

**COMPETENCY MAPPING AMONG EMPLOYEES OF KERALA
AGRICULTURAL UNIVERSITY**

by

AAYSHA KAMAR

(2019-21-048)

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DEPARTMENT OF AGRICULTURAL EXTENSION

COLLEGE OF AGRICULTURE

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KERALA, INDIA

2024

DECLARATION

I, hereby declare that this thesis entitled “**COMPETENCY MAPPING AMONG EMPLOYEES OF KERALA AGRICULTURAL UNIVERSITY**” is a bonafide record of research work by done by me and that the thesis has not previously formed the basis of the award to me for any of degree, diploma, associateship, fellowship or another similar title, of any other university of society.

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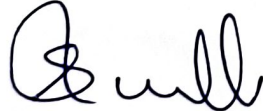
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"It always seems impossible until it's done."

Aaysha Kamar

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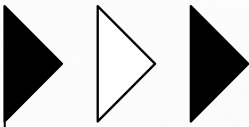
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*"Research is to see what
everybody else has seen,
and to think what nobody
else has thought."*

- Albert Szent Györgyi



Introduction



I. INTRODUCTION

In today's rapidly changing work environment, characterized by technological advancements and dynamic socio-economic shifts, organizations across various sectors are increasingly concentrating on optimizing their human resources. Identifying and aligning individual skills, knowledge, and abilities with organizational roles and objectives, has become a critical strategy for enhancing workforce efficiency and adaptability. For institution like Kerala Agricultural University (KAU), this holds significant potential in ensuring that employees capabilities are aligned with the ever-evolving needs of the agricultural sector.

Kerala Agricultural University as a premier institution committed to agricultural higher education, research, and extension, bears the crucial responsibility of promoting sustainable agricultural practices across the state of Kerala. The institution's workforce, which includes academic faculty, technical staff, administrative staff, and labourers, are fundamental in achieving the mission of fostering agricultural innovation and excellence. The success and dynamism of any organization, particularly within a university setting, depend heavily on the collective capabilities and commitment of its workforce. In the vibrant ecosystem of a university, the research output and knowledge dissemination are powered by its dedicated employees. However, for KAU to fully realize the institutional potential of KAU, it is imperative that its workforce possesses the requisite competencies to address the contemporary challenges in agriculture. As noted by Raj and John (2020), "Competency mapping serves as a strategic tool to align employee capabilities with the organization's long-term goals, thus fostering innovation and performance."

As organizations go along with rapid technological advancements, understanding the intricate dynamics of employee engagement, motivation, and well-being has become increasingly important. The agricultural sector has witnessed profound changes in recent years, spurred by advancements in areas such as precision farming, digital agriculture, biotechnology, and sustainable resource management. These developments necessitate an evaluation of the competencies required by professionals working in agriculture. Previously, skill sets were the primary driver of organizational competitiveness; however, there has been a discernible shift in organizational strategy. Nowadays, organizations prioritize excellence over mere competition. As Devi and Rajesh (2019) stated, "Competency mapping in the era of digital transformation has become a critical enabler for

organizations to develop skills that are necessary for navigating technological disruptions.” For an institution like KAU, this implies that employees must not only be proficient in traditional agricultural knowledge but also possess skills in digital literacy, communication, and leadership to effectively address modern agricultural challenges. Consequently, as we delve into the depths of employee performance, we are compelled to explore the underlying competencies that drive individual and organizational success within the university landscape. Inspired by the words of management guru Peter Drucker, it was recognized that “What gets measured gets managed” (Drucker, 1967).

For more than four decades, competencies have integrated deeply into human resources management, serving as crucial tools for enhancing both individual and organizational effectiveness (Chouhan and Srivastava, 2014). In today's competitive and rapidly evolving job market, the concept of competency aims to explore how organizations can identify, nurture, and leverage the diverse competencies of their workforce.

Currently, continuous learning and professional development are integral to maintaining workforce competence in this fast-changing scenario. Nair and Krishnan (2018) observed that “Strategic human resource development through competency mapping enhances organizational performance by ensuring that employees are continuously upskilled and reskilled in response to changing external conditions.” In light of the increasingly competitive and evolving nature of the agricultural sector, higher education and research institutions such as KAU must frequently evaluate and improve their employees' competency to remain relevant and impactful. Furthermore, competency mapping serves as a critical tool in fostering a culture of continuous learning and career development. As Nair and Krishnan (2018) asserted, “Competency mapping ensures that employees are continuously upskilled and reskilled, enhancing their capacity to adapt to changes in the external environment and meet future organizational demands”.

The university plays a pivotal role in educating future agricultural professionals, advancing cutting-edge research, and delivering essential extension services to the farming community. However, to ensure that its workforce remains aligned with the rapid transformations in the agricultural sector, KAU must adopt and integrate contemporary human resource practices, including competency mapping. Singh and Kumar (2021) argued that “competency mapping had the potential to improve the effectiveness of agricultural extension services by equipping officers with the necessary technical and interpersonal skills to address the dynamic needs of rural communities”. This underlines the growing

recognition of competency mapping in agricultural institutions as a tool to enhance both individual and institutional performance.

As noted by Devi and Rajesh (2019), “Competency mapping is critical in the digital age, as it helps organizations identify the competencies required to navigate technological disruptions and capitalize on opportunities for growth”. According to KAU, this necessitates not just the conservation of conventional agricultural skills but also the development of competency in emerging technologies, digital tools, and innovative problem-solving techniques. Competency mapping provides a structured approach to identify competency gaps and implementing targeted strategies to upskill the employees of the university accordingly.

By systematically identifying the key competencies required across various roles within KAU - whether in teaching, research, or administration - this study seeks to assess the current competency levels of employees and propose recommendations for bridging identified gaps. Competency mapping has emerged as an essential tool to bridge the gap between the current capabilities of the workforce and the competencies required to meet future challenges. Shilpa and Prasad (2017) emphasized that “Competency mapping enables organizations to identify critical competencies and align them with organizational goals, ensuring that employees are better equipped to meet evolving challenges.”

Competency mapping plays a crucial role in performance management and career development, providing employees with a clearer understanding of their roles, expectations, and pathways for advancement. As Raj and John (2020) noted, “Competency mapping helps employees understand the competencies they need for career progression, leading to higher job satisfaction and better organizational performance”. By competency mapping, KAU can enhance individual performance, boost motivation, and workforce engagement, all of which contribute to the university’s broader mission of promoting agricultural innovation and education.

As suggested by Jha and Yadav (2022) “Competency mapping improves operational efficiency by ensuring that the right people with the right skills are in the right roles”. The insights gained from applying competency mapping at KAU will be instrumental in developing a workforce that is well-prepared to lead agricultural advancements in Kerala and beyond.

Recent studies highlighted the importance of employee engagement and skill development in promoting institutional agility and innovation (Smith and Abrahams, 2021; Johnson *et al.*, 2020). These insights underline the necessity of continuous professional development, collaborative work cultures, and the strategic alignment of individual competencies with organizational goals. Understanding these elements is vital for optimizing the potential of the university workforce and ensuring sustainable growth in both educational outcomes and institutional reputation.

By identifying and aligning the necessary skills and behaviours for specific roles, organizations can enhance recruitment accuracy, tailor training programs, and foster continuous employee development. Competency mapping not only improves workforce readiness but also significantly boosts employee engagement and retention by creating clear pathways for career growth and skill advancement (Williams and Cooper, 2023). Competency mapping greatly improves talent acquisition by establishing a structured approach and identifying the precise skills and behaviours required for specific roles. This results in more precise job descriptions, enhanced candidate screening, and more efficient selection processes (Lievens and Sackett, 2017).

1.1. HISTORY AND BACKGROUND OF KERALA AGRICULTURAL UNIVERSITY

As the history of Kerala Agricultural University (KAU) unfolds, tracing its roots back to the visionary recommendations of the second national education commission led by Dr. D.S. Kothari from 1964 to 1966, a journey of transformation emerges. The commission's proposal for the establishment of an agricultural university in each state laid the foundation for what would become KAU. With the enactment of Act 33 of 1971 on 24 February, 1971, Kerala Agricultural University was born, commencing its operations from 1 February, 1972 (Kerala Agricultural University, 2024).

Kerala Agricultural University, recognized by the Indian Council of Agricultural Research (ICAR) as SAU, stands as a state institution of higher learning for agricultural studies. Presently, KAU has nine colleges; seven under the faculty of agriculture, one under the faculty of agricultural engineering, and another under the faculty of forestry. Additionally, the university encompasses six Regional Agricultural Research Stations (RARS), seven Krishi Vigyan Kendras (KVK), seventeen research stations, and seven extension centers (KAU, 2023). The organizational structure of KAU is visually shown as a flowchart in the Fig.1.

Amidst the rich history and institutional evolution, KAU has the best qualified human resources with technical competency over an array of subject areas related to agriculture. The university has the workforce of 486 teaching staff, 1601 labourers, 1077 non-teaching staff and 36 technical officers as on 01/09/2024

Competency in agricultural pursuits is a cornerstone of commitment to excellence. This involves cultivating a skilled workforce proficient in the diverse aspects of agriculture, from crop production, crop management to agribusiness. Educational programs are designed to install not only theoretical knowledge but also practical expertise, ensuring that graduates are well-equipped to address the complex challenges facing the agricultural sector. Furthermore, our research initiatives focus on advancing competence by developing innovative solutions to contemporary agricultural issues. As KAU adapts to the demands of modern agriculture and education, understanding the competencies of employees is essential for organizational success. By mapping the competencies required across various job roles within KAU, from teaching and research to administration and support services, the university can optimize talent management strategies, enhance employee performance, and ultimately drive organizational success.

Training and development are essential to prepare the employees to handle more challenging tasks. Individuals can enhance their skills and knowledge through participation in a variety of training and development programs (Kansal *et al.*, 2012). The benefits of training extend beyond individual growth to positively impact organizations, contributing to increased productivity, employee satisfaction, and overall success.

According to Riyanto *et al.* (2021), engaging in training programs could lead to enhanced performance among employees. Ghufli (2014) emphasized the significance of training in improving employees' skills, knowledge, and abilities essential for job performance. It is widely regarded as a crucial factor for maintaining success and attaining desired performance outcomes among employees. Training is a process involving the transfer of skills and experience from individuals possessing them to those lacking the requisite skills and experience (Armstrong and Taylor, 2020). Competency mapping will be carried out by identifying the gaps required for performing the assigned job roles efficiently. These gaps can subsequently be remedied through training, increasing organisational performance and making it simpler to fulfil objectives (Kaur and Kumar, 2013).

Central Training Institute (CTI) serves as the nodal point of KAU's HRD activity and is mandated with training administration, documentation, negotiation, liaison, exploring scope for state and national training programmes. The Central Training Institute under the Directorate of Extension at Thrissur, Kerala facilitates the transfer of technology generated by the research system to the various categories of stakeholders through various types of trainings. CTI administers and documents all non-KVK training activity of KAU and also fulfils university's extension mandate by equipping the equippers in the transfer of technology. CTI showcases KAU's human resource core competencies and caters to the HRD needs of KAU's scientific, administrative and support staff (CTI, 2024). According to Wankhade *et al.* (2012), a well-designed training programme based on the needs of the participants would result in gain in their knowledge substantially which ultimately lead to satisfaction.

1.2. STATEMENT OF THE PROBLEM

In the light of rising complexity and expectations in agricultural sector's, Kerala Agricultural University (KAU) have significant challenges in ensuring their employees to prepare with the necessary competency in fulfil changing job requirements. However, the efficacy of KAU in executing its mandate is heavily reliant on the competency of workforce. While the university's employees possess significant competency, there is a lack of systematic assessment in employee's competency. Competence mapping can ensure the university's capacity to optimize human resources.

It is essential for identifying current strengths, identifying skill shortages, and developing focused workforce development plans, assuring KAU's continued leadership in agricultural education, research, and extension. To enhance the competency and job performance of employees of KAU, it is very important to map the competency gap and to delineate the factors affecting job performance. By mapping competency gap, need based training programmes can be organized. Integrating competency mapping with a focused training programme approach is critical for improving employee competencies and meeting the future organizational goals.

It is important to address several critical questions related to employee competency and development at Kerala Agricultural University. Firstly, to seek "what is the gap between existing and required levels of competency among employees?" to meet the university's goal, to explore "what are the factors affecting job performance of

employees?" providing insights into the dynamics that impact their effectiveness. Furthermore, to determine what are the specific training needs of employees? and to offer recommendations on how to structure training programs that are tailored to these training needs, ensuring that they are relevant and aligned with both individual and organizational goals.

Thus, it is crucial to carry out competence mapping research at the university in order to provide a data-driven basis for workforce development. So far, there has been no study on competency mapping done in Kerala Agricultural University. The above-mentioned requirements make this research study vital for Kerala Agricultural University.

1.3. OBJECTIVES OF THE STUDY

- ☞ To understand the gap between existing and required level of competency among KAU employees.
- ☞ To identify the training needs of employees of KAU.
- ☞ To evaluate the factors affecting the performance of employees.
- ☞ To formulate training design for enhancing the competency of each category of the employees of KAU.

1.4. SCOPE OF THE STUDY

The practical utility of the present study is comprehensive and beneficial for both the Kerala Agricultural University and its workforce.

The present study seeks to delve into the multifaceted realm of employees, exploring their pivotal role in organizational performance, recognizing the fundamental competencies essential for various roles within KAU, taking into account the unique characteristics of agricultural education, research and extension. The identified competencies align with KAU's strategic goals and objectives, contributing to the overall success of the university should be ensured. It enables to evaluate employees current competencies and performance. This helps to conduct a gap analysis to pinpoint disparities between the existing skill set of employees and the required competencies for performing their respective roles. Moreover, the study can propose and design training initiatives to address the identified gaps and enhance the individual competencies of employees to foster a resilient and thriving workforce. This research aims to contribute valuable insights to the fields of organizational behaviour, human resource management, and leadership, providing a foundation for cultivating environments where employees not only contribute effectively but also find

fulfilment and growth in their professional journey. Addressing these aspects, the study offers valuable insights into optimizing the workforce at KAU, fostering a culture of continuous improvement in overall performance and productivity of employees at the university.

This study delves the complex network of university employees, systematically uncovering the various roles and diverse contributions they make within the educational environment. By adopting an interdisciplinary approach, this study seeks to unravel the intricacies of the university workforce, shedding light on the essential roles that drive institutional success.

From employees perspective, this study helps to understand the career development efforts to be undertaken by the employees and from the university's perspective, it helps to design future training programmes. This research study is proposed to design training as need based HRD programmes and thereby to enhance the performance of employees in KAU. Thus, it is envisaged that the outcome of this study would aid the Central Training Institute in organising need based and effective human resource development programme for its employees.

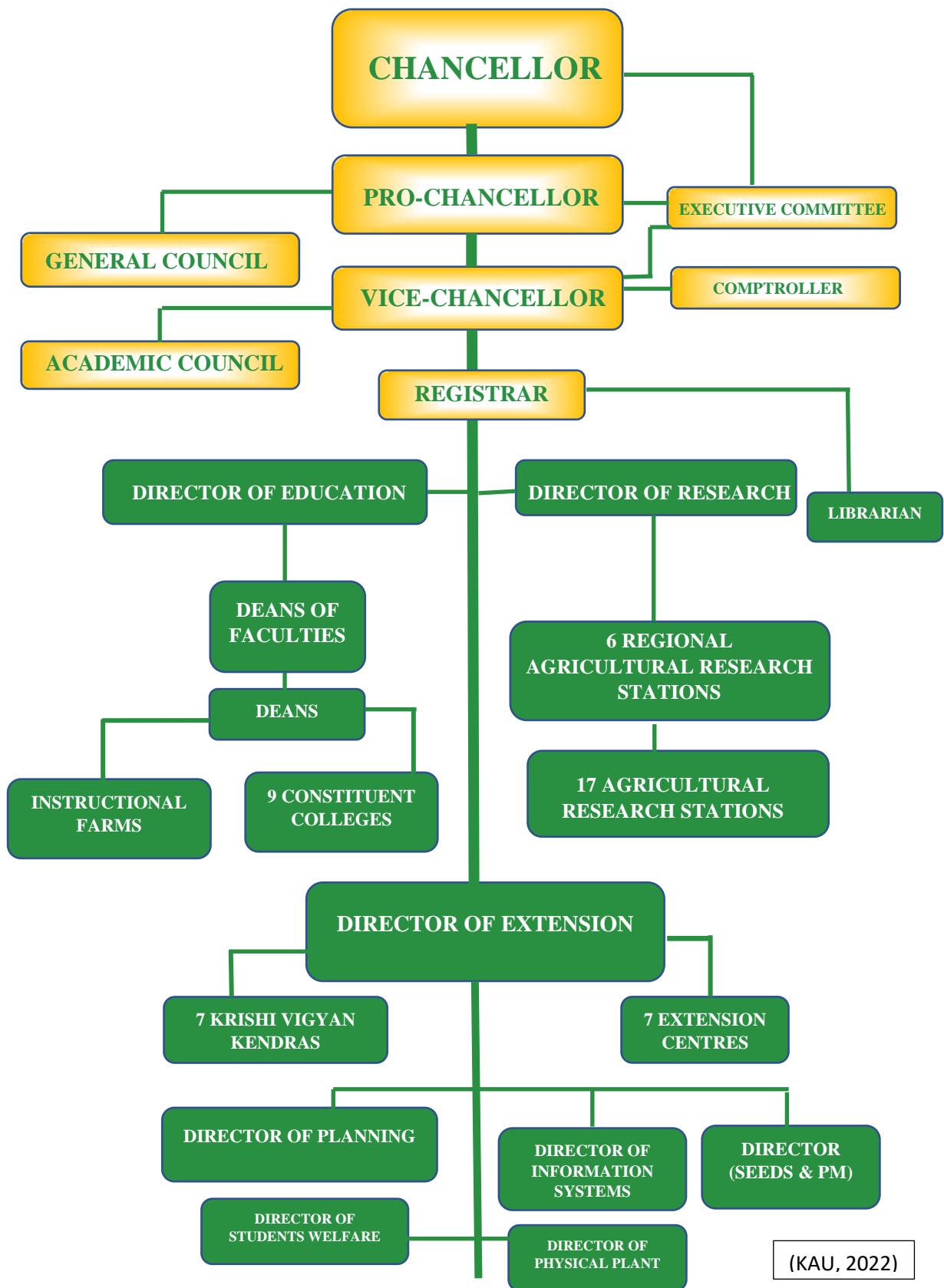
1.5. LIMITATION OF THE STUDY

The student researcher encountered several problems in collecting data from respondents. Most of the employees had a set timeline to complete their tasks, making it difficult to gather responses within the duration of the study. Building rapport with the respondents becomes crucial for progressively gaining their participation. By emphasising the importance of the research and maintaining confidentiality, the researcher was able to encourage a more open exchange of ideas.

