A STUDY ON EXPLORING PERCEPTIONS, ATTITUDES, AND KNOWLEDGE OF YOUNG INDIVIDUALS REGARDING THE DAIRY FARMING INDUSTRY

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ABSTRACT

This research delves into the perceptions, attitudes, and knowledge of young individuals concerning the dairy farming industry, a crucial contributor to the global economy. With the global dairy sector accounting for approximately 14% of the world's agricultural output, understanding the perspectives of the youth becomes imperative. The study, employing a cross-sectional design, surveyed 180 participants aged 18-24 to assess their current perceptions, attitudes, and knowledge levels about dairy farming. Through Likert scale analysis, the research unveils a generally positive view of the ethical treatment of animals and the health benefits of dairy products. However, diverse opinions emerge on the environmental impact, contribution to the rural economy, and the modern image of the industry. Notably, participants exhibit a moderate to positive level of knowledge about various aspects of dairy farming. Regression analysis indicates a significant relationship between perceptions, attitudes, knowledge levels, and participants' willingness to engage in the dairy farming sector. This research equips policymakers, industry stakeholders, and educators with insights to foster positive attitudes, bridge information gaps, and attract the next generation to sustainable practices in the dairy farming industry.

KEYWORDS: *Dairy farming, young individuals, perceptions, attitudes, knowledge levels, cross-sectional study, global economy.*

INTRODUCTION

The dairy farming industry is a significant contributor to the global economy and plays a vital role in the food industry. According to a recent report by the Food and Agriculture Organization of the United Nations, the global dairy sector accounts for approximately 14% of the world's agricultural output (Springer ,2023). The dairy industry is a major source of livelihood for millions of people worldwide, and it is an essential source of nutrition for billions of people (IFCN Dairy Report 2015).

Understanding young individuals' perceptions, attitudes, and knowledge towards the dairy farming industry is crucial for several reasons. Firstly, it can help identify the factors that influence their decision-making process when it comes to choosing a career in the dairy industry. Secondly, it can help identify the gaps in their knowledge and understanding of the industry, which can be addressed through education and awareness programs (Beecher, et al. 2022) . Thirdly, it can help identify the challenges faced by the industry in attracting and retaining young talent, which can be addressed through policy interventions and other measures (Beecher, et al. 2022)

SIGNIFICANCE AND SCOPE

Unveiling the perceptions, attitudes, and knowledge of young individuals regarding the dairy farming industry is of critical importance. By understanding their perspective, we can navigate the challenges within this sector and promote sustainable practices for the future. The findings of this study will equip policymakers, industry stakeholders, and educators with the necessary insights to attract and engage the next generation of dairy farmers. Exploring pre-existing views, knowledge gaps, and influential factors (socio-economic, cultural, educational) will guide targeted interventions that foster positive attitudes and bridge information disparities, ultimately contributing to the continued growth and viability of the dairy farming industry. While acknowledging inherent limitations, such as regional variations and evolving societal sentiments, this study strives to provide valuable insights applicable to diverse audiences, propelling positive change within the realm of dairy farming and ensuring its future success

RESEARCH OBJECTIVES

- Objective 1: Assess current perceptions and attitudes
- Objective 2: Evaluate knowledge levels about dairy farming
- Objective 3: Explore factors influencing perceptions and willingness to engage

HYPOTHESIS OF THE STUDY

- H0: There is no significant relationship between Perceptions and Attitudes, Knowledge Levels about Dairy Farming, and the outcome variable.

REVIEW OF LITERATURE

The research authored by Geza et al. (2021) examines the obstacles and prospects of engaging young individuals in agricultural activities in Africa. The researchers discovered that current agricultural interventions prioritise output and offer insufficient revenue for low-income individuals, as well as inadequate social safety. Additionally, it was discovered that the younger generation holds negative views regarding the potential of agriculture to enhance their quality of life. The study conducted by Magagula and Tsvakirai (2020) examines the characteristics of how young individuals perceive and how these views impact their intentions to participate in agripreneurship. The survey findings indicate that the young individuals had favourable economic perceptions of the agricultural industry. Consentino F. et al. (2023) This research examines the negative aspects that impact the way young individuals perceive agriculture by doing a literature review of the last decade. The study conducted by Sullivan et al. (2022) assesses the viewpoints of animal science students about animal welfare in order to ascertain whether these viewpoints vary depending on the animal categories. The paper authored by Marriott and Cassaday (2022) examines the influence of ideas about animals, their perceived emotional attractiveness, and persons' moral capabilities on attitudes towards animal utilisation.

