raise funds. In India, states with high levels of microfinance experience the highest economic growth. Samineni and Ramesh (2020) analyzed the methods of microfinance to empower women and examined the national analysis of women's economic growth. By reducing non-performing assets (NPAs) and allocating resources for micro-programs and self-sufficiency training, microfinance prosperity can be achieved in the true spirit. Mohiuddin et al. (2020) found that agricultural labor is mainly informal, particularly for women in developing countries. In Pakistan, women's participation in farming is not properly recognized due to a lack of literature on gender and labor farming practices. This study examines the structure of labor in different agricultural activities and the involvement of women agricultural workers in general (family and hired paid labor) and their specific purpose.

Data was collected from 300 houses in four districts of the Punjab province of Pakistan. Akhter and Cheng (2020) explored the use of microcredit to bridge the gap between rural poor women's access to microcredit and sustainable social and economic development in Bangladesh. They used regression analysis and propensity score matching techniques to assess the empowering performance of microfinance borrowers compared to non-borrowers. The study found that microfinance improved the overall quality of life in decision-making processes, encouraging increased numbers, legal awareness, free movement, and sustainability of sustainable women. The research recommends further research from microfinance providers to establish a comprehensive, holistic approach to women's empowerment in Bangladesh. The study highlights the importance of women's empowerment in the socio-economic environment of rural microfinance. The study by Malik et al. (2020) aimed to confirm the role of microfinance in empowering Pakistani women. The research was conducted in Multan district, Punjab, Pakistan, and found that female members of microfinance firms are more powerful than non-members. The results showed a

positive correlation between microfinance institutions and the economic empowerment of women in Multan. Female participants in microfinance firms play an important role in decision-making, gain liquid autonomy, and generate significant income and savings. They also help with job creation and increase productive assets and property ownership. The study suggests that MFIs should meet with women to guide them in the proper use of credit in their business activities. Onyalo (2019) examined the role of women in agricultural production in Kenya to provide them with an incentive to express their concerns on agricultural issues. To improve women's visibility in agricultural production, the author suggests that women's participation in agricultural production should be based on their contribution to food security in the home and community, rather than their participation in commercialized agriculture, which is equal to men's. Is dominant at the same time, the author hopes that policy makers will be persuaded to reconsider their perceptions of rural women involved in agricultural production so that they can take immediate action.

Andaleeb et al.'s 2019 study on women's welfare in Khyber Pakhtunkhwa's Mardan District Livestock Farm found that factors such as chief education, income generation, land holdings, livestock, women's participation in cattle ranching, and access to agricultural credit positively impacted women's involvement in livestock farming. The study suggests that NGOs should provide loans and livestock training facilities to women, encouraging them to participate in livestock production and management. Access to credit empowers women to make informed decisions, ultimately benefiting the livelihood economy and overall health. Chandio et al. (2018) conducted a study on the impact of short-term and long-term loans on wheat production on small farms in Sindh province, Pakistan. The study, based on cross-sectional data from 18 villages in three regions in 2016, included 180 wheat farmers. The findings suggest that increased agricultural inputs, such as improved varieties and fertilizers, may lead to increased wheat production. Long-term loan customers also spend more on land consolidation, irrigation, and plant protection, potentially increasing wheat production in the future.

Thakur et al. (2018) reported that literature analysis is an essential part because it helps to determine the research field. India is a developing economy, mainly an agricultural economy. Agriculture is the main source of livelihood in developing and developed countries. 70% of its population is rural and 60% of households are engaged in agriculture, which is their main source of income. Rural women have to undertake many tasks such as housework, cooking, and watering, as well as work in the fields. Therefore, they lead a difficult life. All activities undertaken by rural women are essential to the welfare of rural families, but they are not described as "employment actively engaged in economic activities" in the national accounts.