Time constraints posed an additional challenge, much like in other research endeavours. Although the researcher was able to cover all stations and institutions in 14 districts of Kerala within a constrained timeframe. Despite the constraints, there was a strong dedication to fulfil the objectives of the study. While traveling to various research stations, the objective was to gain a comprehensive understanding of the university. This extensive coverage ultimately enhanced the depth and breadth of the study. Following formal procedures and obtaining essential permits for data collection posed further hurdles. To guarantee fairness and uphold ethical standards, every precaution was taken to minimize bias and maintain the objectivity of the study.

1.6. PRESENTATION OF THE STUDY

The study is organised into five chapters. The first chapter describes the conceptual introduction, the study's objective, scope, and limitations. The second chapter offers a relevant review of the literature on which the study is based. The third chapter is the methodology, which includes the location of the research, respondent selection, operationalization and variable selection, as well as the statistical tools and processes employed. Results and discussion based on the collected data are covered in chapter four. The fifth chapter is the summary and conclusion, which outlines the study's principal findings and conclusion, followed by the list of references, appendix, and abstract.



(KAU, 2022)

Fig 1. Organogram of Kerala Agricultural University



Review of literature



II. REVIEW OF LITERATURE

This chapter aims to establish a theoretical framework for understanding '*Competency mapping among employees of Kerala Agricultural University*'. The recent research results related to the objectives of the study are presented chronologically in this chapter. Each finding discussed in this chapter is linked to existing research, either directly or indirectly pertinent to the present study. The literature review encompasses a broad spectrum of studies, academic articles, and scholarly contributions that explore the complexities of the subject matter. By incorporating diverse viewpoints, this chapter not only enhances the theoretical underpinning but also offers a comprehensive perspective on the topic. Moreover, it facilitated the assessment of research outcomes by juxtaposing them with the relevant efforts of others in the field. Through aligning with previous research, the chapter aided in validating the study.

The review of literature related to the study is presented under the following sub-headings:

2.1. Profile characteristics of employees

2.2. Competency mapping of employees

2.3. Gap between existing and required level of competency among employees

2.4. Factors affecting performance of employees

2.5. Training needs of employees

2.6. Training design for employees

2.1. PROFILE CHARACTERISTICS OF EMPLOYEES

2.1.1. Age

Rohit *et al.* (2017) conducted a study focused on understanding emotional intelligence as a component of competency mapping of extensionists. According to findings, the majority of respondents, specifically 62.5 per cent fell within the age range of 35 to 50 years. Following this, 20 per cent of the respondents were above 50 years old, while 17.5 per cent were categorized as less than 35 years old. This distribution provided insights into the age demographics of extensionists involved in the study, with a predominant representation of individuals aged between 35 and 50 years.

Govindbhai (2018) highlighted the age distribution among ATMA personnel. He found that the majority, specifically three-fifths or 60.55 per cent belonged to the middle age group. Following this, 36.69 per cent were categorized as young age, and a smaller proportion, 2.75 per cent fell into the old age group. This breakdown provided insights into the age demographics of ATMA personnel as observed emphasizing a higher representation of individuals in the middle age group.

Kusumalatha (2018) provided insights into the age distribution of agricultural officers, categorizing them into different age groups. According to her study, the majority, specifically 71.11 per cent of agricultural officers fell within the middle age group, followed by 18.89 per cent in the young age group, and the smallest proportion, 10 per cent in the old age group. This showed that the majority of agricultural officers belonged to the middle age range.

Ahmed and Mannan (2019) noted a different distribution of age groups among their respondents compared to the previous studies. In their study, the age range of respondents spanned from 25 to 57 years. Interestingly, they found that the majority, comprising 65 per cent of the teachers under study, fell into the middle-aged category. A smaller proportion, 26 per cent, represented the young age group, while only 9 per cent were categorized as old-aged.

Jayasingh (2019) delineated the age distribution of teachers in his study, dividing them into three age groups. According to his findings, more than two-fifths of the teachers, specifically 45.56 per cent were classified as belonging to the middle-aged group, which encompassed individuals aged between 35 and 50 years. Following this, one-fourth, or 25.56 per cent of teachers were categorized as young, being under 35 years old. The remaining portion, constituting 28.88 per cent was classified as belonging to the old-aged group, comprising teachers aged over 50 years.

Panda (2022) revealed that among Village Agricultural Workers (VAWs), the majority (73.63%) were in the middle age category (31 to 40 years), followed by 14.38 per cent in the old age category (over 40 years), and the remaining 12 per cent were in the young age category (under 31 years).

Raahalya (2020) reported that a majority of KAU scientists (65.9%) were between 35 and 55 years old. This was followed by 24.1% of scientists who were under 35 years old, and 10% who were over 55 years old.

Smith *et al.* (2023) examined the age demographics of university-level employees across various departments. Their findings revealed a notable distribution among different age groups, with 55 per cent of employees falling into the middle age category, followed by 30 per cent of respondents as young age, and 15 per cent as old age group. This study provided valuable insights into the age composition of university-level staff in 2023, underscoring the importance of understanding workforce demographics for effective human resource management strategies within higher education institutions.

2.1.2. Educational qualification

Govindbhai (2018) stated that 41.30 per cent of ATMA employees were graduates and little less than three-fifths (58.7%) held master's degrees.

According to Kusumalatha (2018), the percentage of agriculture officers in southern zone of AP with a B.Sc. degree was 54.44 per cent, while the percentage with an M.Sc. degree was 45.56 per cent.

According to Jayasingh (2019), the majority of professors (78.89%) in OUAT held Ph.Ds, followed by master's degrees (16.67%) and post-doctoral degrees (4.44%).

Panda (2022) found that approximately 72.94 per cent of the VAWs had an education up to the intermediate level (class 12), followed by 24.32 per cent with graduate-level education, and only 2.74 per cent who were middle school pass-outs.

Raahalya (2020) inferred that more than seventy-three percent of the scientists in KAU (73.3%) held doctoral degrees, followed by 20.9% with master's degrees, and 5.8% with post-doctoral degrees.

Garcia *et al.* (2024) revealed that the majority of university-level employees, comprising 82.3 per cent, held bachelor's degrees. Additionally, 14.5 per cent possessed master's degrees, while 3.2 per cent had doctoral qualifications.

2.1.3. Gender

Galport and Azzam (2017) reported that 71 per cent of the respondents were females, 28.5 per cent were males, and 0.5 per cent were not specified.

Ismail *et al.* (2018) observed that 87.67 per cent of the respondents were females, while only 12.33 per cent were males.

Kusumalatha (2018) interpreted in her study among agricultural officers as 56.67 per cent were males, while 43.32 per cent were females.

Jayasingh (2019) concluded on the gender distribution among teachers as one-third (31.11%) were females, while the remaining 68.89 per cent were males.

In a study by Patel and Gupta (2024), found that 45.2 per cent of university-level staff were females, while the remaining 54.8 per cent were males.

2.1.4. Total work experience

Ahmed and Mannan (2019) found that the highest proportion (43%) of respondents had low experience, followed by 33 per cent with medium experience. Approximately one-fourth (24%) had high professional/service experience and more than three-fourths (76%) of the respondents had low to medium professional/service experience.

Kshatriya (2019) revealed that more than half (63.13%) of extension personnel had medium service experience, followed by 19.06% with high service experience and 17.79% with low service experience.

Jayasingh (2019) stated that 35.56 per cent of teachers possessed a low level of job experience, while 30 per cent had a medium level, and 34.44 per cent had a high level of job experience.

According to Raahalya (2020), majority of the KAU scientists (40.83%) had less than 10 years of job experience. This was followed by 35.83% of scientists with 10 to 20 years of experience, and 23.33% with more than 20 years of job experience.

Panda (2022) showed that almost 79.80 per cent of VAWs had medium level of service experience (6-14 years), followed by 10.27 per cent having low service experience and 9.93 per cent had long service experience.

2.1.5. Training exposure

Kusumalatha (2018) revealed that 36.67 per cent of AOs had received medium-level training, with an equal percentage of respondents having received high-level training. Meanwhile, 26.67 per cent of the respondents had received low-level training.

Ahmed and Mannan (2019) disclosed that among the respondents, around 48 per cent had minimal training exposure, one-fourth (28%) reported having moderate training, and about one-tenth (9%) reported having extensive training. The remaining 15 per cent stated they had not received any training in the specified areas.

According to Jayasingh (2019), roughly half of the teachers surveyed (50%) had undergone medium-level training. In comparison, 37.78 per cent had received low-level training, and 12.22 per cent had received high-level training.

Panda (2022) concluded that majority of VAWs had medium training exposure (74.32%) followed by 13 per cent had low and 12.67 per cent had high training exposure.

2.1.6. Additional charge

Smith (2017) revealed a wide range of practices in organizational policies, from strict limitations on additional responsibilities to more flexible arrangements allowing for tailored assignments based on employee capabilities and workload.

Wang *et al.* (2018) indicated that employees who perceived their additional responsibilities as meaningful and aligned with their career goals reported higher levels of job satisfaction and engagement.

Brown *et al.* (2020) conducted a comparative analysis of organizational approaches and found a spectrum of strategies ranging from formalized processes for assigning additional responsibilities to ad-hoc arrangements based on managerial discretion and employee availability.

Robinson and Patel (2020) reported that when additional charges were aligned with employees' skills and career aspirations, they could enhance job satisfaction and foster a sense of accomplishment.

2.1.7. Number of transfers

Transfers provided employees with opportunities for skill development, career advancement, and exposure to diverse work environments (Johnson and Wang, 2017).

Smith and Jones (2018) found that approximately 30 per cent of university staff experienced at least one transfer during their employment tenure, highlighting the frequency of mobility within academic institutions.

Then frequent transfers disrupted employee morale, cohesion within work teams, and organizational stability (Robinson and Lee, 2021).

Smith and Garcia (2021) emphasized the importance of implementing clear transfer policies, providing adequate support and resources for transitioning employees, and fostering a culture of flexibility and adaptability within the organization.

2.1.8. Number of publications

Issues such as publication bias, predatory publishing practices, and the pressure to publish in high-impact journals posed ethical and practical dilemmas for scientists (Johnson and Wang, 2017).

Jayasingh (2019) reported that a significant portion, more than two-fifths (43.33%), of the teachers belonged to the medium level of publication frequency category. Additionally, 30 per cent fell into the lower level, while 26.67 per cent were categorized in the higher level.

Institutional factors such as access to resources, research support, and organizational culture also influenced scientists' ability to publish. Publication was often a requirement for academic promotion, tenure decisions, and securing research grants and awards (Garcia *et al.*, 2020).

Veldandi *et al.* (2023) concluded that majority of agricultural scientists in PJTU had medium publications (50.84%) which might be due to the higher publication costs, inadequate publication skills among the agricultural scientists and lack of rule as such to publish a certain number of articles per year in the university.

2.1.9. Number of research projects handled

Jayasingh (2019) observed that 41.11 per cent of teachers were categorized in the lower level of handling research projects, followed by 36.67 per cent in the medium level, and 22.22 per cent in the higher level.

Martinez (2019) found that 40% of scientists were classified as having low skills in managing research projects, 37% were at a medium skill level, and 23% were at a high skill level.

Lee and Chen (2021) concluded that 44% of scientists exhibited low proficiency in handling research projects, 39% showed medium proficiency, and 17% demonstrated high proficiency.

2.1.10. Participation in seminar/conferences/symposium

Jayasingh (2019) found that participation in events such as seminars and conferences among teachers was at a lower level for 44.44 per cent of respondents. Meanwhile, 30 per cent fell into the medium category, and 25.56 per cent were classified as having a higher level of participation in these events.

Anonymous (2023) revealed a diverse spectrum of participation levels among scientists in academic events such as seminars, conferences, and symposiums. Notably, 38 per cent of scientists demonstrated a low level of involvement in these events, while 42 per cent participated in a moderate number. Conversely, 20 per cent of scientists were highly engaged, attending a significant number of academic gatherings throughout the year.

Smith (2024) revealed that participation varied among researchers in seminars, conferences, or symposiums. Findings indicated that 42.3 per cent of scientists exhibited a lower level of involvement in such events, whereas 35.6 per cent were classified as having a moderate level of participation. Additionally, 22.1 per cent of scientists were noted to engage at a higher level in seminars, conferences, or symposiums during the specified period.

2.1.11. Award/recognitions/fellowships

Jayasingh (2019) found that 57.78 per cent of teachers received a low extent of acknowledgment in the form of awards and recognitions, while 20 per cent received a medium extent, and 22.22 per cent received a high extent of acknowledgment.

Veldandi *et al.* (2023) concluded that majority of agricultural scientists had low awards and recognition received (79.17%) which might be due to lesser editorial involvement and membership in professional societies of the agricultural scientists.

2.1.12. Global exposure

Jayasingh (2019) found that 72.22 per cent of teachers exhibited low levels of global exposure, while 13.33 per cent demonstrated medium levels, and 14.45 per cent showed high levels.

Smith and Johnson (2024) highlighted themes such as knowledge acquisition, skill development, networking opportunities, and cultural exchange in their study related to the impact of abroad visits on agricultural scientists. They concluded with valuable contribution to understanding of the role of abroad visits in shaping the professional development and effectiveness of agricultural scientists. Its rigorous methodology, insightful findings, and practical implications made it a valuable resource for researchers, practitioners, and policymakers in the field of agricultural science.

2.1.13. Self-confidence

Govindbhai (2018) found that most (85.31%) of the ATMA personnel exhibited a moderate to high degree of self-assurance, with a smaller portion (14.69%) displaying an exceptionally high level of self-confidence.

Lee and Oh (2021) found that organizational support, including training opportunities and supportive leadership, significantly enhanced self-confidence among administrative staff. Additionally, the study highlighted the role of job autonomy and perceived competence in fostering self-confidence.

Raahalya (2020) found that over sixty percent of the KAU scientists (65%) had a medium level of self-confidence. This was followed by 19.1% with a low level of self-confidence, and 15.9% with a high level of self-confidence.

Panda (2022) indicated that almost more than half (66.78%) of VAWs had medium level of self-confidence, followed by high and low as 17.12 per cent and 16.10 per cent respectively.

2.1.14. Achievement motivation

Kusumalatha (2018) indicated that the majority (52.22%) of AOs exhibited a medium level of achievement motivation, while 26.67 per cent and 21.11 per cent of them fell into the categories of low and high achievement motivation, respectively.

Jayasingh (2019) observed that approximately 37.78 per cent of teachers exhibited higher levels of achievement motivation, while 33.33 per cent and 28.89 per cent of teachers were identified as having low and medium levels of achievement motivation, respectively.

Nasrudin *et al.* (2020) explored achievement motivation among administrative staff in Malaysian universities. They found that administrative staff were motivated by various factors including job security, opportunities for career advancement, and recognition for their contributions. The study highlighted the importance of aligning organizational goals with individual motivations to enhance job satisfaction and performance.

2.1.15. Perceived workload

Kusumalatha (2018) illustrated that 44.44 per cent of AOs viewed their workload as moderate, with 32.22 per cent perceiving it as light and 23.33 per cent considering it heavy.

According to the research by Brown and Davis (2019), the workload of administrative staff at universities was influenced by several factors, such as the complexity of administrative tasks, the size of the institution, and the level of institutional support provided. They found that administrative staff often had to juggle multiple responsibilities, including managing student records, coordinating events, and providing administrative support to faculty and students.

Jayasingh (2019) revealed that 47.78 per cent of teachers perceived their job workload was at a medium level. This was followed by 23.33 per cent who regarded it as low, and 28.89 per cent who saw it as high.

Raahalya (2020) reported that the majority of the KAU scientists (73.33%) believed they had a medium level of workload, while an equal percentage of scientists (13.33%) felt they had either high or low levels of workload.

2.2.16. Infrastructure facilities

Govindbhai (2018) stated that a relatively higher proportion of ATMA personnel reported having adequate access to computer facilities (55.96%), CD/DVD players (50.45%), telephones (49.54%), and scanners (47.7%). However, the availability of printers, LCD projectors, and internet connectivity was perceived as average by 59.63 per cent, 46.78 per cent, and 39.46 per cent of ATMA personnel, respectively. Additionally, all respondents reported inadequate access to web cameras, video conferencing units, and fax machines. Furthermore, regarding the availability of spacious rooms for work, the majority (65.14%) of respondents deemed it inadequate to average.