Huambachano et al. (2022) examine the involvement of young individuals as participants in knowledge networks related to food systems. It highlights the importance of implementing policies and practices that promote knowledge connected to food systems in two specific ways: by making formal education systems more accessible to all and by enhancing grassroots research and innovation networks. In their 2019 study, Yami et al. discuss the successes and limitations of interventions aimed at addressing the disparities in young people's ambitions to engage in agribusiness, their access to resources like as land, funding, and information, and their participation in collective action. The document titled "Promoting Youth Engagement and Employment in Agriculture and Food Systems" was published by the Food and Agriculture Organisation (FAO) with no specified date. This research examines several policy areas, including jobs, resources, knowledge, and innovations, in order to provide recommendations for improving the involvement of young people in food systems and helping to achieve the aims of SDG 2 and the overall 2030 Agenda for Sustainable Development. The authors Huambachano et al. published a paper in 2022. This report examines the difficulties and potential advantages of including young people in the agricultural sector in Africa. The researchers discovered that current agricultural interventions prioritise output and result in insufficient income for low-income individuals, as well as inadequate social protection.

The study conducted by Akosah-Twumasi et al. (2018) offers a comprehensive analysis of the factors that impact the job decisions of young individuals in both collectivist and individualistic cultural contexts. The researchers discovered that young individuals from collectivist cultures were primarily influenced by familial expectations, whereas personal curiosity had a significant role in shaping job choices in individualistic environments. This study conducted by Sharif et al. (2019) investigates the influence of many factors, such as mothers, dads, tutors, future income, future status, and societal difference, on the profession choices of young students. These elements are collectively referred to as "Influencers" in the study. This research examines multiple drivers of job decision-making, such as family, teachers, peers, and career interest. The objective of this study conducted by Upadhaya et al. (2021) is to ascertain the factors that determine farmers' involvement in watershed management. The researchers discovered that farmers' engagement was positively influenced by various factors, including access to information from both public and private sources, knowledge and attitudes towards techniques for reducing nutrient loss, proximity of farms to water bodies, and the availability of cost-share and technical help. The study conducted by Rizzo et al. (2023) offers a thorough examination of the various elements that influence the behaviour of farmers in industrialised nations when it comes to adopting innovative practices. The researchers discovered that some attributes of innovation promote the process of adopting innovation, together with individual psychological and socio-demographic traits. Zhao et al. (2021) This study examines the prevalent elements that impact the acceptance of sustainable technologies in the field of agriculture. The components can be classified into six distinct areas: socioeconomic, agroecological, institutional, informational, purposeful, and perceived aspects of technology.

In conclusion, the reviewed literature provides valuable insights into the perceptions, attitudes, knowledge levels, and influencing factors of young individuals regarding the dairy farming industry. These findings can guide the development of interventions to promote youth engagement in this sector.

RESEARCH METHODOLOGY

1. Study Design

- The research followed a cross-sectional design to assess the perceptions, attitudes, and knowledge of young individuals regarding the dairy farming industry.

2. Population and Sample

- The target population consisted of young individuals aged 18-24 years. Convenience sampling was employed, selecting 180 participants from various backgrounds.

3. Data Collection

- *Instrument:* A structured questionnaire was utilized as the primary data collection tool.

- *Questionnaire Design:* The questionnaire incorporated Likert scale questions to capture nuanced responses. Participants were asked to express their agreement or disagreement on a scale from "Strongly Disagree" to "Strongly Agree."
- *Domains Covered:* The questionnaire included sections on demographics, current perceptions and attitudes, knowledge levels about dairy farming, and factors influencing perceptions and willingness to engage.

4. Data Analysis

- *Descriptive Analysis:* Demographic information was analyzed using descriptive statistics, presenting counts and percentages for gender and age distribution.

- *Likert Scale Analysis:* Responses to Likert scale questions were analyzed using both percentages and mean scores to provide a comprehensive understanding of participants' attitudes, perceptions, and knowledge levels.
- *Regression Analysis:* The relationship between Perceptions and Attitudes, Knowledge Levels about Dairy Farming, and the outcome variable was explored using linear regression. Model fit measures, omnibus ANOVA tests, and model coefficients were employed to interpret the regression analysis.