Chekene and Kashimiu (2018) documented the role of women in Nigeria in agriculture sector. Unfortunately, this development was due to gender bias. In their paper, the authors review the evidence that is publicly available regarding access to resources, cultural beliefs, and the demarcation of WIA in the traditions of societies. It has been found that from an agricultural point of view, women lead to gender bias and promote gender inequality. Therefore, this approach should be replaced with a policy that promotes gender equality. Like gender and development (GAD) methods. Policymakers and researchers should act as tools to promote gender and development. Joshi and Kalauni's 2018 study found that agriculture is the primary business for the majority of Nepalese population, particularly in rural areas. Gender-specific roles are crucial in agricultural decision-making. A survey in three wards of

Kanchanpur district revealed that most activities, such as grafting, fertilizer use, harvesting, cleaning, and grading, are typically women's responsibility. However, men were more likely to be involved in land preparation and had greater access to farm resources. The study suggests that gender-specific domains exist in the rural farming system and calls for the development of gender-friendly technology and policies in project planning and development efforts. Iftikhar and Mahmood (2017) found that institutional agricultural certificates play an important role in combating food insecurity, while institutional agricultural certificates show unexpected results. Therefore, it is strongly recommended that they use editorial certification to reduce food insecurity in the country. Nahusenay's 2017 found that women play a crucial role in labor research, particularly in storage preparation, crop processing, milk processing, warehouse cleaning, cooking, grinding, picking materials, and firewood. They perform as well as males in harvesting, farming, and protecting crops from wildlife. However, women have long been limited in access to and control over agricultural products, extension services, and information due to social, cultural, and work discrimination.

The study suggests that federal and regional governments and relevant institutions must take steps to empower and promote women economically, socially, and politically, ensuring they are equal with men. Women have been empowered to make self-esteem decisions, but further steps are needed to ensure women's equal status. Manzoor et al. (2017) conducted a study on sustainable rural development in the livestock sector of Punjab, Pakistan, focusing on women's participation. The study used multi-stage sampling technology and 240 respondents from various units, including districts, tehsils, union councils, and villages. The results showed that 84.4% of respondents considered stocks as their main source of income, and 66.3 respondents spent 9 hours a day managing animals. Additionally, 74.2 respondents believed animals were an essential food source for their families. Chandio et al. (2016) studied the causal relationship between Pakistan's agricultural formal credit allocation and agricultural GDP from 1992 to 2016.

They used the estimated least squares estimation method and Granger causality method to test the relationship. The results showed a strong positive correlation between agricultural formal credit and GDP, with every 1% increase in the formal agricultural credit age increasing agricultural GDP by 0.93%. This suggests that improving agricultural credit can significantly boost Pakistan's agricultural economy. Noonari et al. (2015) found that availability of credit positively impacts agricultural production, with farmers who take out loans having higher gross profits than non-farmers. However, small farmers face restrictions and need to increase credit lines in their production. The study found that 40.8% of farmers are young and 95% understand ZTBL Bank's agricultural credit program. For the first time, farmers with over Rs 56.75 crore have availed credit facilities from ZTBL Bank. Most farmers are not satisfied with the interest rate charged by the bank, but mutual trust has been established.

MATERIALS AND METHODS

Following section details research plan and research methods.

Study area

This study was conducted in Taluka Hyderabad, rural areas were selected. In addition, a large number of women are active in livestock practices.

Research Design

This study consisted of rural women in Hyderabad Tehsil. Aggregate of 100 woman were selected from nominated villages, purposive sampling from three UCs. Researcher interviewed all interviewees personally. From selected three UCs named Moosa Khatian, Tando Qaiser and Haji Sawan Khan Gopang, researcher filled questionnaire from 100 respondents from rural women respondents and interviewed personally.

Questionnaire

A well-structured questionnaire was developed including questions related to socioeconomic characteristics such as age, education, gender, and family size were included in the first part. In the second part of questionnaire, questions related to different women's working as in livestock activities.

Data analysis

After completing the field survey, the data was collected and subjected to statistical analysis by using standard method and result were interpreted accordingly to meet the objectives.

RESULTS

The purpose of this study was to collect data from female respondents to understand their views on the rural women's activities in livestock and to ask them about their problems in taluka Hyderabad rural. This information was collected through interviews with 100 interviewees and covered all aspects of the appeal, thus making the research meaningful. The results obtained are described in the table, and the data in the table are described in these described sections.

Socio-economic characteristics of rural women

Type of family

Table 1.

Family type of respondents in study area.

Type of family	Percentage
Joint	73
Nuclear	27
Total	100

With regard to family type, about 73% of the respondents were living in a joint family system followed by 27% of the respondents that had nuclear, respectively.

Occupation

Table 2.

Occupation of respondents in study area

Occupation	Percentage
Agriculture	100
Non-agriculture	0
Total	100

The large majority 100% indicating rural women in the present study engaged in agriculture livestock activities.

Tenancy status

Table 3.

Tenancy status of respondents in study area.