Smith *et al.* (2018) examined the impact of workplace environment on administrative staff in universities. They highlighted that access to adequate infrastructure facilities such as modern office equipment, ergonomic furniture, and IT support significantly influenced job satisfaction and productivity.

2.1.17. Organizational climate

Kusumalatha (2018) revealed that the majority (42.22%) of participants were classified as having a medium category of organizational climate, followed by 36.67 per cent in the high category and 21.11 per cent in the low category.

Jayasingh (2019) observed that 30 per cent of teachers exhibited a low level of organizational climate, while 42.22 per cent showed a medium level, and 27.78 per cent demonstrated a high level of organizational climate.

Raahalya (2020) revealed that the majority of KAU scientists (76.7%) felt that they experienced a medium organizational climate. Additionally, 13.3% of the scientists perceived their organizational climate as low, while 10% enjoyed a very good organizational climate.

Panda (2022) inferred that almost three-fourth of VAWs (74.38%) perceived to possess medium/neutral organisational climate followed by favourable (15.75%) and unfavourable (9.93%) climate in work place.

2.1.18. Job involvement

El-Sakka and Bakr (2021) investigated the relationship between job involvement, organizational commitment, and job satisfaction among administrative staff in Egyptian universities. The findings suggested that higher levels of job involvement were positively associated with increased organizational commitment and job satisfaction. This underscored the importance of fostering job involvement to enhance overall employee satisfaction and commitment.

Gupta (2022) found that extension personnel predominantly had a medium level of job involvement, with 14.91% having a high level of job involvement and 13.16% having a low level of job involvement.

2.1.19. Job satisfaction

Govindbhai (2018) indicated that the majority, accounting for 55.04 per cent, of ATMA personnel had a medium level of job satisfaction. Additionally, 22.01 per cent had low levels, 16.51 per cent had high levels, and only 6.44 per cent of the respondents were found to have very high levels of job satisfaction.

Gurjar (2018) revealed that the majority, comprising 65 per cent of the teachers, expressed satisfaction with their jobs, followed by 20 per cent who reported dissatisfaction, and 15 per cent who reported being fully satisfied.

Kusumalatha (2018) inferred that 37.78 per cent of agricultural officers were categorized as having a medium level of job satisfaction, while 32.22 per cent were classified as having a higher level and 30 per cent were categorized as having a lower level of job satisfaction.

Jayasingh *et al.* (2022) found that approximately 40 per cent of the teachers belonged to the stratum of medium-level job satisfaction. Additionally, 24.44 per cent of teachers

fell into the low-level stratum, while 35.56 per cent were categorized as having high-level job satisfaction.

Panda (2022) inferred that 64.38 per cent of VAWs had medium job satisfaction followed by 18.15 per cent had lower and 17.47 per cent had higher job satisfaction, respectively.

Ezcurra-Zavaleta *et al.* (2023) reported that only 10 per cent of the participants exhibited high levels of job satisfaction. Among the dimensions assessed, the majority expressed low satisfaction (67%) regarding the remuneration they received. Interestingly, no significant differences were observed between men and women concerning job satisfaction, although individuals with permanent employment status reported lower levels compared to those employed on a temporary basis.

2.1.20. Job commitment

Jayasingh (2019) observed that 41.11 per cent of teachers displayed a medium level of commitment to work, while 20 per cent and 38.89 per cent exhibited low and high levels of commitment, respectively.

Raahalya (2020) found that more than seventy per cent of KAU scientists (72.50%) had a medium level of job commitment, followed by 16.70 per cent with a high level of job commitment, and 10.80 per cent with a low level of job commitment.

Panda (2022) showed that majority (64.38%) had medium level of commitment followed by 20.55 per cent having high and 15.07 per cent having low job commitment.

2.1.21. Job stress

Jayasingh (2019) reported that 44.44 per cent of teachers experienced a medium extent of job stress, while 36.67 per cent and 27.77 per cent experienced high and low extent of job stress, respectively.

Raahalya (2020) inferred that seventy per cent of KAU scientists (70%) experienced medium job stress, followed by 15.90 per cent experiencing a low level of job stress, and 14.10 per cent experiencing a high level of job stress.

2.1.22. Job performance

Manjunath (2015) found that over half of the panchayath development officers (47.37%) had a medium level of job performance followed by high (29.61 %) and low

(23.03 %) level of job performance. It was also observed that there was a significant association between age and job performance of the panchayath development officers.

Raahalya (2020) in her study on KAU scientists, revealed that the majority of KAU scientists (85.83%) had medium level of job performance, followed by 10.83 per cent having high level of work performance, and 3.34 per cent having low level of job performance.

Panda (2022) in his study among VAWs inferred that majority (70.55%) of respondents had medium level of performance, followed by 15.07 per cent showed low level and 14.38 per cent showed high level of performance.

From the above literature reviews related to profile characteristics of employees, it was noted that majority of employees were middle-aged, female employees had moderate work experience, training exposure, number of transfers, self-confidence, achievement motivation, workload, organizational climate, job involvement, job satisfaction, job commitment, job stress, job performance, and with low level of additional charges, proficiency in managing research projects, participation in seminar/conferences/symposia, award/recognition/fellowships, exposure to international visits. The observations on profile of employees by previous studies suggest the need to study the profile characteristics of employees of KAU.

2.2.COMPETENCY MAPPING OF EMPLOYEES

Anitha and Reema (2014a) in their study opined that teacher competency was the combination of individual teachers' motivation, self-concept, knowledge, behaviour, emotions, and personality traits in a given context. Competency model, was characterised for teaching staffs to complete the task for the performance of fixed positions to seek integration.

Anitha and Reema (2014b) studied interaction of competencies and commitment of higher education teachers. The result indicated the importance of competencies and commitment of educators on professional competency in higher educational sector. The study inferred that teaching competency was relatively higher than other competencies by the educators.

Galport and Azzam (2017) outlined crucial competencies across various domains as effective verbal and written communication skills in interpersonal competency, ethical conduct, integrity, and adherence to evaluation standards in professional practice

competency, reporting procedures, maintaining client communication during evaluations in project management competency, self-awareness, commitment to professional growth in reflective practice, providing necessary information, openness to input in situational analysis and assessing data validity, respecting stakeholders in systematic inquiry.

In a study by Govindbhai (2018) on the professional competence of ATMA personnel, competence was delineated into HR skills, leadership skills, technical expertise, planning skill, organizing skill, communication skill, coordination skill, supervision skill, conflict management skill, and motivational skill. The research revealed that the majority (93.58%) of ATMA personnel demonstrated a high to very high level of job competence, whereas only 6.42 per cent of respondents were categorized as having a medium level of competence. Remarkably, none of the participants exhibited low level of job competence.

Ahmed and Mannan (2019) reported that the majority of participants (77%) possessed considerable to extensive knowledge, with around one-fifth (17%) exhibiting exceptionally high levels of knowledge. Approximately 6 per cent had moderate knowledge, while none demonstrated minimal knowledge.

Eight core competencies such as communication skills, programme planning and implementation, resource mobilisation, ICT handling ability, managerial ability, subject matter expertise, professionalism, and leadership skills were identified in the study by Aiswarya *et al.* (2019a) for skill assessments.

In a study by Jayasingh (2019), centered on job competence among teaching professionals at the Orissa University of Agriculture and Technology, almost ten dimensions of job competence were identified, including technical knowledge, guidance, communicative ability, adaptability, self-development, creativity, mental ability, initiative, judgment, and empathy. The findings revealed that a significant portion of teachers (55.55%) were deemed to have a moderate level of job competence. Additionally, 16.66 per cent were categorized as having a low extent of job competence, while 27.79 per cent exhibited a high extent of job competence.

Madhavi and Mehrotra (2020) illustrated in their research that integrating competency management and human resource development enhanced workforce efficiency, thereby bolstering organizational success within the business sector.

Salman *et al.* (2020) stated that competence had evolved over time and could be used interchangeably, with 16 dimensions categorized into hard, soft, knowledge, skill, and self-actualization-related competence across different contexts.

Krishna *et al.* (2023) suggested ten dimensions of job competence for agricultural extension officers, including technical knowledge, guidance, communicative ability, adaptability, self-development, creativity, empathy, mental ability, initiative, and judgment. He found that most of the respondents demonstrated a moderate level of job competence. Specifically, approximately 27.50 per cent were categorized as having low job competence, while the majority (57.50%) exhibited a moderate level of competence and only 15 per cent of respondents were classified as having a high level of competence.

Yang and Chang (2023) inferred that university teacher competency directly affected job performance. The study also found that engagement played a mediating role between teacher competency and job performance. Furthermore, this study found close relationships among teacher competency, teacher engagement, and job performance and noted that these factors could influence each other, necessitating implementation of effective measures to coordinate the interrelationships.

The study by Anggraini and Johannes (2024) showed that transformational leadership positively and significantly influenced employee performance within government agencies. The study revealed a positive and significant relationship between transformational leadership and achievement motivation. Competence emerged as a significant predictor of employee performance, indicating that employees' skills and capabilities played a crucial role in determining their effectiveness in their roles within government agencies. Both transformational leadership and competence exhibited positive and significant effects on employee performance through their influence on achievement motivation.

According to Nelly *et al.* (2024), transformational leadership played a crucial role in developing abilities that enhanced university lecturers' job performance. The findings showed that transformative leadership only had an indirect impact on lecturer performance via lecturer competency.

The review emphasises the complex aspect of competency which combines skills, knowledge, personal characteristics, and desire to improve professional performance. These findings provide a strong framework for measuring, developing, and aligning

competencies of various categories of employees with organisational goals. The results of previous researchers emphasise the need for focused interventions such as training, leadership development, and competency management systems for enhancing the job performance of employees and driving organisational success. Hence, it was felt as a need to conduct competency mapping among employees of KAU.

2.3. GAP BETWEEN EXISTING AND REQUIRED LEVEL OF COMPETENCY AMONG EMPLOYEES

Lam (2011) found that personal interest significantly influenced scientists' engagement and performance. This intrinsic motivation reduced the gap between desired and actual attitudes.

FAO (2016) highlighted that many agricultural labourers felt the lack of necessary education and training, contributing to significant gaps in their agricultural knowledge and skills.

Freeman *et al.*, (2017) concluded that the actual practice served an important function in facilitating the transfer of knowledge and skills, helped to bridge the gap between functional competency and from professional competency.

Deshmukh *et al.* (2019) highlighted that continuous interaction and collaboration in the field improved labourers communication abilities, reducing the competency gap.

Babar and Tahir (2020) in their study to measure the effects of big five personality traits on employee's job performance among the teaching staff in the higher educational institutes/universities indicated that among the personality dimensions, openness, conscientiousness, and agreeableness had positive and significant effects on employee job performance whereas, extraversion was also positive but insignificant and for emotional stability which was negative and insignificant. They also stated that candidate's personality traits should be assessed during the recruitment and selection process of university teaching staff.

Kumar and Kumar (2020) concluded that the quick improvement and diversification in agricultural practices, with new crop varieties, technology, and management strategies emerged on a regular basis. Adapting to these changes necessitated ongoing learning, which might make it difficult for professionals to properly acquire and use current information. This lead to high competency gap in knowledge.

According to a study by Regehr and Bober (2020), scientists frequently found themselves unprepared for the dynamic and unpredictable nature of crises. This study emphasized the importance of incorporating crisis simulations and interdisciplinary training into scientific curricula for enhancing response capabilities. Scientific training often emphasizes specialized knowledge within narrow fields, which could limit exposure to effective crisis management.

Singh and Dutta (2020) emphasized that universities prioritized ethical education and embed ethical principles into their curricula and training programs to develop a strong ethical foundation, enabled to make decisions aligned with ethical standards.

Bishnoi *et al.* (2020) opined that confidence to work with support and guidance was of the highest level as a skill gap among extension skill. As far as professional barriers were concerned, inadequate information about training and funding were key barriers to acquire competencies. Extension skill in their job would lead to better performance which would in turn result in enhanced empowerment of farmers.

Bolisani *et al.* (2021) opined that continuous training and clear ethical guidelines contributed significantly to minimizing competency gaps in ethics among administrative personnel. This consistent reinforcement and education on ethical standards had ensured that administrative staff remained proficient in upholding professional ethics by minimizing the bridging gap between them.

IAAP (International Association of Administrative Professionals) 2022 highlighted that 78% of administrative professionals were involved in data analysis tasks, such as generating reports, tracking metrics, and providing insights for strategic planning. The study emphasized that training programs and continuous professional development were crucial, with many organizations investing in upskilling their administrative staff in data literacy and analytical tools, thereby reducing the competency gap in these essential skills.

Zell and Lesick (2022) in their study on big five personality trait and performance concluded that conscientiousness was strongly associated with job performance whereas neuroticism was negatively associated. Thus, greater neurotic means more gap and less performance.

Anderson *et al.* (2023) found that the extensive peer-review process, regular audits, and the necessity for precise documentation in scientific work contribute to a culture of accountability in scientists. The study highlighted that these practices were ingrained from

early career stages, reinforcing a strong sense of responsibility and ethical conduct among scientists, thereby minimizing the competency gap in this area.

Kim and Yoon (2023) found that administrative employees reported lower engagement in creative tasks compared to their peers in more dynamic roles, attributing this gap to limited opportunities for creative expression and a workplace culture that prioritized reliability and consistency over innovation.

Munjirin *et al.* (2023) stated that neuroticism was negatively correlated with performance. The explanation revolved around the effects of anxiety and strong negative emotions that affected insecurity, confidence in one's abilities.

Van Noorden (2023) indicated that scientists might exhibit a significant competency gap in knowledge due to several factors. One key reason was the exponential growth of research and specialization within scientific disciplines. As knowledge accumulates, researchers often focus deeply on niche areas, leading to a broader gap in general knowledge outside their specific fields. This phenomenon was exacerbated by limited time and resources, which constrained researchers from staying updated across diverse fields.

World Economic Forum (2023) highlighted that many organizations prioritized technical training over critical thinking and problem-solving development for administrative employees. The study found that administrative staff often lacked access to professional development programs that focus on these skills, leading to a significant disparity in their problem-solving competencies compared to their peers in more strategic roles.

The previous studies emphasise the necessity of continuous learning, training, and professional development in bridging competency gap across universities. Intrinsic motivation, lack of training, limited exposure to transdisciplinary skills, and insufficient access to professional development opportunities are all significant contributors to competency gap. Therefore, it was perceived that a scientific study related to identification of competency gap among employees of KAU will be useful in planning the intervention required for human resource development in KAU.

2.4. FACTORS AFFECTING PERFORMANCE OF EMPLOYEES

Vratskikh *et al.* (2016) in their study to explore the influence of emotional intelligence on job performance and job satisfaction as well as the mediating role of job satisfaction on job performance among the administrative employees of the University of

Jordan found that emotional intelligence was positively correlated with job performance and job satisfaction. The study also found that mediatory role of job satisfaction in relationship between Emotional Intelligence and job performance.

Raahalya (2020) revealed that age and job experience, attitude towards profession, self-confidence, organizational climate and organizational commitment were the factors having a positive and significant relationship with job performance.

Sumiyati *et al.* (2021) reported that the impact of workload on job stress was significant, indicating that job stress affected employee performance. However, their study also revealed that when workload was manageable, job stress decreased. Additionally, they found that increased job stress could paradoxically lead to improved employee performance.

Umanailo (2021) proposed that tutors who possessed high levels of work motivation and positive organisational climate improved their job performance, in contrast to those with low motivation and negative organisational climate, which might hinder job effectiveness.

Babu and George (2022) concluded that job involvement positively correlated with productivity and job satisfaction among agricultural workers.

Guzzo *et al.* (2022) opined that older employee had greater experience and a deeper understanding of institutional processes, which significantly improved job efficiency and effectiveness leading to enhanced performance.

Mathew *et al.* (2022) highlighted that older agricultural worker faced more physical and health challenges, impacting their productivity.

Thomas and Mathew (2022) found that experienced agricultural workers in Kerala exhibited higher productivity and better adaptation to advanced farming techniques.

Akmalia and Prihartono (2023) found that organizational climate positively impacted remote work and also influenced work stress. Moreover, they identified that remote work played a mediating role in the relationship between organizational climate and employee performance.

Chowhan and Pike (2023) demonstrated that increased workload lead to higher stress levels, which in turn negatively affected job satisfaction and performance among

employees. This aligned with excessive job demands without adequate resources lead to diminished employee well-being and productivity.

Above studies have identified factors that affect job performance. Emotional intelligence, job satisfaction, and a favourable organisational climate have all been linked to increased job performance. Workload have a substantial impact on job performance, yet controlled job stress may actually increase productivity of employee. Furthermore, heavy workload might cause stress and decreased job satisfaction. Consequently, it was considered necessary to conduct a study on competency mapping for KAU employees and the factors affecting their job performance.

2.5. TRAINING NEEDS OF EMPLOYEES

Reddy and Swamy (2009) in their study on Planning, designing and methodology adopted in training programmes organized by ICAR institutes inferred that 73.17 per cent of the respondents wanted the training of 10-20 days duration and 87.26 per cent respondents needed for the use of computers at different phases of training was perceived as most important.

Kharde *et al.* (2014) suggested that the training needs of scientists in the area of teaching as experiential learning methods, preparation and use of ICT based teaching material, designing e-learning modules, online learning/virtual learning, classroom management, evaluation of teaching and learning, and curriculum development.

Aiswarya *et al.* (2019b) developed Training Need Index (TNI) in three training institutions viz, State Agricultural Management and Extension Training Institute (SAMETI), Central Training Institute (CTI), Community Agro-biodiversity Centre (CAbC). It was found that TNI score was 'highest for ability to handle ICT's' for SAMETI, CTI, CAbC and lowest TNI score for SAMETI was 'leadership skills' and for CTI and CAbC was professionalism. It was also found that high training need for trainers in CAbC and CTI and low training need for trainers in CTI.