RESULT & FINDINGS

Table 1: Gender & Age

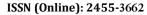| Gender	Counts	% of Total
Female	97	53.9 %
Male	83	46.1 %
Age	**Counts**	**% of Total**
18-21	100	55.6 %
22-24	40	22.2 %
Above 24	40	22.2 %

The provided data presents information on the distribution of respondents based on gender and age categories. In terms of gender, the majority of respondents are female, comprising 53.9% of the total sample, while males constitute 46.1%. This suggests a relatively balanced representation of gender in the surveyed population, although there is a slight skew towards female respondents.

When examining the distribution by age, the data is divided into three categories: 18-21, 22-24, and above 24. The largest proportion of respondents falls within the 18-21 age group, accounting for 55.6% of the total sample. The 22-24 age group and the above 24 age group each represent 22.2% of the respondents.

Table 2: Assess Current Perceptions and Attitudes	Strongly Disagree	Disagree	Neutral	Agree	Strongly Disagree	Mean
I believe the dairy farming industry treats animals ethically.	2.2 %	0.6 %	8.9 %	45.6 %	42.8 %	4.26
Dairy products are an essential part of a healthy diet.	2.2 %	1.7 %	16.7 %	42.2 %	37.2 %	4.11
The environmental impact of the dairy farming industry is a major concern.	5.0 %	3.3 %	23.9 %	48.9 %	18.9 %	3.73
Dairy farmers are contributing positively to the rural economy.	4.4 %	7.8 %	30.0 %	40.6 %	17.2 %	3.58
The dairy farming industry has a modern and innovative image.	2.2 %	5.6 %	30.0 %	42.8 %	19.4 %	3.72

Table 2 presents the responses of participants regarding their current perceptions and attitudes towards the dairy farming industry. The data is structured in a Likert scale format, ranging from "Strongly Disagree" to "Strongly Agree," with corresponding percentages for each response category and the mean score provided for each statement.

The first statement, "I believe the dairy farming industry treats animals ethically," indicates that a significant portion of respondents (45.6%) agrees with this statement, while a considerable percentage (42.8%) strongly agrees. This suggests a generally positive perception of the ethical treatment of animals in the dairy farming industry. The mean score of 4.26 further supports this, reflecting a favorable overall attitude.

For the statement "Dairy products are an essential part of a healthy diet," a substantial portion of respondents (42.2%) agrees, with an additional 37.2% expressing a strong agreement. This indicates a predominant positive perception regarding the health benefits of dairy products. The mean score of 4.11 reinforces the overall favorable attitude towards the essential role of dairy products in a healthy diet.

Regarding the environmental impact of the dairy farming industry, the responses are more varied. While 48.9% agree that the environmental impact is a major concern, a significant percentage (23.9%) remains neutral. This suggests a diversity of opinions on this particular aspect. The mean score of 3.73 reflects a moderate level of concern on average.

For the statement "Dairy farmers are contributing positively to the rural economy," respondents show a mixed perspective. While 40.6% agree, a notable proportion (30.0%) remains neutral. This indicates some ambiguity in the perceived contribution of dairy farmers to the rural economy. The mean score of 3.58 suggests a somewhat positive but not overwhelmingly strong perception.

Lastly, regarding the modern and innovative image of the dairy farming industry, 42.8% agree, and 30.0% are neutral. This implies that a substantial portion sees the industry as modern and innovative, while others may not hold a firm opinion. The mean score of 3.72 aligns with a moderately positive perception overall.

In conclusion, the survey results reflect a generally positive view of the ethical treatment of animals and the health benefits of dairy products. However, there is more variability in perceptions related to environmental impact, the contribution of dairy farmers to the rural economy, and the modern image of the industry. The mean scores provide a quantitative measure of these perceptions, aiding in the overall understanding of attitudes towards the dairy farming industry among the surveyed participants.