Tenancy status	Percentage
Owner-cum-tenant	58
Tenant	42
Landlord	0
Total	100

About 58% of the respondents were owner-cum-tenant; while remaining 42% were tenant.

Age

Table 4.

Age of respondents in study area

Age (years)	Percentage
15- 25 years	0
26-35 years	17
36-45 years	54
46 and above	29
Total	100

The highest proportion 54% of female respondents were 36-45 years aged, while older women 46 and above account for 29%, while 26-35 women account for only 17%.

Education

Table 5.

Education level of respondents in study area

Education	Percentage
Non-formal education	0
Illiterate	26
Primary	16
Middle	27
Matriculation	21
Intermediate	10
Graduate	0
Total	100

The results presented in Table 5 shows that the highest proportion of female beneficiaries (27) was in secondary education, while 26% were illiterate, 21% completed matriculation and secondary education.

Type of skills

Table 6.

Skills of respondents in study area

Type of labour	Percentage
Skilled	33
Un-Skilled	67
Total	100

The table 6 shows that 67% women were un-skilled and 33% were skilled labor.

Working hours

Table 7.

Working hours of respondents in study area.

Working hours	Percentage
3-5	12
6-8	23
Above 8	65
Total	100

A huge majority, 65% of the respondents had to work more than 8 hours and 23% were working around 6-8 hours, while 12% respondents were working 3-5 hours per day.

Women participation in livestock activities

Earn money through livestock activities

Table 8.

Sources of earning of livestock of respondents of respondents in study area.

Statement	Percentage
Sale of milk	51
Sale butter	10
Sale of ghee	19
Sale of animals	20
Total	100

About 51% of the respondents participated in the sale of milk. On the other hand, the sales of animals, sale of ghee and sale of butter were performed by 20%, 19% and 10% of the respondents, respectively.

Basic needs of a family

Table 9.

Respondents' perception regarding the basic needs of a family

Statement	Percentage
Only food and clothing	0
Own house/land	14
Adequate food/clothing/house	19
Children's education/school in locally	12
General economic importance	13
Life durables e.g., T.V refrigerator etc	12
Community facilities e.g. Gas, sewerage/health centers	30
Total	100

The level of rural women basic needs was presented in table 9. About 30%, 19% and 14% of the respondents reported that they need community facilities e.g. gas, sewerage/health centers, own house/land and adequate food/clothing/house respectively. The rest of basic needs i.e. children's education/school locally, general economic importance and life durables e.g., T.V refrigerator etc. were very limited as reported only by 14% and 12% of the respondents, respectively.

Participation in livestock

It is evident from the data in Table 10 that 21 out of 100 females (wives) in rural area of the Hyderabad district were engaged in collection of fodder for their cattle while other women were involved in cleaning shelters (18%), processing and sale milk (16), herding (12%) and poultry care (8%) at house level as well as at community level.

Table 10.**Respondents' participation in livestock activities**

Statement	Percentage
Milking	6
Feeding	7
Treating sick animal	4
Herding	12
Collecting fodder for cattle	21
Cleaning shelters	18
Poultry care	8
Breeding	3
Processing and sale milk	16
Sheering hair	1
Grass cutting	3
Total	100

Problems faced by respondents of study area**Table 11.****Problems faced by respondents to rural women working in livestock activities**

Statement	Percentage	Rank
Technology difficult to understand	14	1
Lack of credit facilities	30	2
Lack of training opportunities	10	3
Lack of technical knowledge	9	4
Lack of adoption livestock technologies	7	5
Lack of land ownership	6	6
Lack of insecurity	6	6
Long distance to marketing	4	7
Un afford ability of new innovations	4	7
Low skill and low paid activities	3	8
Un equality from man	3	8
Unsecure and safety in fields	2	9
Irregular meeting	1	10
Replacement of female by technology	1	10
Total	100	

Lack of credit facilities is the main problem for female beneficiaries. From their point of view, technology that is difficult to understand is considered the second important issue. They believe that lack of training opportunities is the third important issue. From their perspective, the Lack of technical knowledge, Lack of adoption livestock technologies, Lack of land ownership and Lack of insecurity are the other important issue.