Ahmed and Mannan (2019) observed that the majority of respondents demonstrated a pressing requirement for training need regarding conflict management under extension and outreach, budget preparation (office management and administration), acquaintance with field problem (extension and outreach), research design and project preparation (research methodology), and data analysis and management (computer skill), with 35 per cent indicating an urgent need, followed by 22 per cent identifying a substantial need, and

19 per cent expressing a very urgent need for training on the selected issues. Additionally, around one-fifth (19%) of the respondents indicated some need for training, while only a small fraction (5%) expressed little need.

Johnson and Patel (2023) revealed the training needs of university administrative staff that 40 per cent of the an urgently needed training for enhanced proficiency in digital tools and technology utilization, followed by 25 per cent expressing a substantial training need for effective communication and interpersonal skills. Furthermore, the study indicated that 20 per cent of respondents highlighted a very urgent need for training in project management techniques, while 10 per cent indicated a moderate need for leadership and decision-making training. Only a minority of 5 per cent expressed minimal need for training in time management skills.

Jones and Kim (2023) identified an urgent need for training among scientists on advanced data analysis techniques, including machine learning and big data analytics. This urgent demand was followed by substantial need for training in research grant writing and funding acquisition strategies. Moreover, a very urgent need for training in scientific communication and public engagement skills, highlighting the importance of effectively disseminating research findings to broader audiences. Additionally, a moderate need for training in laboratory safety protocols and best practices, emphasizing the significance of ensuring a safe working environment.

Garcia and Patel (2024) revealed that 40 per cent of administrative staff highlighted an urgent need, followed by 25 per cent indicating a substantial need, and 18 per cent expressing a very urgent need for training on various administrative tasks and processes to enhance the skills and effectiveness of university in meeting the evolving demands of higher education institutions. Moreover, 15 per cent of respondents identified some need for training, while a minimal percentage (2%) expressed little need.

The previous research studies evaluated emphasise a variety of training requirements among employees across organizations. Furthermore, there was a strong demand for ICT-related training across agricultural institutions, with a focus on dispute resolution, research methodology, and leadership abilities. The research emphasises the necessity of specialised training programs in addressing these pressing requirements and improving the competency of employees. Thus, it was deemed necessary to conduct a study on training need assessment among employees of KAU.

2.6. TRAINING DESIGN FOR EMPLOYEES

Reddy *et al.* (2017) studied training competencies of trainers and constraints faced by the trainers while organizing training programmes at ICAR-NAARM. They concluded that the trainers reported pre-training, during training and post training evaluations to ensure about the participation and confirmation of trainees.

Clark and Davis (2023) reviewed the implementation of a mentorship-based training program for university administrative staff. Their study demonstrated that pairing new administrative hires with experienced mentors improved job satisfaction and reduced turnover rates. The mentorship program was structured to include regular feedback sessions and goal-setting exercises, contributing to professional growth and development.

Garcia and Martinez (2023) explored the benefits of microlearning in training university administrative staff. Their study demonstrated that delivering content in short, allowed staff members to easily fit training into their busy schedules. Microlearning modules were designed to cover specific administrative skills and tasks, providing immediate application and reinforcement.

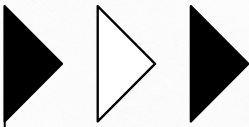
Jones and Smith (2023) examined various training design approaches for university administrative staff. They emphasized the effectiveness of a blended learning approach combining online modules with in-person workshops. Their study highlighted that this approach not only accommodated different learning styles but also facilitated continuous learning and skill development among administrative personnel.

Islam (2023) stated that blended learning was cost-effective and flexible. However, it was being effectively implemented in agricultural education across universities.

Specialized training initiatives, like the Aspiring Scientists Training Programme (ASTP) at the University of Cambridge, provided practical research experience and interactive workshops. These programs focused on developing practical skills, fostering professional networking, and offering exposure to authentic research settings, essential for budding scientists to build confidence and proficiency in their careers (Gurdon Institute, 2024).

The National Centre for Research Methods (NCRM) offered a comprehensive array of resources and training courses covering diverse research methodologies. Their programs spanned both foundational and advanced levels, emphasizing quantitative, qualitative, digital, and mixed methods. These courses aimed to equip scientists with the essential skills needed to tackle complex research projects and stay abreast of the latest field advancements (NCRM, 2024).

The detailed analysis of existing literature emphasises the need for varied training methods for both administrative personnel and scientists. Mentorship programs for administrative personnel increase work satisfaction and lower turnover rates, whilst microlearning and blended learning approaches offer flexibility and fit varied learning styles. Overall, these studies emphasised the importance of training to boost work performance and skill development among employees. Hence, it was believed that a study on identifying the competency of the employees of KAU and to design the training according to their need is vital.



Methodology



III. METHODOLOGY

This chapter describes the research methods and procedures followed in the present study. The related aspects are detailed under the following subheads in the chapter:

- 3.1. Research design
- 3.2. Locale of the study
- 3.3. Selection of respondents and method used for data collection
- 3.4. Operationalisation and measurement of independent variables
- 3.5. Competency model selected for the study
- 3.6. Operationalisation and measurement of dependent variables
- 3.7. Gap between existing and required level of competency among KAU employees
- 3.8. Hypotheses set for the study
- 3.9. Factors affecting performance of employees of KAU
- 3.10. Training needs of employees of KAU
- 3.11. Training design for each category of the employees of KAU
- 3.12. Statistical tools used for the study
- 3.13. Conceptual framework for the study

3.1. RESEARCH DESIGN

A research design is the detailed plan or blueprint of an investigation. According to Selltiz (1976), a research design was the arrangement of conditions for collection and analysis of data in a manner that aimed to combine relevance to the research purpose. It set up a framework for the test of relationship among variables, and helped to keep the research in proper direction.

The present study follows Ex-post facto research design also known as retrospective research design. The researcher analyses existing data to identify relationships between variables or to explore cause-and-effect relationships retrospectively. This design remains as a valuable tool in various fields, including psychology, sociology, education, and public health, offering researchers opportunities to explore complex real-world phenomena and generate hypotheses for further investigation.

3.2. LOCALE OF THE STUDY

The research was carried out across multiple research, academic, and outreach facilities affiliated with the Kerala Agricultural University (KAU) located along 14 districts within Kerala state. Employees stationed at different KAU facilities, encompassing

research, educational, and extension sectors, were chosen as participants. Kerala Agricultural University comprises nine colleges (under Faculty of Agriculture, Agricultural Engineering and Forestry), six Regional Agricultural Research Stations (RARS), seventeen research stations, and seven extension units [which include seven Krishi Vigyan Kendras (KVKs)]. The locale of this study is visually illustrated in Fig 2. and the stations working under KAU is schematically shown in Fig 3.

3.3. SELECTION OF RESPONDENTS AND METHOD USED FOR DATA COLLECTION

For competency mapping, the employees of Kerala Agricultural University were categorized into four categories as scientists, technical officers, administrative staff and labourers. Using the simple random sampling technique, a representative sample of 70 scientists, administrative staff and labourers each and 40 technical officers were selected. Thus, constituting 250 employees from various campuses and research stations of KAU were selected for the study. This is diagrammatically represented in Fig 4.

Scientists include Assistant Professors, Associate Professors, and Professors. Technical officers include Farm Officers, Farm Manager I, Farm Manager II, and Technical Officer. Administrative staff include Deputy Registrars, Joint Registrars, Assistant Registrars, Labour Officers, Comptroller, Deputy Comptroller, Senior Administrative Officers, Administrative Officers, Section Officers and Assistant grade I and grade II.

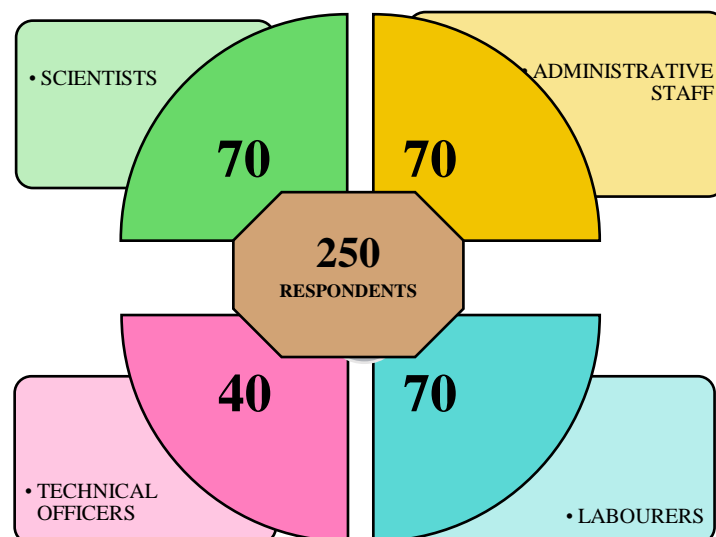


Fig 4: Details of selected respondents and their sample size

Four comprehensive interview schedules were prepared to collect data from the aforementioned four categories of respondents (Appendices: VII to X). The questions were

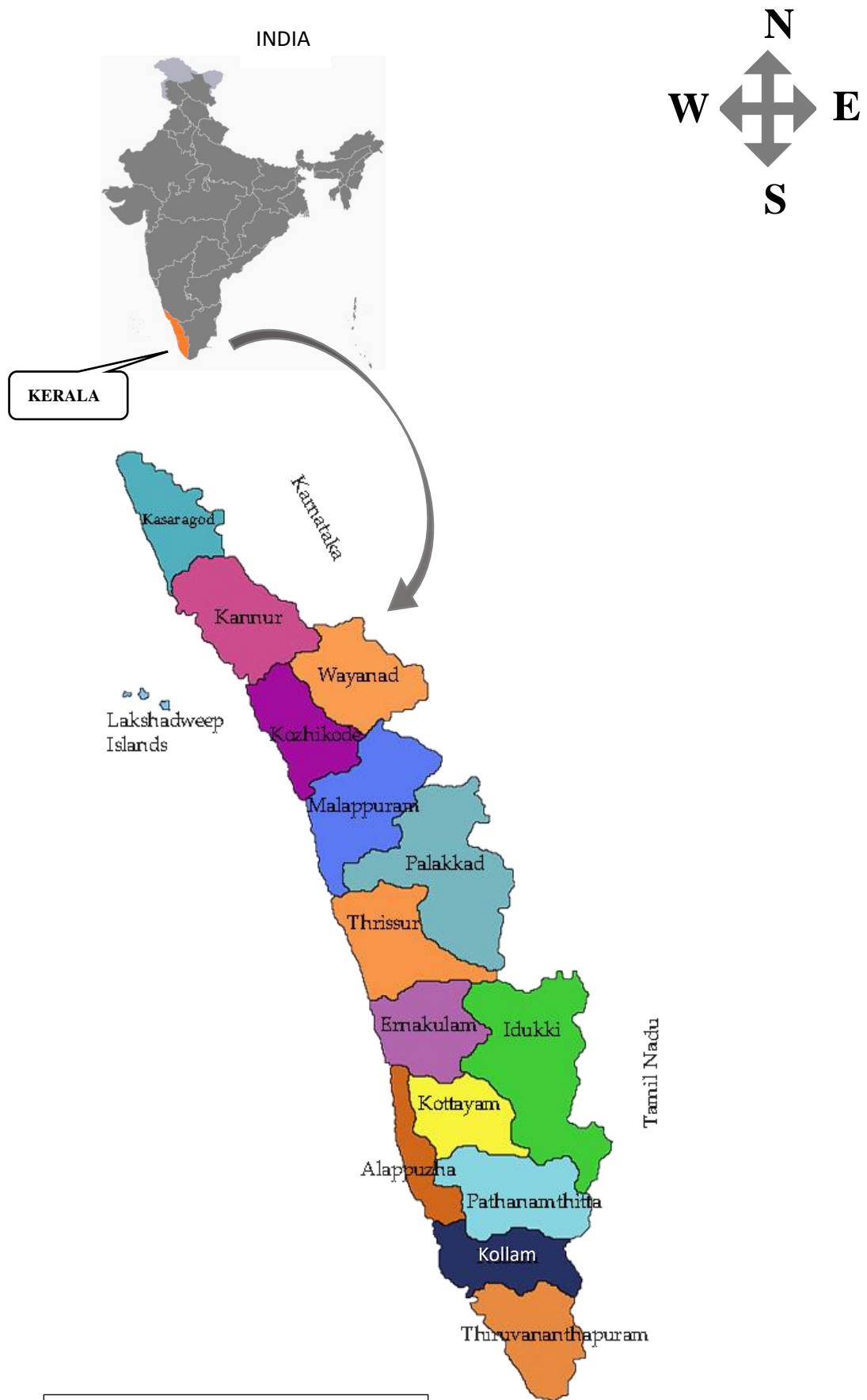


Fig 2: Locale of the study

posed in an informal conversational manner during in-person interviews, and the data were directly recorded in the schedules. This approach ensured a comfortable environment for respondents, encouraging more open and direct responses.

3.4. OPERATIONALISATION AND MEASUREMENT OF INDEPENDENT VARIABLES

According to the literature review, independent variables identified and given for judges rating (enlisted in Appendix I) and the views of 60 experts in extension education, who rated them on a five-point scale from most relevant to least relevant. The variables chosen for the study, along with their relevancy percentages, are listed in Appendix II. The relevancy index was worked out using the formula:

$$\text{Relevancy Index} = \frac{\text{Total score obtained by the variable}}{\text{Maximum possible score that variable could secure}} \times 100$$

The variables with a relevancy index of more than 85 were drawn for constructing the questionnaire. The selected variables and the measurement methods used are detailed in Table 1.

Table 1: Variables and their empirical measurement

| Sl. no. | Variables | Empirical measurement |
|------------------------------------|--|--|
| A. Dependent variables | | |
| 1. | Job performance | Scale developed by Caliskan and Koroglu (2022) with suitable modifications |
| 2. | Competency | Scale developed for the study |
| 3. | Training needs | Scale developed for the study |
| B. Independent variables | | |
| I. Personal characteristics | | |
| 1. | Age | Based on GoI standards |
| 2. | Educational qualification | Schedule developed for the study |
| 3. | Gender | Schedule developed for the study |
| II. Socio-economic characteristics | | |
| 1. | Total work experience | Schedule developed for the study |
| 2. | Training exposure | Schedule developed for the study |
| 3. | Additional charge | Scale developed by Sampat (2009) with suitable modifications |
| 4. | Number of transfer | Schedule developed for the study |
| 5. | Number of publications | Scale developed by Jayasingh (2019) with suitable modifications |
| 6. | Number of research projects handled | Scale developed by Jayasingh (2019) with suitable modifications |
| 7. | Participation in seminars/conferences/symposiums | Scale developed by Jayasingh (2019) with suitable modifications |

| | | |
|---|--------------------------------|--|
| 8. | Awards/recognition/fellowships | Scale developed by Jayasingh (2019) with suitable modifications |
| 9. | Global exposure | Scale developed by Jayasingh (2019) with suitable modifications |
| III. Psychological characteristics | | |
| 1. | Self-confidence | Scale developed by Heatherton and Polivy (1991) with suitable modifications |
| 2. | Achievement motivation | Scale developed by Reddy (1976) with suitable modifications |
| 3. | Perceived workload | Scale developed by Kirmeyer and Dougherty (1988) with suitable modifications |
| IV. Job-related characteristics | | |
| 1. | Infrastructure facilities | Scale developed by Pandey (1979) with suitable modifications |
| 2. | Organizational climate | Scale developed by Kolb <i>et al.</i> (1974) with suitable modifications |
| 3. | Job involvement | Scale developed by Lodhal and Kejner (1965) with suitable modifications |
| 4. | Job satisfaction | Scale developed by Laharia (1978) with suitable modifications |
| 5. | Job commitment | Scale developed by John (1966) with suitable modifications |
| 6. | Job stress | Scale developed by Shukla and Srivastava (2016) with suitable modifications |

3.4.1. Age

Age is operationally defined as the chronological age of respondents in completed years at the time of data collection, which is used as their score. This score categorizes the respondent according to Government of India standards as follows:

| Sl. no. | Category | Age range |
|---------|------------|----------------|
| 1. | Young age | Up to 35 years |
| 2. | Middle age | 36 – 50 years |
| 3. | Senior | Above 50 years |

3.4.2. Educational qualification

Educational qualification is operationally defined as the level of formal education achieved by an individual respondent. The level of formal schooling was used as the individual's score. The following categories were established to classify respondents based on their educational qualifications as follows:

| Sl. no. | Category | Score |
|----------------------------------|----------------------|-------|
| I. Scientists | | |
| 1. | Post graduate | 18 |
| 2. | Doctoral degree | 21 |
| 3. | Post-doctoral degree | 22 |
| II. Technical officers | | |
| 1. | Diploma | 15 |
| 2. | Graduate | 16 |
| 3. | Post graduate | 18 |
| III. Administrative staff | | |
| 1. | Graduate | 15/16 |
| 2. | Post graduate | 17/18 |
| 3. | Doctoral degree | 21 |
| IV. Labourers | | |
| 1. | Illiterate | 0 |
| 2. | Primary school | 4 |
| 3. | Middle school | 7 |
| 4. | High school | 10 |
| 5. | Higher secondary | 12 |
| 6. | Graduate | 15/16 |

3.4.3. Gender

Gender is operationally defined as the physical and social condition of being male or female. It is a crucial variable for assessing the roles, responsibilities, limitations, and opportunities within society. Based on gender, respondents are scored and categorized as follows:

| Sl. no. | Category | Score |
|---------|----------|-------|
| 1. | Male | 1 |
| 2. | Female | 2 |

3.4.4. Total work experience

It is operationally defined as the total number of years of experience an individual has accumulated after starting their job at the university, as of the time of the study. The total number of years is assigned as the individual's score. Based on this score, respondents were categorized into three groups as outlined below.

| Sl. no. | Category | Score range |
|---------|----------|-------------|
| 1. | Low | < Mean – SD |
| 2. | Medium | Mean ± SD |
| 3. | High | > Mean + SD |

3.4.5. Training exposure

It is operationally defined as the total number of trainings attended after obtaining a job at the university, as of the time of the study. The total number of trainings is assigned as the individual's score. Based on this score, respondents were categorized into three groups as low, medium and high using cumulative frequency method mentioned in 3.4.4.