Table 3: Evaluate Knowledge Levels about Dairy Farming	Strongly Disagree	Disagree	Neutral	Agree	Strongly Disagree	Mean
I understand the different processes involved in dairy milk production.	3.9 %	8.9 %	27.2 %	38.3 %	21.7 %	3.65
I am familiar with the environmental impact of dairy farming practices.	3.3 %	3.9 %	25.6 %	50.0 %	17.2 %	3.74
I know about the economic factors affecting the dairy farming industry.	5.0 %	1.7 %	26.7 %	45.6 %	21.1 %	3.76
I am aware of the different types of dairy farms (e.g., organic, conventional).	3.3 %	5.6 %	29.4 %	43.3 %	18.3 %	3.68
I understand the role of technology in modern dairy farming.	3.3 %	4.4 %	26.1 %	43.3 %	22.8 %	3.78

Table 3 provides insights into participants' knowledge levels about dairy farming across various dimensions. Each statement in the table represents a specific aspect of knowledge, with responses ranging from "Strongly Disagree" to "Strongly Agree," along with corresponding percentages and mean scores.

The first statement, "I understand the different processes involved in dairy milk production," indicates that a substantial portion of respondents (38.3%) agrees, and an additional 27.2% is neutral. This suggests a moderate level of understanding about dairy milk production processes, as reflected in the mean score of 3.65.

For the statement "I am familiar with the environmental impact of dairy farming practices," responses are more varied. Half of the participants (50.0%) agree, while 25.6% remain neutral. This suggests a relatively higher level of awareness about the environmental impact of dairy farming practices. The mean score of 3.74 supports this perception.

Regarding knowledge about economic factors affecting the dairy farming industry, 45.6% of respondents agree, and 26.7% are neutral. This indicates a positive but not unanimous understanding of the economic aspects of dairy farming. The mean score of 3.76 suggests a moderately positive level of knowledge.

When it comes to awareness of different types of dairy farms, such as organic and conventional, 43.3% agree, and 29.4% are neutral. This implies a relatively moderate level of familiarity with the diverse types of dairy farming. The mean score of 3.68 aligns with this moderate level of knowledge.

Lastly, in understanding the role of technology in modern dairy farming, 43.3% agree, and 26.1% are neutral. This suggests a reasonably positive perception of knowledge about the technological aspects of dairy farming, supported by the mean score of 3.78.

In conclusion, the participants generally exhibit a moderate to positive level of knowledge about various aspects of dairy farming. While there is a notable understanding of the environmental impact and technology's role, some areas, such as processes in dairy milk production and economic factors, demonstrate a more diverse range of knowledge levels. The mean scores offer a quantitative assessment of participants' knowledge,

aiding in the overall interpretation of their awareness and comprehension of dairy farming practices.

Table 4: Factors Influencing Perceptions and Willingness to Engage	Strongly Disagree	Disagree	Neutral	Agree	Strongly Disagree	Mean
My upbringing or family background influences my views on the dairy farming industry.	4.4 %	5.6 %	21.7 %	51.1 %	17.2 %	3.71
My education or access to information about the dairy farming industry has shaped my opinions.	3.3 %	3.3 %	17.2 %	45.6 %	30.6 %	3.97
My peers and social circle have an impact on my perception of the dairy farming industry.	2.2 %	2.2 %	20.6 %	41.7 %	33.3 %	4.02
Media portrayals of the dairy farming industry have influenced my views.	2.8 %	2.2 %	26.7 %	40.0 %	28.3 %	3.89
I would consider a career or business venture in the dairy farming industry.	3.9 %	3.3 %	19.4 %	40.0 %	33.3 %	3.96

Table 4 explores the various factors influencing participants' perceptions and willingness to engage with the dairy farming industry. Each statement in the table represents a different influencing factor, with responses ranging from "Strongly Disagree" to "Strongly Agree," along with corresponding percentages and mean scores.

The first statement, addressing the influence of upbringing or family background on views about the dairy farming industry, reveals that a substantial majority of participants (51.1%) agree, indicating that family background significantly impacts their perceptions. The mean score of 3.71 supports the idea that familial influences play a noteworthy role in shaping views on the industry.

The second statement pertains to education and access to information shaping opinions about the dairy farming industry. A considerable portion of respondents (45.6%) agrees with this statement, reflecting the impact of education and information on their opinions. The high mean score of 3.97 underscores the influential role of education and information in shaping perceptions.