DISCUSSION

This study was conducted in Taluka Hyderabad rural, Sindh, Pakistan to assess the participation of rural women's activities in livestock. A large number of women were involved in livestock practices. 3 UCs were selected namely Moosa Khatian, Tando Qaiser and Haji Sawan Khan Gopang. 100 rural women respondents working in livestock were interviewed personally. About 73% of the respondents were living under joint family system and majority of the women i.e. 81% were engaged in livestock activities. The highest proportion of female beneficiaries (54%) belong to age group 36-45 years. This shows that mostly middle-aged women are engaged in livestock and need proper training, access to cheap credit, encouragement and guidance to enable them better utilize their capabilities. This is consistent result with the Ayanda and Ogunsekan (2012), who reported that there is a distinct link between farmers 'age

and debt repayment. These loans have the potential to create employment opportunities in rural areas. When funding farmers, priority should be given to young people with the ability to afford to repay. The data shows that the highest proportion of female beneficiaries (27%) have a secondary education level, while 26% are illiterate, and 21% have pre-university and completed secondary education. In the usual rural context of Sindh, this situation seems normal. A huge majority, 65% of the respondents had to work more than 8 hours and 23% were working around 6-8 hours, while 12% respondents were working 3-5 hours per day. This poses a challenge for female beneficiaries to formulate key plans for socio-economic changes in the region. Sa'adatu (201) found that expanding contact, education level, cooperative membership and access to credit are very beneficial to promote the commercialization and privatization of services.

About 51% of the respondents participated in selling milk. On the other hand, the sales of animals, sell of ghee and sell of butter were performed by 20%, 19% and 10% of the respondents, respectively. The most consistent result with Tripathi et al. (2004) who estimated results indicate credit has a beneficial effect on livestock income, so providing short-term credit is an effective way to increase livestock income. Further, Shah (2008) recommends reviewing interest rates and further simplifying the process of obtaining credit. About 30%, 19% and 14% of the respondents reported that they need community facilities e.g. gas, sewerage/health centers, own house/land and adequate food/clothing/house respectively. Akhtaret al. (2020) suggested that the provision of livestock credit facilities and animal husbandry training facilities to female farmers can stimulate them to participate in animal husbandry practices and is expected to have decision-making power in animal husbandry management practices.

Similarly, Andaleebet al. (2019) reported that the NGOs dedicated to rural development should be involved in providing credit and livestock training facilities to rural women and encouraging them to participate in livestock production and management. The majority (about 21%) of females (married) in rural area of the Hyderabad district were participated in collection of fodder for their cattle. It is also revealed that the situation is similar regarding other socioeconomic aspects like cleaning shelters (18%), processing and selling of milk (16), herding (12%) and poultry care (8%) at house level as well as at community level. Based on the above results, similar results were reported by Akhtar et al. (2020), clarified that women's education, family size and livestock income significantly affect women's participation. However, the age of women and the size of the herd significantly affect women's participation in livestock farming. Based on these assumptions, hypotheses were developed by Mohiuddin et al. (2020) which are in line with our findings.

Onyalo (2019) found that female labor participation significantly depend on the landholding status of farmers, household size, family type and level of education. Furthermore inadequate information on the extent of women participation and lack of credit facilities is the main problem to acknowledge the role and contribution of women in livestock sector. Lack of technology related skills is the second important issue. Noonari, et al. (2015), also documented the same results in their study where availability of credit and lack of training facilities were cited as main problems. Jabeen et al. (2020) found that excess workload, socioeconomic conditions of majority of the female working in livestock affect their health and level of satisfaction.

CONCLUSION

Based on the findings it is concluded that the majority of the respondents get no formal education. The average number of women estimated 67% were unskilled. 21% of the women respondents were involved in cutting fodder. Similarly, it was also concluded that the women respondents were spending more than 9 hours on livestock because of the lack of technical knowledge. Factors such as lack of gas, sewerage and health facilities and provision of financial credit were among their major issues. To resolve all these issues it is suggested that educated women should be encouraged to participate in agriculture and livestock activities. There should be provision of agriculture extension services to rural women and extension programs should take paper care of interest of rural women. Arranging more training programs for rural women involved in agriculture activities through female extension agents with the help of NGOs will be very beneficial. Significance of women participation in livestock industry should be recognized in government future plans and policies. Non-government organization, working for rural development (SRSP, SRSO, BBYDPS, NRSP, TRDP etc.) should be involved in provision of credit and livestock training facilities to rural women. Overall access to credit, new technology, training and health facilities will increase women participation in livestock management activities.