3.4.6. Additional charge

According to the service rules, additional charge is operationally defined as the assignment of extra responsibilities to an officer or employee, in addition to the duties of the original position. The number of additional charges is considered the individual's score. Based on this score, respondents were categorized into three groups using cumulative frequency method as outlined in 3.4.4.

3.4.7. Number of transfer

It is operationally defined as the total number of transfers an individual has received within the university since joining in KAU, as of the time of the study. The total number of transfers was assigned as the individual's score. Based on this score, respondents were categorized into three groups as using cumulative frequency method outlined in 3.4.4.

3.4.8. Number of publications

It is operationally defined as the number of research work published by the scientists respondent category in national and international journals, including research papers, popular articles, review papers, short communications, books, and leaflets/bulletins. The scoring pattern is as follows:

| Sl. no. | Publications | Scores |
|---------|--------------------------------------|--------|
| 1. | Research papers (International) | 5 |
| 2. | Abstract (International) | 4 |
| 3. | Research paper (National) Books | 3 |
| 4. | Abstract (National) Book chapters | 2 |

| | | |
|----|---|---|
| 5. | Popular article Leaflet/folders/bulletin | 1 |
|----|---|---|

The scores obtained by each respondent were summed up and were categorized into three groups using cumulative frequency method as outlined in 3.4.4.

3.4.9. Number of research projects handled

The research projects are handled based on the competency levels of scientists. Implementing research projects by scientists from project inception to completion, ensuring research objectives met efficiently and effectively are the competency of the scientists. The scientists, as respondents, were asked to list the research projects they managed during their career in KAU. Scoring was done as the total number of research projects assigned as the individual's score. Based on the score, the respondents were then categorized into three groups using cumulative frequency method as outlined in 3.4.4.

3.4.10. Participation in seminars/conferences/symposia

It is operationally defined as the degree of participation in seminars/conferences at both national and international level by a scientist. The respondents were asked to provide the details of their participation over the last five years. A score of '2' and '1' were assigned for international and national level participation, respectively. The individual score was obtained by adding up these scores, and the respondents were classified using cumulative frequency method as mentioned in 3.4.4.

3.4.11. Awards and recognitions

It is operationally defined as the awards and recognitions received by the scientist respondents. The respondents were asked to provide the number of awards and recognitions received during the last five years. The scoring pattern is as follows:

| Sl. no. | Awards and recognitions | Scores |
|----------------|--------------------------------|---------------|
| 1. | International level | 6 |
| 2. | National level | 5 |
| 3. | State level | 4 |
| 4. | University level | 3 |
| 5. | College level | 2 |
| 6. | Others | 1 |
| 7. | No awards | 0 |

The scores obtained by each respondent were summed up and were categorized into three groups using cumulative frequency method as outlined in 3.4.4.

3.4.12. Global exposure

It is operationally defined as the extent of international exposure or the number of countries visited by the scientists for scientific purposes. Respondents were asked to indicate the frequency of their visits over the past five years. Each visit was assigned a score of one, and the total scores were categorized into three groups using cumulative frequency method as outlined in 3.4.4.

3.4.13. Self-confidence

It is operationally defined as the degree of self-independence or self-reliance of an individual regarding their abilities, talent, capacity, and understanding to achieve desired outcomes. To assess self-confidence, a modified version of the scale developed by Heatherton and Polivy (1991) was adopted for the study. This scale consists of 12 statements rated on a five-point continuum: 'extremely,' 'very much,' 'somewhat,' 'a little bit,' and 'not at all,' with corresponding scores of 4, 3, 2, 1, and 0. The total score for each respondent was calculated by summing the scores obtained for all statements. Respondents were then categorized into three groups based on the obtained total scores, using cumulative frequency method as outlined in 3.4.4.

3.4.14. Achievement motivation

It is operationally defined as an individual's desire to excel in their job at the university, driven not by social recognition or prestige, but by an inner sense of accomplishment in achieving a desired goal. To measure achievement motivation, the study utilized a modified version of the scale developed by Reddy (1976). This scale includes 7 positive statements, each rated on a five-point continuum: 'strongly agree,' 'agree,' 'undecided,' 'disagree,' and 'strongly disagree,' with corresponding scores of 4, 3, 2, 1, and 0. Respondents were asked to indicate their level of agreement or disagreement with each statement. The total score of each respondent was computed by adding the obtained score from seven statements. The individual respondent was categorized into three groups with the obtained score using cumulative frequency method as outlined in 3.4.4.

3.4.15. Perceived workload

It is operationally defined as the self-perception of the workload experienced by respondents in their current job. This was measured using a modified version of the scale

developed by Kirmeyer and Dougherty (1988). The scale includes three items, each rated on a five-point continuum: 'strongly agree,' 'agree,' 'undecided,' 'disagree,' and 'strongly disagree,' with corresponding scores of 4, 3, 2, 1, and 0. Respondents were asked to indicate their level of agreement or disagreement with each item. The individual scores were then summed and categorized into three groups using cumulative frequency method as outlined in 3.4.4.

3.4.16. Infrastructure facilities

It is operationally defined as the quantity and extent of available resources that enable employees to acquire the necessary competencies. These facilities are essential for competency development and successful job performance. The study used a modified version of the procedure for measuring the availability of infrastructure facilities developed by Pandey (1979), tailored to the respondent category. The availability of infrastructure was assessed on a three-point continuum: easily available, available with difficulty, and not at all available, with scores of 2, 1, and 0 respectively. The scores obtained by each respondent were summed and categorized into three groups using cumulative frequency method as outlined in 3.4.4.

3.4.17. Organizational climate

It is operationally defined as the perception of respondents at their workplace, facilities, and co-workers. It was measured using a modified version of the scale developed by Kolb *et al.* (1974) to fit the present study. The scale includes seven items, each rated on a five-point continuum: 'strongly agree,' 'agree,' 'undecided,' 'disagree,' and 'strongly disagree,' with corresponding scores of 4, 3, 2, 1, and 0. Respondents were asked to indicate their level of agreement or disagreement with each item. The individual scores were then summed and categorized into three groups using cumulative frequency method as outlined in 3.4.4.

3.4.18. Job involvement

It is operationally defined as the degree to which individual respondents are engaged in the activities related to their position as university employee. The study utilized a modified version of the scale developed by Lodhal and Kejner (1965). This scale comprises 13 statements. Responses were recorded on a five-point continuum: 'strongly agree,' 'agree,' 'undecided,' 'disagree,' and 'strongly disagree.' For positive statements, the scores were 4, 3, 2, 1, and 0, and for negative statements, they were 0, 1, 2, 3, and 4, respectively. The

total scores for each respondent were calculated and categorized into three groups using cumulative frequency method as outlined in 3.4.4.

3.4.19. Job satisfaction

It is operationally defined as the degree to which respondents feel contentment and fulfilled with various aspects of their job, including their work tasks, workplace environment, and relationships with colleagues. This variable was measured using a modified version of the scale developed by Laharia (1978). Respondents rated their satisfaction on a five-point continuum: 'very much satisfied,' 'satisfied,' 'no opinion,' 'not satisfied,' and 'not at all satisfied,' with corresponding scores of 4, 3, 2, 1, and 0, respectively. The total scores were summed and categorized into three groups using cumulative frequency method as outlined in 3.4.4.

3.4.20. Job commitment

It is operationally defined as the degree to which an individual is dedicated to performing the activities associated with their position as university employee. This was quantitatively measured using a modified version of the scale developed by John (1966). The scale includes 7 statements. Responses were recorded on a five-point continuum: 'strongly agree,' 'agree,' 'undecided,' 'disagree,' and 'strongly disagree.' For positive statements, the scores were 4, 3, 2, 1, and 0, respectively, and for negative statements, the scores were 0, 1, 2, 3, and 4, respectively. The total scores for each respondent were summed and categorized into three groups using cumulative frequency method as outlined in 3.4.4.

3.4.21. Job stress

It is operationally defined as the psychological and physical strain experienced by individuals due to pressures and demands inherent in their job roles and responsibilities. It encompasses feelings of tension, anxiety, and discomfort arising from work-related challenges, including workload, time pressures, role ambiguity, and interpersonal conflicts. This variable was quantitatively assessed using a modified version of the scale developed by Shukla and Srivastava (2016), which includes 8 statements. Responses for each statement were elicited on a five-point continuum: 'strongly agree,' 'agree,' 'undecided,' 'disagree,' and 'strongly disagree,' with scores of 4, 3, 2, 1, and 0 for positive statements, and 0, 1, 2, 3, and 4 for negative statements, respectively. The total scores for each respondent were summed and categorized into three groups based on the level of job stress

experienced as low, medium and high as mentioned in 3.4.4. using cumulative frequency method.

3.5. COMPETENCY MODEL SELECTED FOR THE STUDY

Core competencies for each category of respondents were identified based on the past studies. The identified core competencies are depicted below:

- ✦ Skill
- ✦ Personality trait
- ✦ Teamwork
- ✦ Ability
- ✦ Professional ethics
- ✦ Communication
- ✦ Accountability
- ✦ Leadership
- ✦ Knowledge
- ✦ Creativity
- ✦ Attitude

With the help of above identified core competencies, competency model is structured for the respective respondent categories.

A competency model is a structured framework that outlines the specific skills, behaviour, knowledge, and abilities required for effective performance in a particular role or job. This model serves as a guide for both organizations and employees, by clearly defining what is needed to perform a job successfully.

The model aids in systematic thinking about the research problem. A theoretical model illustrates the perceived relationships among the concepts and variables relevant to the study. It guides the type of data to be collected and the techniques to be used for analysis. This structured approach helps to ensure that the research is coherent and that the findings are meaningful and reliable. Four competency models were adopted from previous studies and literatures, and then modified to align with the objectives of this study.

These models set aside as a theoretical model for the study for each of the respondent categories. Each model was selected based on the hierarchical level and their job structure suited for each respondent category. The details of competency model for each category of respondents are given in the Table 2.

Table 2. Details of Competency model used for the study

| Scientists | Technical Officers | Administrative Staff | Labourers |
|---------------------------------------|---|--|--|
| Modified TAASK based competency model | Modified Texas Extension competency model/ Hexagonal competency model Shim (2006) | Modified The Lancaster (Burgoyne) model of managerial competencies | Modified Competency pyramid model (McClelland, 1973) |

| | | | |
|--------------------------|-------------------|-----------------------------|--|
| (Anita and Reema, 2014a) | Karbasioun (2007) | (Burgoyne and Stuart, 1976) | |
|--------------------------|-------------------|-----------------------------|--|

A scientist working under a state agricultural university is expected to play various roles such as organizer, educator, member, evaluator, reviewer, consultant, leader, mentor and sometimes as administrator. This is visually depicted in the Fig 5. Considering the above roles of a faculty, competency model based on TAASK was identified and altered. The modified competency model based on TAASK (Task, Ability, Attitude, Skills, Knowledge) is a comprehensive framework that outlines the fundamental skills needed to play successful role in the university. Task (particular job duties), Ability (innate or acquired traits), Attitude (behavioural characteristics and motives), Skills (practical competence), and Knowledge (understanding and knowledge) are the five categories that uses to break down job-demands. This paradigm guarantees scientists with the range of skills required to further scientific understanding and make significant contributions to their fields. The visio-diagram of the modified TAASK based competency model is explicated in Fig 6.

According to the TAASK competency model, traits encompass the Big Five personality dimensions, also known as the OCEAN model, which includes openness, conscientiousness, extraversion, agreeableness, and neuroticism.

1. Openness: The ability to be open to new experiences, inventive, curious, and open-minded. People with high openness tend to be imaginative, daring, and open to novel concepts and unusual viewpoints.
2. Conscientiousness: The ability to be organised, responsible, and hardworking. Individuals with high conscientiousness are often disciplined, dependable, and have a strong sense of responsibility, generally striving for high success and thorough preparation.
3. Extraversion: Ability to be friendly, energetic, and extroverted Those with strong extraversion tend to be outspoken, impulsive, and enjoy social interactions.
4. Agreeableness: Ability to be cooperative, compassionate, and conflict-averse. Individuals with high agreeableness tend to be kind, empathic, and considerate, and they value harmony and pleasant connections with others.
5. Neuroticism: The capacity to feel negative emotions including sadness, anger, and nervousness. Individuals with high levels of neuroticism are more likely to experience

stress, emotional instability, and mood swings, as well as difficulties with emotional control.

Essential abilities for extension agents/technical officers are outlined in the modified Texas Extension Competency Model, often called the Hexagonal Competency Model. This model is a thorough strategy that supports upholding high standards in extension services. The modified Texas Extension competency model/ Hexagonal competency model is visually portrayed in the Fig 7.

The modified Lancaster (Burgoyne) Model of Managerial Competencies, as applied for administrative staff, emphasises intellectual, interpersonal, and operational skills. By identifying and developing the necessary abilities, this strategy helps administrative staff members increase their effectiveness, productivity, and attain their professional development objectives. The schematic diagram of the modified Lancaster (Burgoyne) Model of Managerial Competencies is shown in the Fig 8.

The modified Competency Pyramid Model for labourers directs the workforce, assuring a succession of abilities that improve job performance and career advancement. The diagrammatic depiction of the modified Competency Pyramid Model is shown in the Fig 9.

3.6. OPERATIONALISATION AND MEASUREMENT OF DEPENDENT VARIABLES

3.6.1. Job performance

It is operationally defined as to how well an employee adheres to the university's established guidelines and exhibits the expected behaviours. This performance is quantitatively assessed using a scale devised by Caliskan and Koroglu (2022), with appropriate adjustments made for the study. The scale is divided into two components: task performance and contextual performance, each containing 5 and 6 statements, respectively. The responses of participants to each statement were rated on a five-point scale: 'strongly agree,' 'agree,' 'undecided,' 'disagree,' and 'strongly disagree,' with scores assigned as 4, 3, 2, 1, and 0, respectively. For negative statements, the scoring was reversed, assigning 0, 1, 2, 3, and 4, respectively. The total scores for each respondent were calculated and categorized into three groups as low, medium and high as outlined in 3.4.4.

3.6.2. Competency

Competency is operationally defined as specific, measurable description of the skills, knowledge, behaviours, and abilities required to effectively perform a particular job or task. It includes clear criteria and standards that can be used to assess whether an individual possesses the necessary attributes.

3.6.2.1. Competency scale

Based on the selected models, a set of statements was framed to develop the measurement scale for assessing the competency of each category of employees. The construction and standardization of the scale were conducted for each of the core competencies such as skill, ability, personality traits, accountability, communication, teamwork, creativity, leadership, professional ethics, attitude, and knowledge. The process includes generating items, conducting preliminary screening of these items, performing item analysis, assessing the reliability and validity of the selected items, and finalizing the items for the standardized scale, except for those pertaining to knowledge and attitude.

3.6.2.1.1. Item generation

A substantial pool of statements was gathered based on the core competencies for each respondent category. These statements were sourced from previous research, literature, discussions with experts, agricultural scientists, and researchers. To eliminate any potential ambiguity and redundancy, the statements were revised and restructured.

3.6.2.1.2. Preliminary screening of items

The selected statements were distributed to 100 experts in agricultural extension from SAUs, ICAR institutes, the National Institute of Agricultural Extension Management (MANAGE), National Academy of Agricultural Research Management (NAARM) and the National Institute of Rural Development (NIRD). This was done through postal mail, Google Forms, and in-person visits, with accompanying instructions. The experts were asked to evaluate the relevance of each statement using a five-point scale: "Most Relevant (MOR)," "More Relevant (MR)," "Relevant (R)," "Less Relevant (LR)," and "Not Relevant (NR)." They were also encouraged to suggest changes, additions, or deletions to the statements. However, only 60 experts provided their evaluations within the specified timeframe.

The relevancy score for each statement was worked out by using the formula:

i) Relevancy weightage (RW) was obtained by formula:

$$RW = \frac{\sum(\text{Relevancy weight} \times \text{No. of Responses})}{\text{Maximum possible score}}$$

ii) Relevancy percentage (RP) was worked out by summing up the scores of categories and converted into percentage

$$RP = \frac{\sum(\text{Relevancy weight} \times \text{No. of Responses})}{\text{Maximum possible score}} \times 100$$

iii) Mean relevancy score (MRS) was obtained by formula:

$$MRS = \frac{\sum(\text{Relevancy weight} \times \text{No. of Responses})}{\text{Number of judges response}}$$

Statements were selected based on the criteria that their relevancy weight exceeded 0.75, the relevancy percentage was higher than 75%, and the mean relevancy score was greater than 1. After a thorough evaluation and discussions with specialists, these statements were further revised and rewritten to incorporate the judges' feedback, critiques, and comments.

3.6.2.1.3. Validity test of the items

A scale is considered valid when it accurately measures what it is intended to measure. In addition to face and content validity, the scale also possesses intrinsic validity.