The third statement addresses the influence of peers and social circles on participants' perceptions of the dairy farming industry. A substantial majority (41.7%) agrees, emphasizing the social aspect's impact on their views. The mean score of 4.02 suggests a significant influence of peers and social circles in shaping perceptions.

Regarding media portrayals, 40.0% of participants agree that media has influenced their views on the dairy farming industry. The mean score of 3.89 indicates a moderate impact of media portrayals on participants' perceptions.

Lastly, the statement about considering a career or business venture in the dairy farming industry reveals that 40.0% of respondents agree. This suggests a notable percentage of participants open to engaging in the industry, as supported by the mean score of 3.96.

In conclusion, the findings suggest that various factors significantly influence participants' perceptions and willingness to engage with the dairy farming industry. Family background, education, peer influence, media portrayals, and the openness to a career in the industry all contribute to shaping participants' attitudes. The mean scores provide a quantitative measure of the strength of these influences. Overall, these insights can be valuable for industry stakeholders and policymakers in understanding the multifaceted nature of factors that impact public perceptions and engagement with the dairy farming sector.

TESTING OF HYPOTHESIS
H0: There is no significant relationship between Perceptions and Attitudes, Knowledge Levels about Dairy Farming, and the outcome variable.
Result

The linear regression model was used to examine the factors influencing perceptions and willingness to engage in a study related to dairy farming. The overall model fit was assessed using the overall model test, which revealed a significant result (F = 104, df1 = 2, df2 = 177, p < 0.001). The model explained a substantial portion of the variance in the dependent variable, as indicated by the coefficient of determination ($R^2 = 0.539$), and the model's overall significance.

Moving on to the omnibus ANOVA test, which decomposed the sum of squares into different components, the results showed that both Perceptions and Attitudes (F = 8.78, p = 0.003) and Knowledge Levels about Dairy Farming (F = 55.23, p < 0.001) significantly contributed to the variance in the dependent variable. The Residuals, representing unexplained variance, had a mean square of 7.36.

Examining the model coefficients, the intercept was found to be 4.701 (SE = 1.1121, p < 0.001), indicating the estimated baseline value when both predictor variables are zero. Perceptions and Attitudes had a positive coefficient of 0.202 (SE = 0.0681, p = 0.003), suggesting that as perceptions and attitudes increase, the dependent variable is expected to increase. Similarly, Knowledge Levels about Dairy Farming had a positive coefficient of 0.547

(SE = 0.0736, p < 0.001), indicating that higher knowledge levels are associated with an increase in the dependent variable.

In conclusion, the regression model demonstrates that both Perceptions and Attitudes and Knowledge Levels about Dairy Farming significantly contribute to predicting perceptions and willingness to engage in the context of the study. The positive coefficients for both predictors suggest a positive relationship with the dependent variable.

Linear Regression

Table 5: Model Fit Measures

Model			Overall Model Test			
Model	R	R²	F	df1	df2	p
1	0.734	0.539	104	2	177	< .001

Table 6: Omnibus ANOVA Test

	Sum of Squares	df	Mean Square	F	p
Perceptions and Attitudes	64.7	1	64.68	8.78	0.003
Knowledge Levels about Dairy Farming	406.7	1	406.73	55.23	< .001
Residuals	1303.4	177	7.36		

Note. Type 3 sum of squares

Table 7: Model Coefficients - Factors Influencing Perceptions and Willingness to Engage

			95% Confidence Interval			
Predictor	Estimate	SE	Lower	Upper	t	p
Intercept	4.701	1.1121	2.5059	6.895	4.23	< .001
Perceptions and Attitudes	0.202	0.0681	0.0675	0.336	2.96	0.003
Knowledge Levels about Dairy Farming	0.547	0.0736	0.4019	0.693	7.43	< .001

DISCUSSION

The findings of this study shed light on the perceptions, attitudes, and knowledge of young individuals regarding the dairy farming industry. These insights are crucial for understanding the factors that influence decision-making processes related to careers in the dairy industry, addressing knowledge gaps, and identifying challenges in attracting and retaining young talent.

- **Perceptions and Attitudes:** The results indicate generally positive perceptions regarding the ethical treatment of animals in the dairy farming industry and the essential role of dairy products in a healthy diet. However, there is more variability in perceptions related to the environmental impact, the contribution of dairy farmers to the rural economy, and the modern image of the industry. The nuanced insights provided by mean scores help gauge the strength of these attitudes. This aligns with your findings of variability in perceptions related to the environmental impact and the modern image of the industry (Ly et al., 2021).