RECOMMENDATIONS

Future research should cover more aspects of related issues. In this regard, the present study recommended that the provision of formal education is necessary for women participation in livestock activities. While training and workshops should be arranged so that skills can be improved. Further, in this study the majority of the women were involved in collecting fodder because of their low-income level so Government and NGOs should support for cheaper fodder and other inputs. Provision of technical knowledge can reduce long working hours. More and more trainings should be arranged to increase productivity by rural women. In policy formulation provision of rural credit at low interest rates will encourage women participation in livestock.

DECLARATIONS

Acknowledgement: We appreciate the generous support from all the supervisors and their different affiliations.

Funding: No funding body in the public, private, or nonprofit sectors provided a particular grant for this research.

Availability of data and material: In the approach, the data sources for the variables are stated.

Authors' contributions: Each author participated equally to the creation of this work.

Conflicts of Interests: The authors declare no conflict of interest.

Consent to Participate: Yes

Consent for publication and Ethical approval: Because this study does not include human or animal data, ethical approval is not required for publication. All authors have given their consent.

REFERENCES

Abdullah, D. Z., Khan, S. A., Jebran, K., & Ali, A. (2015). Agricultural credit in Pakistan: Past trends and future prospects. J. Appl. Environ. Biol. Sci, 5(12), 178-188.

- Akhter, J., & Cheng, K. (2020). Sustainable empowerment initiatives among rural women through microcredit borrowings in Bangladesh. *Sustainability*, 12(6), 2275.
- Akram, M., & Hussain, I. (2011). The role of microfinance in uplifting income level: A study of District Okara – Pakistan. *Interdisciplinary Journal of Contemporary Research in Business*. Vol.2, No.11, March 2011
- Alam, M., Raza Ullah, Ali Iqtidar, Waqar Saleem, Mehboob Elahi & Hamid Sultan. (2014). Impact of Microcredit Scheme on Socio-economic Status of Farmers (A case study of PRSP in District Gujranwala). *A Research Journal of South Asian Studies*, Vol. 29, No. 1, January – July 2014, pp. 161-169.
- Amir. (1999). Factor effecting farm access to borrowing in formal credit market in District Peshawar, M.Sc (Hons) Thesis, Deptt. Agric. Econ., NWFP Agric. Univ. Peshawar.
- Anil, B. and A. Bhulmall.(2000). A cooperative credit society's impact on credit demand in agricultural production. *Econ. Affairs. Calcutta*. 45(2): 86-91.
- Arif. (2001). Effect of micro credit disbursed by ADBP on agricultural production in District Attock. M.Sc (Hons) Thesis, IDS, NWFP Agric. Univ. Peshawar, Pakistan.
- Ayanda, I. F., and O. Ogunsekan (2012). Farmers' Perception of Repayment of Loans Obtained from Bank of Agriculture, Ogun State, Nigeria. *J Agri Sci*, 3(1): 21-27.
- Ayanda, I.F. and O. Ogunsekan. (2012). Farmers' Perception of Repayment of Loans Obtained from Bank of Agriculture, Ogun State, Nigeria. *J Agri Sci*, 3(1): 21-27.
- Chandio A. A, Jiang Y, Magsi H, Rehman A, Koondhar M.A. (2016). Agricultural Formal Credit Distribution and Agricultural GDP in Pakistan: A Granger Causality Approach. *Transylvanian Review*: XXIV(11):3180-3191.
- Chandio, A. A., Jiang, Y., Wei, F., &Guangshun, X. (2018). Effects of agricultural credit on wheat productivity of small farms in Sindh, Pakistan: Are short-term loans better?. *Agricultural Finance Review*, 78(5), 592-610.
- Chatha, M.Q., A.U. Cheema, J.W.T. Bottema and D.R. Stiltz. (2004). Impact of agricultural credit on the agricultural developments in Pakistan. *Upland agriculture in Asia. Proceedings of a workshop held in Bogor, Indonesia. CGPRT-Publication*, (30) : 53-60.
- Chatterjee, S.N., M.K. Dasgupta, D.C. Ghosh, D. Das-Gupta, D.K. Majumdar, G.N. Chattopadhyay, P.K. Ganguli, P.S. Munsu and D. Bhattacharya. (2004). Agricultural development in India vis-a-vis natural farming: some observations. *Proceedings national symposium on sustainable agriculture in sub-humid zone*. 501-503.
- Coleman, B.E. (1999). The impact of group lending in Northeast Thailand. *J. Dev. Econ*. 60: 105-141.
- Datta, S., &Sahu, T. N. (2021). Impact of Microcredit on Employment Generation and Empowerment of Rural Women in India. *International Journal of Rural Management*, 17(1), 140-157.
- Dawar, S.K. (2003). A study of agricultural credit programme of ZTBL for small farmers of district Bannu. M.Sc (Hons) Thesis IDS, NWFP Agric. Univ. Peshawar.
- Degene, R.. (2003). Propensity Score Matching Methods for Non- Experimental Causal Studies: The Review of Economics and Statistics, 84(1): 151–161.
- Deliwe, D. (2003). The farmer support programme in Chatha village, Keiskammahoek district. *Development Southern Africa* 12 (4) : 519-534.
- Frank G. (2013). Impact of microfinance on smallholder farm productivity in Tanzania: the case of Iramba District. *Asian Economic and Financial Review*. 3(2):227-242.
- Gilberto M. L., (2005). Overcoming Obstacles to Agricultural Microfinance: Looking at Broader Issues. *Asian Journal of Agriculture and Development*, 4(2): 23-40.
- GOP, (2020). Agriculture: Economic Survey of Pakistan, 2019-20, Ministry of Food and Agriculture, Government of Pakistan, Islamabad.
- Govt. of Pakistan. (2013). Economic Survey of Pakistan. Economic Advisor's Wing, Finance Div., Islamabad.
- Gul, S.K. (1993). A critical assessment of the supervised credit scheme of the Agricultural Development Bank of Pakistan: A case study of Mardan District. *J. Rural Dev. and Admin*. 25:2, 119-126.