Face validity, as described by Lindquist (1966) refers to the extent to which a scale appears valid to an average person. To assess face validity, individuals with substantial expertise in the research field, including academics, professionals, and experienced researcher, were invited to evaluate the scale when presented with the statements. Consequently, the scale was deemed to have face validity, indicating that these experts found the statements suitable for measuring the intended constructs.

Content validity is achieved when the items, both individually and collectively, are relevant to the test's purpose. To assess the content validity of the measuring instrument, both scale-level and item-level content validity indices were calculated. A panel of 100 specialists was provided with the identified statements, and 60 of them submitted their responses. This process ensured that the content of the test, at both the scale and item levels, was appropriate and aligned with the intended measurement.

The Item Content Validity Index (I-CVI) is a valuable tool for assessing the content validity of individual items within a scale or assessment. To calculate the I-CVI, the number of experts who rated the items as relevant is divided by the total number of content experts.

The I-CVI ranges from 0 to 1. According to Abdollahpour *et al.* (2010), the interpretation of the I-CVI is as follows:

| I-CVI | Interpretation |
|--------------|-----------------------|
| <0.70 | Item to be eliminated |
| 0.70 – 0.79 | Item needs revision |
| >0.79 | Item is appropriate |

To calculate the Content Validity Index at the scale level (S-CVI), divide the sum of the individual item-level CVIs (I-CVIs) by the total number of items, resulting in the average item-level CVI (S-CVI/Ave). An S-CVI/Ave of 0.90 or greater indicates excellent content validity for the scale, suggesting a strong consensus among experts that the scale's items are relevant and appropriate for measuring the intended construct.

This approach allows for a comprehensive assessment of the content validity of the entire scale by considering the agreement among experts on the relevance of individual items. A high S-CVI/Ave score indicates a high level of content validity for the scale as a whole. It reflects strong consensus among experts that the items are relevant and appropriate for measuring the intended construct.

While the Item-Level Content Validity Index (I-CVI) is a commonly used measure for estimating content validity, it has a limitation for chance agreements, which can inflate the values. To address this limitation, Wynd *et al.* (2003) proposed the use of both Content Validity Index (CVI) and multi-rater kappa statistics for estimating content validity.

Kappa statistics (K) are particularly valuable because they adjust for chance agreement among raters and provide insights into the level of agreement beyond what could be expected due to random chance. This adjustment for chance agreements enhances the robustness of the content validity assessment, ensuring that the level of agreement among experts is not overstated. Kappa statistics are used in conjunction with the Content Validity Index (CVI) to provide a more comprehensive evaluation of content validity. This approach provides a more accurate measure of content validity, enhancing the credibility of the assessment.

For the estimation of modified kappa value, each items probability of chance agreements was calculated by the formula:

$$P_c = \frac{N!}{A!(N-A)!} \times 0.5^N$$

Where, N = number of raters
 A = number of raters who agree that the item is relevant

Finally, kappa value was estimated by using formula:

$$K = \frac{(ICVI - P_C)}{(1 - P_C)}$$

Where, I-CVI = item level content validity index
 P_C = probability of chance agreement

Cicchetti and Sparrow (1981) provided criteria for interpreting the modified kappa value. Here is a typical table that outlines their interpretation:

| Kappa statistics value | Interpretation |
|-------------------------------|-----------------------|
| 0.40 – 0.59 | Item is fair |
| 0.60 – 0.74 | Item is good |
| >0.74 | Item is excellent |

Intrinsic validity, as defined by Guilford (1954), refers to the extent to which a scale or test accurately measures what it is intended to measure. This concept can also be expressed in terms of how effectively the obtained scores capture the true score components of the scale.

The calculation of intrinsic validity involves taking the square root of the proportion of true variance, which is essentially the square root of the scale's reliability. As a result, intrinsic validity is also referred to as an index of reliability, as proposed by Guilford (1954). In other words, it represents the degree to which the scale's scores are consistent and reliable in measuring the underlying construct.

Intrinsic validity helps to assess the internal consistency and reliability of the scale in measuring the intended construct, ensuring that the scores obtained are accurate reflections of the true score components. It is an important aspect of validating a scale or test to ensure that it measures what it is intended to measure reliably and consistently.

3.6.2.1.4. Reliability test of the items

A measurement scale is considered reliable when it consistently produces dependable results when administered to a non-sample of respondents. To assess the statistical validation of reliability, the selected items were tested on a pilot group of 30 non-sample respondents. The respondents were presented with statements rated on a five-point scale, including "strongly agree," "agree," "undecided," "disagree," and "strongly disagree," with

corresponding scores of 5, 4, 3, 2, and 1 for positive statements, and reverse scores for negative statements.

One of the common methods used to evaluate the reliability of a measurement scale is Cronbach's alpha (Taber, 2017). Cronbach's alpha assesses the internal consistency of the scale, indicating the extent to which the items within the scale are measuring the same underlying construct. The value of Cronbach's alpha can range from 0 to 1, with higher values suggesting greater internal consistency and, thus, higher reliability. A high Cronbach's alpha value is typically indicative of a more dependable and consistent scale.

Cronbach's alpha value is calculated by the formula (Cronbach,1951):

$$\alpha = \frac{N \cdot \bar{C}}{\bar{v} + (N - 1) \cdot \bar{C}}$$

Where, N= number of items

\bar{C} = average covariance between item pairs

\bar{V} = average variance

The interpretation of the value by Tavakol and Dennick (2011) is given below:

| Value of Cronbach's alpha | Internal consistency |
|----------------------------------|-----------------------------|
| <0.5 | Unacceptable |
| 0.5 - 0.6 | Poor |
| 0.6 - 0.7 | Questionable |
| 0.7 - 0.8 | Acceptable |
| 0.8 – 0.9 | Good |
| ≥0.9 | Excellent |

Researchers commonly use Cronbach's alpha to assess the reliability of scales across various fields, including psychology, education, and social sciences. It provides valuable insights into the consistency of responses to the items on the scale, helping researchers determine the scale's reliability and suitability for measuring the intended construct.

3.6.2.1.5. Administration of the scale and method of scoring

The final scale, consisting of statements, were administered to respondents using a five-point continuum: Strongly Agree (SA), Agree (A), Undecided (UD), Disagree (D), and Strongly Disagree (SD). Positive statements were scored as 4, 3, 2, 1, and 0, respectively, while negative statements were scored as 0, 1, 2, 3, and 4, respectively. The total scores for each respondent were calculated by summing up.

3.6.2.2. *Attitude scale*

Attitude scales are created to evaluate how strongly a person feels positively or negatively about a specific topic or item. The collected data provide valuable insights into individuals' perceptions, preferences, and sentiments on various matters, making these scales essential tools for understanding human behaviour.

The step-in attitude scale development includes collection of items, performing item analysis, determination of scale value, standardization, validity check and the reliability test of the standardized scale (Meenambigai *et al.*, 2023).

3.6.2.2.1. Item collection

In the initial phase, a comprehensive list of statements was compiled, ensuring that the items were relevant to the scope of the study. These statements were sourced from prior studies, existing literature, books, and consultations with experts, agricultural scientists, and researchers. The statements were then reviewed and revised according to criteria for attitude statements established by Edwards (1957) and recommended by Thurstone and Chave (1929), Wang (1932), Likert (1932), Bird (1940), and Edwards and Kilpatrick (1948). This process resulted in the formulation of distinct sets of statements: 60 items each for the scientist and technical officer categories, 52 items for administrative staff, and 54 items for laborers.

3.6.2.2.2. Item analysis

The chosen statements were sent to 100 experts in agricultural extension, hailing from SAUs, ICAR institutes, the National Institute of Agricultural Extension Management (MANAGE), and the National Institute of Rural Development (NIRD). This distribution was done through postal mail, Google form, and in-person visits, along with accompanying instructions. These experts were instructed to assess the relevance of each statement using a five-point scale that included options for "Most Relevant (MOR)," "More Relevant (MR)," "Relevant (R)," "Less Relevant (LR)," and "Not Relevant (NR)." Additionally, the judges were given the opportunity to suggest changes, additions, or deletions to the statements. However, only 60 judges were able to provide their evaluation within the specified timeframe.

3.6.2.2.3. Determination of scale value

Based on the ratings, the median value and Q value of the distribution for each statement were calculated.

The median of the distribution for each statement is used as its scale value. The scale value is determined using the following formula:

$$S = l + \left(\frac{0.50 - \sum P_b}{P_w} \right) i$$

Where, S = median or scale value of the statement
 l = lower limit of the interval in which the median falls
 $\sum P_b$ = sum of the proportions below the interval in which the median falls
 P_w = proportion within the interval in which the median falls
 i = width of the interval and is assumed to be equal to one

The inter quartile range or Q value for each statement is worked out by the formula:

$$Q = C_{75} - C_{25}$$

C_{75} is the 75th centile and calculated by the formula: $C_{75} = l + \left(\frac{0.75 - \sum P_b}{P_w} \right) i$

Where, l = lower limit of the interval in which the 75th centile falls
 $\sum P_b$ = sum proportion below the interval in which the 75th centile falls
 p_w = proportion within the interval in which the 75th centile falls

C_{25} is the 25th centile and estimated by the formula: $C_{25} = l + \left(\frac{0.25 - \sum P_b}{P_w} \right) i$

Where, l = lower limit of the interval in which the 25th centile falls
 $\sum P_b$ = sum proportion below the interval in which the 25th centile falls
 p_w = proportion within the interval in which the 25th centile falls

A higher Q value suggests that a statement is ambiguous or problematic based on the ratings it received. Therefore, statements with higher Q values are generally considered for rejection. When multiple statements have the same scale value, preference is given to the one with the lower Q value, indicating it is more reliable and less ambiguous. The selection process involves choosing statements with scale values greater than the Q value, ensuring that the selected statements are clear and accurately represent the intended construct, thus improving the overall quality of the measurement.

3.6.2.2.4. Standardization of the scale

The dependability or accuracy of a scale to convey the idea that the instrument assesses what it is meant to measure - namely, reliability and validity - are essential criteria for scale development. The approach for testing the validity and reliability of the scale is identical to what has been described above in 3.5.2.1.3. and 3.5.2.1.4. respectively.

3.6.2.2.5. Administration of the scale

The final scale, containing various statements, can be administered to respondents using a five-point continuum: Strongly Agree (SA), Agree (A), Undecided (UD), Disagree

(D), and Strongly Disagree (SD). Positive statements are scored as 4, 3, 2, 1, and 0, respectively, while negative statements are scored as 0, 1, 2, 3, and 4, respectively.

The scoring for each respondent was determined using the scale-product method, as proposed by Eysenck and Crown (1949). In this method, the Likert scale value and the scale value based on Thurstone's approach were multiplied together for each item. The resulting scores for all items were then summed to calculate the total score for an individual's response. This approach enables a quantitative evaluation of each respondent's attitude based on their responses to the scale. Based on the scores obtained from the respondents, they were categorized into three categories as low, medium and high using cumulative frequency method as mentioned in 3.4.4.

3.6.2.3. Knowledge Test

A knowledge test is a valuable assessment tool used to gauge an individual's understanding and familiarity with a particular subject or topic. It serves as a means to evaluate one's comprehension, retention, and application of information. Knowledge tests come in various formats, such as multiple-choice questions, short-answer questions, or essays, depending on the desired level of detail and complexity.

The steps in knowledge test include collection of items, item analysis and final selection of items for the test.

3.6.2.3.1. Collection of items

The test items were developed based on a comprehensive study drawing from various sources, including literature reviews and consultations with scientists, experts, and researchers. Initially, each of the four categories had 75 items, focusing on different aspects of the topic. After consulting with experts in agricultural extension, 60 items were retained for scientists and technical officers, 59 items for administrative employees, and 35 items for laborers. These items underwent screening, tweaking, and editing based on the advice of relevant specialists. Subsequently, the items were subjected to item analysis to filter them for relevance and significance. Thus, a final sample of items was identified for inclusion in the test.

3.6.2.3.2. Item Analysis

Following a screening process using a four-point response continuum, the questions were submitted to a panel of 100 judges to assess the relevance of each item. The judges provided their feedback via postal questionnaires, Google Forms, and personal visits. The

purpose of this process was to filter out weak and irrelevant content. However, only 60 judges provided their feedback.

Three indices - item difficulty index, item discrimination index, and point biserial correlation - were employed in the subsequent item analysis to evaluate the quality of the items. These indices helped in determining which items should be retained in the final test based on their difficulty, ability to discriminate between different levels of knowledge, and their correlation with the overall test scores.

3.6.2.3.2.1. Item Difficulty Index

The difficulty value of an item refers to the proportion or percentage of individual who answers the item correctly (Garrett, 1979). The item difficulty index indicates the extent to which an item is difficult.

Each group received 60 non-sample replies for the selected question. Each correct answer earned one point, while the incorrect response received zero. The respondent's knowledge score is determined by the total number of right responses they provided out of all the items. Each of the 60 responders had their total scores calculated, and then they were ranked from the highest to the lowest total score. 60 respondents were separated into six equal groups using analysis. These groups were designated as G1, G2, G3, G4, G5, and G6. The intermediate two groups, G3 and G4, were excluded for item analysis purposes, leaving only four extreme groups with high and low scores. (Bloom *et al.* 1956).

The index of difficulty was worked out by averaging the proportion of number of respondents answered correctly in high group and the proportion of number of respondents answered correctly in low group. The formula for determining the index on the basis of the extreme groups as given below:

$$p = \frac{n_i}{N_i} \times 100$$

where, p = index of difficulty

n_i = Number of respondents answering correctly to i^{th} item

N_i = Number of respondents to whom i^{th} item was administered

The range of index is from 0 to 100. Higher the value, easier is the item. p value above 80 is very easy item and these are not trustworthy to be included. p value below 20 are considered to be difficult and need to be reviewed. The items with p value between 20 and 80 are included in the final knowledge test.

3.6.2.3.2.2. Item Discrimination Index

The discrimination power of a test item refers to the extent to which an item discriminates well informed individual from poorly informed one. For calculating the discrimination index, respondents with the highest and the least scores were identified and for each item it was calculated based on the proportion of respondents that gave correct response.

The discrimination index obtained by calculating $E^{1/3}$ formula (Mehta, 1958)

$$E^{1/3} = \frac{(S_1 + S_2) - (S_5 + S_6)}{N/3}$$

where, S_1, S_2, S_5 and S_6 = Frequency of correct answer in groups
 N = Total number of respondents of the selected sample

The discrimination index ranges from -1 to +1. Higher the value, more is the discrimination power. Items having negative discrimination and items with discrimination index below 0.1 are rejected as followed by Barman and Kumar (2010).

3.6.2.3.2.3. Point biserial correlation

The point biserial correlation provide information on how well item measures in agreement with the rest of the test. This is to find out the internal consistency of the items i.e., validity of the item was calculated by using the formula as suggested by Garrett (1979):

$$r_{pbis} = \frac{MP - MQ}{SD} \times \sqrt{pq}$$

where, r_{pbis} = Point biserial correlation

MP = Mean of the total score of the respondents who answered the items correctly

$$MP = \frac{\text{Sum of } XY}{\text{Total number of correct answers}}$$

X = Total score of the respondent for all items

Y = Response of the individual for the item

MQ = Mean of the total score of the respondents who answered the items incorrectly

$$MQ = \frac{\text{sum total of } X - \text{sum total of } Y}{\text{Total number of wrong answers}}$$

SD = Standard deviation of the entire sample

p = Proportion of the respondents giving correct answer to the item

$$p = \frac{\text{Total number of correct answers}}{\text{Total number of respondents}}$$

q = Proportion of the respondents giving incorrect answer to the item

$$q = 1 - p$$

Items having significant point biserial correlation either at 1 per cent or 5 per cent level is selected for the final test of knowledge (Beevi *et al.*, 2022).

3.6.2.3.3. Reliability of the test

To evaluate the reliability of test is done by using Cronbach's alpha method as mentioned earlier in 3.5.2.1.4.

3.6.2.3.4. Final selection of items

Taking into consideration of all the guidelines, 30 knowledge items were selected for scientists, 24 knowledge items were selected for technical officers, 32 knowledge items were selected for administrative staff and 18 knowledge items were selected for labourers for final administration of actual knowledge test. These finally selected knowledge test items are administered to the respective respondent's category. The value of difficulty index, discrimination index and point biserial correlation are presented in Appendix III, IV, V and VI.

3.6.2.3.5. Administration of the test and final scoring

The final items were administered to respondents with four choices given to each of the item. Every correct answer is assigned with one score while every incorrect response is given with zero score. Summation of the obtained score by each respondent is the knowledge score of the individual. The possible knowledge score ranges from 0 to 30 for scientists, 0 to 24 for technical officers, 0 to 32 for administrative staff and 0 to 18 for labourers. Based on the scores obtained by the respondents, they were categorized into three categories using cumulative frequency method outlined in 3.4.4.

3.7. GAP BETWEEN EXISTING AND REQUIRED LEVEL OF COMPETENCY AMONG KAU EMPLOYEES

Competency gap analysis is a systematic process used to identify and assess the difference between the current competency levels of individuals and the required

$$\text{Competency Gap} = \text{Required Competency Level (RCL)} - \text{Current Competency Level (CCL)}$$

competency levels necessary to achieve organizational goals. This process involves evaluating the existing skills, knowledge, and abilities of employees, comparing them with the desired competencies, and identifying areas where there are deficiencies or gaps. According to Russo (2016); Lakshminarayanan *et al.*, (2016) the formula used to identify the gap:

The required level for each item in the competency scale is 5. Therefore, the total required competency level is 5 multiplied by the number of items in the competency scale.

Current Competency Level is the sum of the scores obtained by the individual on all items in the competency scale.