- **Knowledge Levels about Dairy Farming:** Participants demonstrated a moderate to positive level of knowledge

about various aspects of dairy farming. While there is a notable understanding of the environmental impact and technology's role, there are diverse knowledge levels in areas such as dairy milk production processes and economic factors. The mean scores provide a quantitative measure of participants' awareness and comprehension. This is somewhat consistent with your findings of a moderate to positive level of knowledge among participants (Singh et al, 2018) (Mali et al., 2014)

- **Factors Influencing Perceptions and Willingness to Engage:** Family background, education, peers, media, and openness to a career in the industry were identified as significant factors influencing participants' perceptions and willingness to engage with the dairy farming sector. The mean scores quantify the strength of these influences, emphasizing the importance of considering multiple factors when formulating strategies to attract young individuals to the industry.

- **Regression Analysis:** The regression analysis confirmed that both Perceptions and Attitudes and Knowledge Levels about Dairy Farming significantly contribute to predicting

perceptions and willingness to engage. The positive coefficients suggest that as perceptions and attitudes, as well as knowledge levels, increase, the willingness to engage in the dairy farming industry also increases.

CONCLUSION
In conclusion, this study provides valuable insights into the complex dynamics surrounding young individuals' perceptions, attitudes, and knowledge regarding the dairy farming industry. The positive aspects, such as ethical treatment of animals and the essential role of dairy products, can be leveraged in educational and promotional initiatives. The variability in perceptions and knowledge levels highlights the need for targeted interventions to address specific areas of concern or misunderstanding.

The identified factors influencing perceptions and engagement, including familial influences, education, peer networks, media portrayals, and career openness, collectively contribute to the intricate decision-making processes of young individuals. Policymakers, industry stakeholders, and educators can utilize these findings to tailor interventions that resonate with the target demographic, fostering a more informed and positive outlook toward the dairy farming sector.

While the study provides valuable insights, it is essential to acknowledge its limitations. Convenience sampling may introduce bias, limiting the generalizability of the findings. Additionally, the cross-sectional nature of the study restricts the establishment of causal relationships. Future research could employ more diverse sampling methods and longitudinal designs to enhance the robustness of the findings.

In summary, understanding and addressing the perceptions, attitudes, and knowledge of young individuals are pivotal steps in ensuring the continued growth and sustainability of the dairy farming industry. This study contributes to the existing body of knowledge and provides a foundation for future research and targeted interventions in this critical sector.

Implications and Recommendations
The study's implications extend to policymakers, industry stakeholders, and educators, providing a foundation for targeted interventions. Addressing knowledge gaps, shaping positive perceptions, and understanding influential factors are crucial for promoting sustainable practices and attracting the next generation of dairy farmers.

Limitations and Future Directions
Acknowledging limitations, such as sampling bias and the cross-sectional nature of the study, opens avenues for future research. Longitudinal studies and diverse sampling strategies could enhance the generalizability of findings.

In conclusion, this study contributes valuable insights into understanding and influencing the perceptions, attitudes, and knowledge of young individuals regarding the dairy farming