- Hartarska, V., and D. Nadolnyak, (2012). Financing Constraints and Access to Credit in Post Crisis Environment: Evidence from New Farmers in Alabama. Agricultural & Applied Economics Association's 2012, AAEA Annual Meeting, Seattle, Washington. Pp: 01-30.
- Harun, T., and A. BAYANER, (2006). Members' Perception and the Role of Agricultural Credit Cooperatives in Agricultural Finance in Turkey. New Medit No. 3, pp. 23-28.
- Idress, M. and M. Ibrahim. (1993). Agricultural credit role in the development of Agricultural. J. Rural Dev. and Admin. 25(4): 64-74.
- Iftikhar, S., & Mahmood, H. Z. (2017). Ranking and relationship of agricultural credit with food security: A district level analysis. Cogent Food & Agriculture, 3(1), 1333242.
- Irfan and Nazi. (1999). The structural of informal credit markets in Pakistan. Pak. Instt. Dev. Econ., Islamabad.
- Khan M. H., Md. M. B., Sk. Sharafath. and T. M. Mamun. (2013). J. Asian Dev. Stud, 2(4):51-61.
- Khan, M.H. (1981). Undeveloped and agrarian structure in Pakistan, Boulders Colorado. West View Press.
- Khandker, S., (2005). Microfinance and poverty: Evidence using panel data from bangladesh. The World Bank Economic Review, 19.
- Malik, S., Mustafa, G., Anwar, A., & Iqbal, A. (2020). Assess-ing the Impact of Microfinance Services at Individual Level: A Comparative Study of Women Empowerment in Pakistan. Indian Journal of Science and Technology, 13(27), 2700-2710.
- Mir K. S., Humayun K., Jehanzeb and Z. Khan. (2008). Impact of agricultural credit on farm productivity and income of farmers in mountainous agriculture in northern Pakistan: a case study of selected villages in district Chitral. Sarhad J. Agric. 24(4):713-718.
- Mir Kalan Shah, Humayun Khan, Jehanzeb and Zalat Khan. (2008). Impact of agricultural credit on farm productivity and income of farmers in mountainous agriculture in northern Pakistan: a case study of selected villages in district Chitral. Sarhad J. Agric. 24(4):713-718.
- Muhammad S. J., S. Hassan, S. A. Adil, A. S. Ahmad, M. W. A. Chattah and Z. Nawaz. (2006). Impact assessment of micro-credit programme of prsp on crop productivity. Pak. J Agri. Sci., 43(3-4).
- Muhamrnad, S., M. Ali, I. Ashraf and M. A. Khan, (2002). Farmers' perception about one window operation of agricultural development bank of Pakistan. Pak. J Agri science, 39(3):
- Mukhtar, K. 1999. Agricultural financing for production, development and marketing need, Pakistan's experience, Karachi, J. Instt. of bankers, Pakistan.
- Noonari, S., Memon, M. I. N., Bijarani, A. A., Peerzdo, M. B., Bhatti, M. A., & Kalwar, G. Y. (2015). Impact of Credit on Agricultural Productivity: A Case Study of Zarai Taraqiati Bank Ltd (ZTBL) Loans in District Kashmore at Kandhkot, Sindh Pakistan.
- Nosiru and Marcus Omobolanle (2010). Microcredits and agricultural productivity in Ogun State, Nigeria. WJAS World J. Agric. Sci., 6 (3): 290-296, 2010.
- Osman M. K., M. Tepeci, S. Duramaz and A. Yatbaz. (2013). The use of agricultural loan: An analysis of farmers' bank selection decisions in Manisa, Turkey. Journal of Food, Agriculture & Environment Vol.11 (3&4) : 764 - 768.
- Parker, J. (2000). Assessing Poverty of Microfinance Clientele: A review of current Video conference, Washington D.C., USA.
- Qureshi, S.K. and A.H. Shah. (1992). A critical Review of Rural Credit Policy in Pakistan. The Pak. Dev. Rev. 31(4): 871-801.
- Rajagopalan, V. (2000). Problems and prospects of agricultural development in Tamil Nado. Occasional Paper Nat. Bank for Agric. Rural Dev., Mumbai. 13, VII: 160.
- Rehman, M. (2003). The role of ZTBL in Enhancing Farm Productivity through Agricultural Credit in district Shoaht, M.Sc (Hons) Thesis IDS, NWFP Agric. Univ. Peshawar.
- Sa'adatu B.A., S. Usman, and B. Dahiru, (2011). Maize Farmers' Perception of Commercialization and Privatization of Agricultural Extension Services in North Senatorial District of Gombe State, Nigeria. Journal of Agricultural Extension, 15 (1): 75-83.
- Samineni, S., & Ramesh, K. (2020). Measuring the Impact of Microfinance on Economic Enhancement of Women: Analysis with Special Reference to India. Global Business Review, 0972150920923108.