The gap index is determined by the formula by Barnard *et al.*, 1995; Varnum *et al.*, 2018:

$$\text{Competency Gap Index (CGI)} = \frac{\text{Competency Gap}}{\text{Required Competency Level}} \times 100$$

3.8. HYPOTHESES SET FOR THE STUDY

In order to evaluate the factors effecting job performance of employees of KAU, the following hypotheses were postulated:

- H₀ - There was no relationship between the personal, socioeconomic, psychological, and job-related characteristics of KAU employees and their job performance.
- H_{1A} - There was a positive relationship between the personal, socioeconomic, psychological, and job-related characteristics of KAU employees and their job performance.
- H_{1B} - There was a negative relationship between the personal, socioeconomic, psychological, and job-related characteristics of KAU employees and their job performance.

3.9. FACTORS AFFECTING PERFORMANCE OF EMPLOYEES OF KAU

To find the most affecting factors from a pool of selected independent variables, the Kaiser-Meyer-Olkin factor adequacy (KMO score) was computed to evaluate the sampling adequacy. As the sample size was 70 for each category of employees, the variables which secured with KMO value of 0.60 and above were subjected to factor analysis (Surucu *et al.*, 2022).

An Exploratory Factor Analysis (EFA) was carried out to explore the unknown factors and to verify it. The factor loading shows the proportion of variance explained by each factor as MR1, MR2, etc. (Main Rotation factor). Those factor loadings which are greater than 0.50 and less than -0.50 indicate strong relationship between variable and factor (Bhattacharya, 2015; Sadovaya and Thai, 2015). Thus, the variables influencing the respective factor were selected. The scree plot method was utilized to generate the number of factors, where Eigen value was greater than one (Kaiser, 1960; Shrestha, 2021). There are number of criteria in the model fit statistics indicated the goodness of fit of the generated

factors. The identified factors were then named according to the nature of variables influencing them.

Pearson's correlation coefficient was used to determine how the confirmed factors affected the performance of the employees.

3.10. TRAINING NEEDS OF EMPLOYEES OF KAU

Operationally, a training need is defined as a situation where there is a perceived gap or need in terms of core competency between what is and what should be. Filling these gaps or needs will allow the employees to carry out their duties more successfully.

Training needs analysis model by Blanchard and Thacker (2009) was adopted and revised for the study, which is visually depicted in Fig 10. The model encompasses three main sections: technical, organizational, and socio-psychological domain. During the analysis phase, the above three sections collectively identify the performance gap, which was used to assess the training needs.

A Training Need Index was developed using three sub-divisions mainly technical, organizational, and socio-psychological domain by using formula as given below (Patil and Kokate, 2011; Panda, 2022):

$$TNI = \frac{\text{Total score obtained}}{\text{Maximum obtainable score}} \times 100$$

Based on the index obtained, the Garrett ranking method was employed to prioritize the urgency of training needs, distinguishing between those that are most urgently required and those that are least needed. The Garrett ranking technique is commonly used to prioritize items based on their scores. To calculate Garrett scores, the obtained score (actual score) was divided by the maximum score obtainable for each item. This ratio helps in ranking the items in terms of their training needs.

3.11. TRAINING DESIGN FOR EACH CATEGORY OF THE EMPLOYEES OF KAU

The process for designing an effective training program involves a structured approach aimed at meeting the specific objectives. It begins with a needs assessment to pinpoint gaps and set training priorities as mentioned and assessed earlier in the study. From this assessment, clear learning goals were established to ensure alignment with organizational aims and learner requirements.

The curriculum is then designed, incorporating suitable content, instructional methods, and assessment techniques. To enhance engagement and retention of the trainees, educational principles such as active learning, feedback loops, and reinforcement are integrated. The design also considers diverse learner/trainee backgrounds and preferences, making use of technology as and when needed. Ongoing evaluation and iterative improvements are crucial.

This will allow for adjustments based on feedback and performance data of the trainee. Thus, it ensures the training program to remain effective and relevant.

3.12. STATISTICAL ANALYSIS USED FOR THE STUDY

Considering the objectives of the study, the data gathered from respondents were scored, tabulated, and analysed using the appropriate statistical techniques outlined below:

⇒ **Mean**

The mean, often known as the average, is a statistical measure of central tendency obtained by adding all values in a dataset and dividing by the number of respondents. It provides a single sample value that is indicative of the dataset's average value.

⇒ **Standard deviation**

A statistical indicator of how much variation or dispersion in a group of numbers is the standard deviation. It measures how much a dataset varies or is dispersed in relation to its mean. A high standard deviation suggests that the data points are dispersed throughout a larger range of values, whereas a low standard deviation suggests that the data points often tend to be around the dataset mean.

⇒ **Percentage**

A percentage is a technique to express a fraction as a piece of a hundred. It is frequently employed to compare changes and proportions between various groups.

⇒ **KMO (Kaiser-Meyer-Olkin) test**

It is an indicator for factor analysis that determines whether the data are sufficient for the statistical method. It determines whether the dataset variables are appropriate for structure exploration. KMO statistic ranges from 0 to 1. KMO value closer to 0 shows that there may not be enough shared variance in the data to support the findings of structure through factor analysis and a value closer to 1 indicates that the data are more suited for factor analysis.

⇒ Exploratory factor analysis

Exploratory Factor Analysis (EFA) is a statistical method used to uncover hidden relationships among variables by examining their correlations. It seeks to identify underlying factors that explain the patterns observed in a set of data, effectively simplifying the complexity of the information. This approach is valuable in areas like psychology, sociology, and market research, where it helps reveal, latent variables influencing the data.

- i. **Factor loadings:** It represents the relationships between the observed variables (indicators) and the underlying factors identified from the data. These loadings reflect the extent to which each observed variable is influenced by the corresponding factor. Higher factor loadings (closer to ± 1) indicate a stronger connection between the variable and the factor, meaning that the variable is a good representation of that factor. In essence, factor loadings are key to understanding and interpreting the factors extracted from the analysis. They help to determine which variables are most strongly linked to each factor, aiding in the naming and interpretation of the factors themselves.
- ii. **Criteria for model fit:** In factor analysis, model fit criteria are used to assess how well the factor model represents the data. These criteria help determine whether the model is appropriate and how well it explains the relationships among variables. Common model fit criteria include:
 - **Likelihood Chi-Square Test of Model Fit:** Compares the predicted covariance matrix of the model to the observed covariance matrix. A non-significant chi-square ($p > 0.05$) indicates good fit; however, it is sensitive to sample size and often significant with large samples, even if the model fits well.
 - **Root Mean Square Error of Approximation (RMSEA):** Measures how well the model, with unknown but optimally chosen parameter estimates, fits the population covariance matrix. Values ≤ 0.06 suggest a good fit, while values between 0.06 and 0.08 indicate a reasonable fit.
 - **Tucker-Lewis Index (TLI):** Similar to the CFI but adjusts for model complexity. Values ≥ 0.95 indicate a good fit.
 - **Standardized Root Mean Square Residual (SRMR):** Represents the average difference between observed and predicted correlations. Values ≤ 0.08 are considered indicative of a good fit.

⇒ **Pearson's correlation coefficient**

It evaluates the linear connection between two continuous variables with values ranging from -1 to 1. There is no correlation between the two variables when the value is 0. A positive correlation is shown by a number larger than zero whereas negative relationship is shown by a number smaller than zero and no relationship is shown by zero value.

⇒ **Garrett Ranking method**

The Garrett Ranking Method is a statistical approach for analysing and ranking objects based on preferences or views, transforming rank orders into scores. Respondents rank items, and Garrett's method translates these ranks into percent positions. Garrett's Table is then used to convert these values into scores. The items are sorted based on the average scores obtained for each item. This approach is helpful in domains like market research and the social sciences since it makes comparing the relative value of factors easier.

The softwares used for the study are Microsoft excel, KAU GRAPES v.1.1.0, RStudio 2023.09.1, and KAU GRAPES-draw v.3.

3.13. CONCEPTUAL FRAMEWORK FOR THE STUDY

A conceptual framework is a theoretical model that offers a thorough and cohesive explanation of a specific phenomenon or field of study. A conceptual model for the study has been developed based on its established objectives. This framework illustrates the relationship between the respondents' profile attributes (independent variables) and the dependent variables, which include competency, job performance, and training needs. The conceptual framework is depicted in Fig 11.

EDUCATION

1. College of Agriculture, Vellanikkara
2. College of Agriculture, Vellayani
3. College of Agriculture, Padannakkad
4. College of Agriculture, Ambalavayal
5. College of Climate Change and Environmental Science, Vellanikkara
6. College of Co-operation, Banking & Management, Vellanikkara
7. Institute of Agriculture Technology & RARS, Pattambi
8. Kelappaji College of Agricultural Engineering & Technology, Tavanur
9. College of forestry, Vellanikkara

RESEARCH

1. Pepper Research Station (PRS), Panniyur
2. Agricultural Research Station (ARS), Anakkayam
3. Agricultural Research Station (ARS), Mannuthy
4. Cashew Research Station (CRS), Madakkathara
5. Banana Research Station (BRS), Kannara
6. Agronomic Research Station (ARS), Chalakkudy
7. Cardamom Research Station (CRS), Pambadumpara
8. Aromatic and Medical Plants Research Station (AMPRS), Odakkali
9. Pineapple Research Station (PRS), Vazhakulam
10. Rice Research Station (RRS), Vyttila
11. Rice Research Station (RRS), Moncompu
12. Agricultural Research Station (ARS), Thiruvalla
13. Coconut Research Station (CRS), Balaramapuram
14. Farming System Research Station (FSRS), Sadanandapuram
15. Integrated Farming System Research Station (IFSRS), Karamana
16. Fruits Crop Research Station, Vellanikkara
17. Cocoa Research Station, Vellanikkara

1. Regional Agricultural Research Station, Pattambi
2. Regional Agricultural Research Station, Ambalavayal
3. Regional Agricultural Research Station, Pilicode
4. Regional Agricultural Research Station, Kumarakom
5. Onattukara Regional Agricultural Research Station, Kayamkulam
6. Regional Agricultural Research Station, Vellayani

EXTENSION

1. Communication Centre (CC), Mannuthy
2. Central Training Institute (CTI), Mannuthy
3. Agricultural Technology Information Centre (ATIC), Mannuthy
4. Extension Training Centre (ETC), Manjeshwaram
5. Agricultural Information and Sales Centre (AISC), Vengeri
6. Public Relations Office, Mannuthy
7. KAU Press, Mannuthy

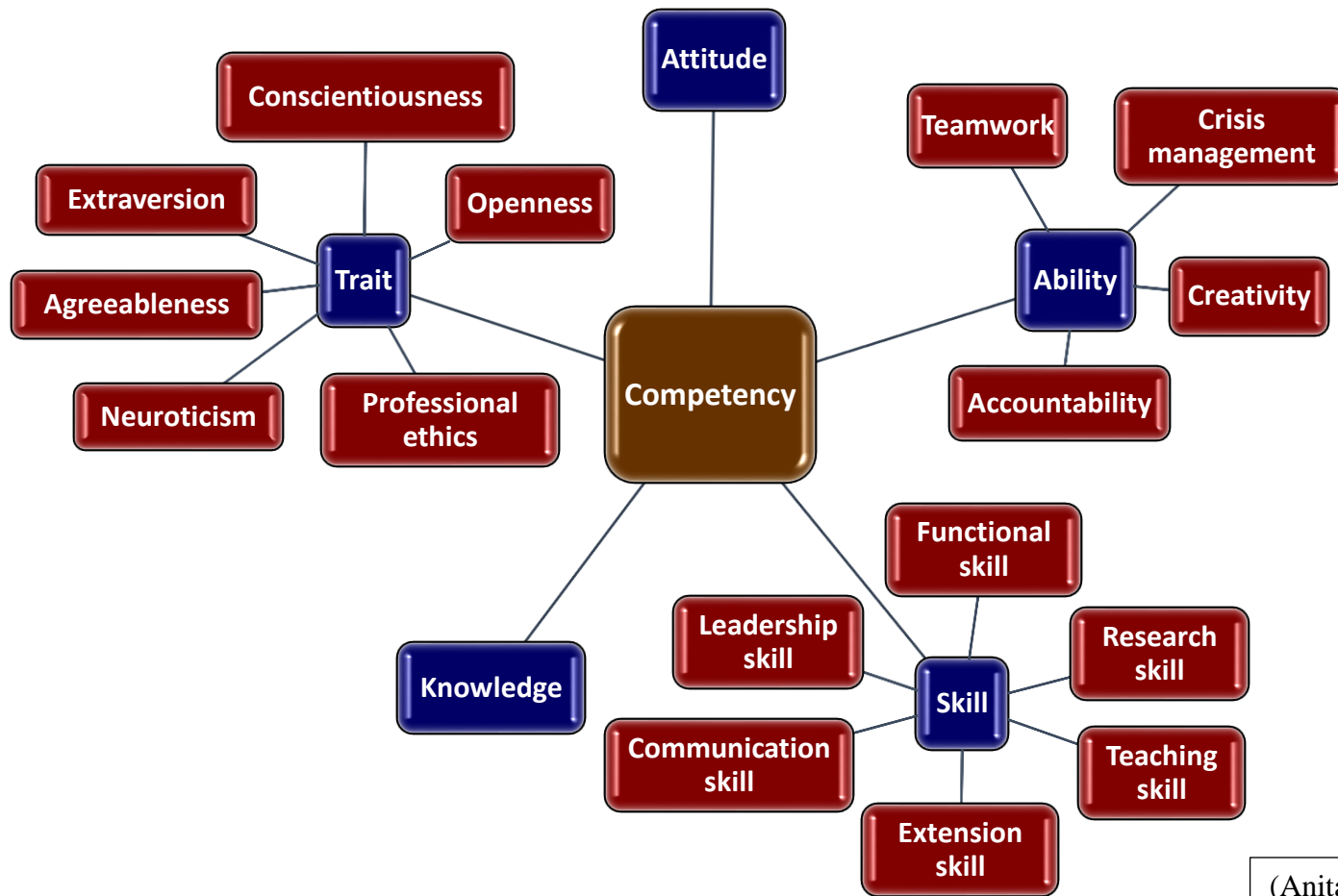
1. Krishi Vigyan Kendra, Kollam
2. Krishi Vigyan Kendra, Kottayam
3. Krishi Vigyan Kendra, Thrissur
4. Krishi Vigyan Kendra, Palakkad
5. Krishi Vigyan Kendra, Malappuram
6. Krishi Vigyan Kendra, Wayanad
7. Krishi Vigyan Kendra, Kannur

Fig 3. Institutions located under KAU



(Tripathi *et al.*, 2018)

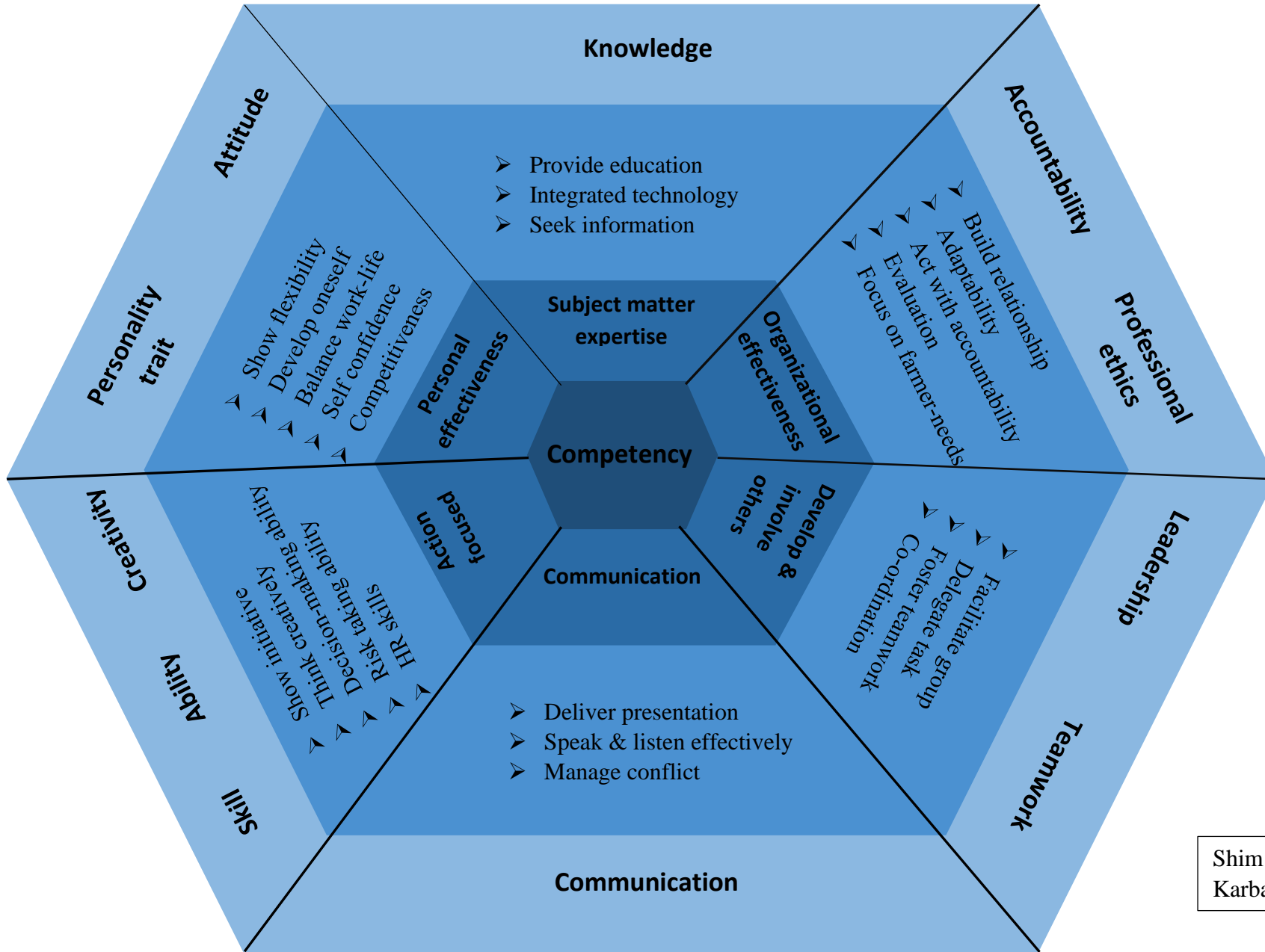
Fig 5. Various roles of Faculty



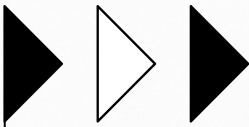
(Anita and Reema, 2014a)