industry. The multifaceted nature of these factors necessitates collaborative efforts to ensure the sector's continued growth and success.
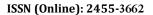
REFERENCES
1. Abe, I. I., & Chikoko, V. (2020, December 1). *Exploring the factors that influence the career decision of STEM students at a university in South Africa. International Journal of STEM Education.* https://doi.org/10.1186/s40594-020-00256-x
2. Akosah-Twumasi, P., Emeto, T. I., Lindsay, D., Tsey, K., & Malau-Aduli, B. S. (2018, July 19). *A Systematic Review of Factors That Influence Youths Career Choices – the Role of Culture. Frontiers in Education.* https://doi.org/10.3389/feduc.2018.00058
3. Beecher, M., Ryan, A., & Gorman, M. (2022). *Exploring adolescents' perceptions of dairy farming careers in Ireland: views of students studying agricultural science in secondary school. Irish Journal of Agricultural and Food Research.*
4. Buyisile Magagula & Chiedza Z. Tsvakirai (2020) *Youth perceptions of agriculture: influence of cognitive processes on participation in agripreneurship, Development in Practice, 30:2, 234-243,* https://doi.org/10.1080/09614524.2019.1670138
5. Consentino F, Vindigni G, Spina D, Monaco C, Peri I. *An Agricultural Career through the Lens of Young People. Sustainability. 2023; 15(14):11148.* https://doi.org/10.3390/su151411148.
6. Food and Agriculture Organization of the United Nations. (2015). *IFCN Dairy Report 2015.* https://www.fao.org/3/cb2992en/cb2992en.pdf
7. Geza W, Ngidi M, Ojo T, Adetoro AA, Slotow R, Mabhaudhi T. *Youth Participation in Agriculture: A Scoping Review. Sustainability. 2021; 13(16):9120.* https://doi.org/10.3390/su13169120
8. Huambachano, M., Arulingam, I., Bowness, E., Korzenszky, A., Mungai, C., Termine, P., & Wittman, H. (2022, September 27). *Knowledge networks to support youth engagement in sustainable food systems. Frontiers in Sustainable Food Systems.* https://doi.org/10.3389/fsufs.2022.867344
9. Ly LH, Ryan EB, Weary DM (2021) *Public attitudes toward dairy farm practices and technology related to milk production. PLoS ONE 16(4): e0250850.* https://doi.org/10.1371/journal.pone.0250850
10. Marriott, S., Cassaday, H.J. *Attitudes to animal use of named species for different purposes: effects of speciesism, individualising morality, likeability and demographic factors. Humanit Soc Sci Commun* **9**, *138 (2022).* https://doi.org/10.1057/s41599-022-01159-8
11. Mali, K. N., Belli, R. B., & Guledagudda, S. S. (2014, August 15). *A study on knowledge and adoption of dairy farmers about improved dairy management practices. Agriculture Update.* https://doi.org/10.15740/has/au/9.3/391-395
12. *Promoting youth engagement and employment in agriculture and food systems | FAO. (n.d.).* https://www.fao.org/family-farming/detail/en/c/1414717/
13. Rizzo, G., Migliore, G., Schifani, G., & Vecchio, R. (2023, August 16). *Key factors influencing farmers' adoption of*

sustainable innovations: a systematic literature review and research agenda. Organic Agriculture.
https://doi.org/10.1007/s13165-023-00440-7

14. *Singh, J., Kumar, P., & Singh, A. (2018, June 1). Knowledge Level of Dairy Farmers about Scientific Dairy Practices in Jammu District of Jammu & Kashmir. ResearchGate.*
https://www.researchgate.net/publication/342164708_Knowledge_Level_of_Dairy_Farmers_about_Scientific_Dairy_Practices_in_Jammu_District_of_Jammu_Kashmir

15. *Sharif, N. (2019, August 4). Factors Influencing Career Choices.*
https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3431911

16. *Springer. (2023, July 14). A review of megatrends in the global dairy sector: what are the socioecological implications? Agriculture and Human Values.*
https://link.springer.com/article/10.1007/s10460-022-10338-x

17. *Sullivan P, Mijares S, Davis M, Oselinsky K, Cramer C, Román-Muñiz N, Stallones L, Edwards-Callaway L. A Nationwide Survey of Animal Science Students' Perceptions of Animal Welfare across Different Animal Categories at Institutions in the United States. Animals. 2022; 12(17):2294. https://doi.org/10.3390/ani12172294*

18. *Upadhaya, S., & Arbuckle, J. G. (2021, July 29). Understanding Factors Influencing Farmers' Engagement in Watershed Management Activities. Frontiers in Sustainable Food Systems. https://doi.org/10.3389/fsufs.2021.669571*

19. *Yami, M., Feleke, S., Abdoulaye, T., Alene, A. D., Bamba, Z., & Manyong, V. M. (2019, January 1). African Rural Youth Engagement in Agribusiness: Achievements, Limitations, and Lessons. Sustainability. https://doi.org/10.3390/su11010185*

20. *Zhao, W., Liu, J., Li, T., Chao, J., & Gao, X. (2021, November 29). Factors Affecting New Agricultural Business Entities' Adoption of Sustainable Intensification Practices in China: Evidence from the Main Apple-Producing Areas in the Loess Plateau. Agronomy.*
https://doi.org/10.3390/agronomy11122435