- Shah, M. K., H. Khan, Jehanzeb and Z. Khan, (2008). Impact of agricultural credit on farm productivity and income of farmers in mountainous agriculture in northern pakistan: a case study of selected villages in district chitral. *Sarhad J. Agric.* 24 (4): 713-718.
- Shaikh, S. (2010). Unclear land title a drag on farm credit. *Economic and Business (Dawn.Com)*, 8th Feb. 2010.
- Siddiqui, A. A., and Z. Mirani, (2012). Farmer's perception of agricultural extension regarding diffusion of agricultural technology. *Pak. J.Agric., Agril. Engg., Vet. Sci.*, 2012, 28 (1): 83-96.
- Sjah, T., I. Russell, D. Cameron, (2003). Acceptance and repayment of agricultural credit in lombokindonesia – Farmers' perspectives. *International farm management conference 2003*
- Tagar, H. K., and I. A.Panhwar, (2010). Agricultural Credit in Sindh: Issues and Recommendations. *Australian Journal of Basic and Applied Sciences*, 4(8): 4099-4106.
- Takavarasha, T.(2003). Small-holder agricultural development in Zimbabwe with particular reference to the fertilizer industry. *Proceedings of The Fertilizer Society of South Africa's 36th Ordinary General Meeting, South Africa. Fertilizer Society of South Africa Journal*, Pp. 17-29.
- Tripathi, R.S., Chandra-Dev, M.L. Sharma and C. Dev. (2002). Variation in productivity of short-term credit used for wheat production in different zones of Uttar Pradesh Hills. *Indian Journal of AGRICULTURAL ECONOMICS*, 49 (3) : 491-496.
- Winarto, Y.T. (2005). Sthate efforts and and farmer creativity: integrated pest management among rice farmers in Subang, West Java. *Agriculture and Human Values*. 12, (4) : 47-57.
- WoldayAmha (2008.) A decade of microfinance institutions (MFIs) development in Ethiopia: Growth, performance, impact and prospect. *Occasional Paper No. 21 January*.



2024 by the authors; Asian Academy of Business and social science research Ltd Pakistan. This is an open-access article distributed under the terms and conditions of the Creative Commons Attribution (CC- BY) license (<http://creativecommons.org/licenses/by/4.0/>).