Fig 6. Modified TAASK based Competency Model for Scientists

Fig 7. Modified Hexagonal Competency Model for Technical Officers



Shim (2006)
Karbasioun (2007)



Results and discussion



IV. RESULTS AND DISCUSSION

This chapter presents the findings in accordance with the objectives of the study. The results derived from data analysis and accompanied by relevant discussions, are organized into the following sections:

- 4.1. Profile characteristics of KAU employees
- 4.2. Gap analysis between existing and required level of competency among KAU employees
- 4.3. Factors affecting performance of KAU employees
- 4.4. Training needs of KAU employees
- 4.5. Training design for enhancing the competency of KAU employees

4.1. PROFILE CHARACTERISTICS OF KAU EMPLOYEES

4.1.1. Category 1 – Scientists

Table 3. Distribution of scientists according to their profile characteristics

| Sl. no. | Profile Characteristics | Category | Scientists (n=70) | |
|---------|---------------------------|--|-------------------|------------|
| | | | Frequency | Percentage |
| 1. | Age | Young (Up to 35 years) | 13 | 18.57 |
| | | Middle (36 – 50 years) | 37 | 52.86 |
| | | Senior (Above 50 years) | 20 | 28.57 |
| 2. | Educational qualification | Post graduate | 25 | 35.71 |
| | | Doctoral degree | 43 | 61.43 |
| | | Post-doctoral degree | 2 | 2.86 |
| 3. | Gender | Male | 22 | 31.43 |
| | | Female | 48 | 68.57 |
| 4. | Total work experience | Low (Below 2 years) | 1 | 1.43 |
| | | Medium (2 – 19 years) | 57 | 81.43 |
| | | High (Above 19 years) | 12 | 17.14 |
| | | Mean = 10.30 SD = 8.37 | | |
| 5. | Training exposure | Low (< 1) | 4 | 5.71 |
| | | Medium (1 – 12) | 50 | 71.43 |
| | | High (> 12) | 16 | 22.86 |
| | | Mean = 5.96 SD = 6.01 | | |
| 6. | Additional charge | Low (< 1) | 34 | 48.57 |
| | | Medium (1 – 2) | 31 | 44.29 |
| | | High (> 2) | 5 | 7.14 |
| | | Mean = 0.99 SD = 1.40 | | |
| 7. | Number of transfer | Low (< 1) | 29 | 41.43 |
| | | Medium (1 – 3) | 32 | 45.71 |
| | | High (> 3) | 9 | 12.86 |
| | | Mean = 1.49 SD = 1.61 | | |
| 8. | Number of publications | Low (< 7) | 3 | 4.29 |
| | | Medium (7 – 128) | 59 | 84.29 |
| | | High (> 128) | 8 | 11.42 |

| | | | | |
|-----|--|------------------------|-------------------|-------|
| | | Mean = 67.19 | SD = 60.58 | |
| 9. | Number of research projects handled | Low (< 1) | 35 | 50.00 |
| | | Medium (1 – 12) | 20 | 28.57 |
| | | High (>12) | 15 | 21.43 |
| | | Mean = 5.64 | SD = 6.23 | |
| 10. | Participation in seminars/ conferences/ symposia | Low (< 1) | 18 | 25.71 |
| | | Medium (1 – 35) | 42 | 60.00 |
| | | High (> 35) | 10 | 14.29 |
| | | Mean = 17.12 | SD = 17.37 | |
| 11. | Awards/ recognition/ fellowships | Low (< 2) | 35 | 50.00 |
| | | Medium (2 – 12) | 29 | 41.43 |
| | | High (> 12) | 6 | 8.57 |
| | | Mean = 4.57 | SD = 6.96 | |
| 12. | Global exposure | Low (< 1) | 67 | 95.71 |
| | | Medium (1 – 4) | 0 | 0.00 |
| | | High (> 4) | 3 | 4.29 |
| | | Mean = 2.56 | SD = 1.44 | |
| 13. | Self-confidence | Low (< 21.54) | 10 | 14.29 |
| | | Medium (21.54 – 28.64) | 48 | 68.57 |
| | | High (> 28.64) | 12 | 17.14 |
| | | Mean = 25.08 | SD = 3.55 | |
| 14. | Achievement motivation | Low (< 9.72) | 10 | 14.29 |
| | | Medium (9.72 – 19.11) | 49 | 70.00 |
| | | High (> 19.11) | 11 | 15.71 |
| | | Mean = 14.41 | SD = 4.69 | |
| 15. | Perceived workload | Low (< 5.28) | 13 | 18.57 |
| | | Medium (5.28 – 9.49) | 44 | 62.86 |
| | | High (> 9.49) | 13 | 18.57 |
| | | Mean = 7.39 | SD = 2.10 | |
| 16. | Infrastructure facilities | Low (< 11.99) | 6 | 8.57 |
| | | Medium (11.99 – 22.44) | 51 | 72.86 |
| | | High (> 22.44) | 13 | 18.57 |
| | | Mean = 17.21 | SD = 5.23 | |
| 17. | Organizational climate | Low (< 10.72) | 10 | 14.29 |
| | | Medium (10.72 – 21.34) | 51 | 72.86 |
| | | High (> 21.34) | 9 | 12.86 |
| | | Mean = 16.03 | SD = 5.31 | |
| 18. | Job involvement | Low (< 21.52) | 9 | 12.86 |
| | | Medium (21.52 – 35.62) | 45 | 64.29 |
| | | High (> 35.62) | 16 | 22.86 |
| | | Mean = 28.57 | SD = 7.05 | |
| 19. | Job satisfaction | Low (< 23.74) | 11 | 15.71 |
| | | Medium (23.74 – 37.06) | 52 | 74.29 |
| | | High (> 37.06) | 7 | 10.00 |
| | | Mean = 30.40 | SD = 6.66 | |
| 20. | Job commitment | Low (< 12.62) | 9 | 12.86 |
| | | Medium (12.62 – 20.86) | 48 | 68.57 |
| | | High (> 20.86) | 13 | 18.57 |
| | | Mean = 16.74 | SD = 4.12 | |

| | | | | |
|-----|------------|-----------------------|------------------|-------|
| 21. | Job stress | Low (< 9.03) | 13 | 18.57 |
| | | Medium (9.03 – 19.25) | 47 | 67.14 |
| | | High (> 19.25) | 10 | 14.29 |
| | | Mean = 14.14 | SD = 5.11 | |

4.1.1.1. Age

Table 3 showed the distribution of scientists based on their profile characteristics. The table listed above makes it clearly evident that, 52.86 per cent of the scientists respondents were in their middle age, with 28.57 per cent falling into the senior category and 18.57 per cent into the young age category. Fig 12 The results were in conformity with the findings of Rohit *et al.* (2017), Ahmed and Mannan (2019), Jayasingh (2019) and Raahalya (2020). The careers of the competent scientists begin in their late 20s or early 30s. More than half of the scientists are middle-aged due to the delayed recruitments in the university.

4.1.1.2. Educational qualification

In terms of educational qualifications, the majority of the scientists (61.43%) held doctorates, followed by 35.71 per cent with postgraduate degrees and 2.86 per cent with post-doctoral degrees. Fig 12. This outcome is in agreement with the conclusions of Jayasingh (2019) and Raahalya (2020).

Scientific justifications for the preponderance of PhD degrees among scientists include the necessity of sophisticated research abilities, profound specialisation, and professional recognition as prerequisites for career development. For many academic and high-level research roles, PhD degree is essential. Nearly one-third of the faculty members with master's degree will earn PhD degree at the earliest by applying study leave during the early period of the employment. Only a small percentage of PhD pursue postdoctoral research based on the fellowship available to them.

4.1.1.3. Gender

The data in the Table 3 revealed that more than two-third of the scientists (68.57%) were females, with the rest being males (31.43%). Fig 12. It was observed that females typically perform better than males in various academic contexts, including STEM disciplines, resulting in greater percentages of females engaged in scientific careers. The result is supported with the study of Galport and Azzam (2017).

4.1.1.4. Total work experience

The data in the Table 3 highlighted that 81.43 per cent of the scientists had medium work experience, followed by 17.14 per cent of the scientists had high work experience and 1.43 per cent had low experience. Fig 12. This finding matches with the study of Raahalya (2020). More than four-fifth of the scientists may have medium job experience, because majority of them belonged to middle and senior age categories.

4.1.1.5. Training exposure

The data in the Table 3 disclosed that majority (71.43%) of the scientists had a medium level of training exposure, compared to 22.86 per cent who had a high level and 5.71 per cent of them had low level of training exposure. Fig 12. The outcome is in agreement with the findings of Jayasingh (2019).

As it is mandatory for the scientists to undergo training programmes in each phase of their career, majority of them had medium and high level of training exposure, thereby both individual and organizational competency level have been enhanced.

4.1.1.6. Additional charge

The data in the Table 3, indicated that nearly less than half (48.57%) of the scientists exhibited a low level of additional charge, whereas 44.29 per cent showed a medium level and only few (7.14%) handled high degree of additional charge. Fig 12. This result supports with the conclusions of Smith (2017).

Scientists managed a smaller number of additional charges because their major concentration is on conducting research and education. The time and effort dedicated to research are vital for generating major scientific discoveries, and they avoided administrative or management duties. As a result, scientists usually undertake few or no additional responsibilities.

4.1.1.7. Number of transfer

The distribution of scientists according to the number of transfers received by them from Table 3 revealed that 45.71 per cent of the scientist respondents had received medium number of transfers, followed by 41.43 per cent and 12.86 per cent had low and high number of transfers respectively. Fig 12. The results are consistent with the findings of Robinson and Lee (2021).



Fig 12. Distribution of Scientists according to their profile characteristics

Due to the nature of scientific research, which necessitates stability and continuity to keep concentration on ongoing projects, scientists frequently get medium to low number of transfers. Consequently, they take advantage of concentrating on their research and academic activities and make significant contributions to their domains.

4.1.1.8. Number of publications

The data in the Table 3 showed that the distribution of different types of publications by scientists. It was clearly points out that the publications by scientists included 27.37 per cent of national level research papers, followed by popular articles (19.13%), leaflet/folders/bulletin (18.58%), national level abstracts (12.62%), international research papers (11.03%), book chapters (4.57%), international abstracts (4.17%) and 2.53 per cent of books. Fig 13.

Table 4. Distribution of different types of publications by scientists (N=70)

| Sl. No: | Publications | Percentage |
|---------|--------------------------------|------------|
| 1. | Research paper (International) | 11.03 |
| 2. | Abstract (International) | 4.17 |
| 3. | Research paper (National) | 27.37 |
| 4. | Abstract (National) | 12.62 |
| 5. | Popular article | 19.13 |
| 6. | Book | 2.53 |
| 7. | Book chapter | 4.57 |
| 8. | Leaflet/folders/bulletin | 18.58 |

The data in the Table 3 depicted that the majority of scientists (84.29%) had a medium level of publications, followed by those with high and low level of publications (11.42% and 4.29%) respectively. Fig 12. The results aligned with the findings of Jayasingh (2019) and Veldandi *et al.* (2023).

The lengthy peer review process and the intricacy needed for high-quality research are the reasons behind for the marginal publishing rate by the scientists. Scientists are concerned with generating quality research papers, which have high impact rather than number of publications. Publishing in high impact journals is a challenge for every researcher. It requires quality research outcome, good writing skill, patience and time consumption. Scientists are over-burned with other administrative and management duties, which might have forced them to restrict the number of publications.

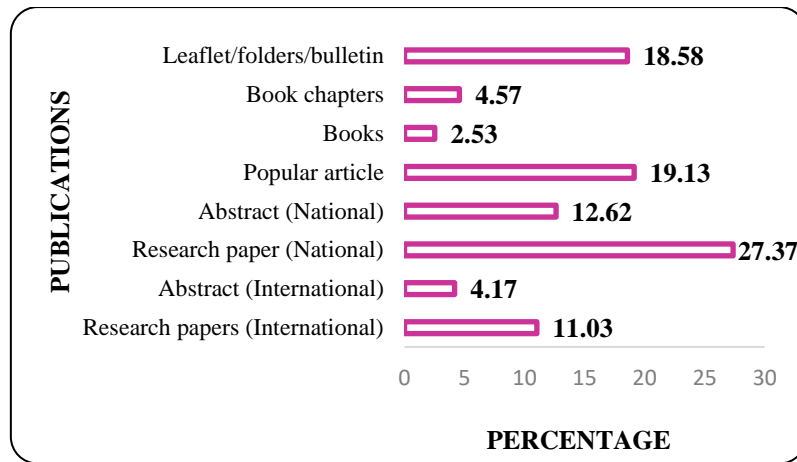


Fig 13. Distribution of scientists according to their publications

4.1.1.9. Number of research projects handled

According to Table 3, half the number of scientists (50%) handled less number of research projects; the subsequent medium number of research projects were handled by 28.57 per cent, and the high number of research projects were handled by 21.43 per cent of scientists. Fig 12. The results matched the findings of Jayasingh (2019) and Martinez (2019). Scientists managed a limited number of research projects because many proposals were not approved by funding agencies, which require attention of the higher authorities.

4.1.1.10. Participation in seminars/conferences/symposia

The data in the Table 3 showed that three-fifth of the scientist respondents (60%) had medium level of participation in seminars/conferences/symposia, which was followed by one-fourth (25.71%) and remaining (14.29%) had low and high participation respectively. Fig 12. The result was similar to the outcomes of Anonymous (2023). Scientists might have a medium number of publications due to varying factors such as resource constraints, time allocation between research and other responsibilities, and the competitive nature of publishing in their niche area.

4.1.1.11. Awards/recognition/fellowships

According to the data available in the Table 3, half of the scientists respondents (50.00%) had earned little or no awards/recognitions, while 41.43 per cent and 8.57 per cent of them had received medium and high level of awards, recognitions, or fellowships respectively. Fig 12. The outcomes aligned with the research findings of Jayasingh (2019) and Veldandi *et al.* (2023). Scientists received a limited number of awards and recognitions

because of systemic biases and structural barriers both within the scientific community and society at large.

4.1.1.12. Global exposure

The distribution of scientists based on global visits as presented in the Table 3 showed that 95.71 per cent of respondents had a low degree of foreign trips, whereas, 4.29 per cent had a high degree of abroad visits. Fig 12. The results matched with the study of Jayasingh (2019).

Scientists often limited abroad visits due to financial constraints, professional duties, and logistical challenges. Lack of travel funding and institutional budgets, along with teaching and research commitments, restricted their global exposure. Additionally, obtaining visas and organizing travel were tedious. Advances in virtual collaboration tools also reduce the need for physical travel, further decreasing the frequency of international trips.

4.1.1.13. Self-confidence

The data in the Table 3 showed the distribution of scientists based on their self-confidence, it is concluded that majority of the respondents (68.57%) had medium level, succeeded by 17.14 per cent and 14.29 per cent of them had high and low level of self-confidence, respectively. Fig 12. The finding match with study of Raahalya (2020). Scientists exhibited medium self-confidence due to the uncertainty and complexity of scientific research, which challenge their confidence in experimental outcomes and interpretations. They feel confident in their abilities and in understanding new roles.

4.1.1.14. Achievement motivation

The distribution of scientists based on their achievement motivation from the data given in Table 3 exhibited that majority of the respondents (70.00%) reported a medium degree of achievement motivation, followed by 15.71 per cent with high level and 14.29 per cent with a low level. Fig 12. The outcome aligns with the research findings of Kusumalatha (2018). Scientists might have medium achievement motivation due to varying levels of both intrinsic and extrinsic factors such as career stage, organizational climate, and personal satisfaction. They have determination and driving ambition for completion of task.

4.1.1.15. Perceived workload

The data in the Table 3 revealed that, more than three-fifth of the scientists (62.86%) reported a medium level of perceived workload, whereas 18.57 per cent reported as high and as low level of perceived workload. Fig 12. The results are in line with the investigations of Jayasingh (2019) and Raahalya (2020). The likely cause for most respondents experiencing a moderate workload could stem from adhering to UGC guidelines and norms by the scientists. They were assigned with various additional responsibilities including administrative duties, hostel management, NSS activities, farm management, transportation, placement cell, arts and sports meet, etc. Scientists feel busy and pressurised until the target is achieved.

4.1.1.16. Infrastructure facilities

Based on the data presented in Table 3, the distribution of scientists revealed that almost three-fourth of the respondents (72.86%) had medium level infrastructure facility availability, followed by 18.57 per cent with low availability and 8.57 per cent with high availability of infrastructure facilities. Fig 12. The medium infrastructure facilities at KAU for scientists may be attributed to budget constraints, competing resource allocation priorities, and the university's strategic focus on balancing various academic and research needs within available financial resources.

The Table 5 showed the data indicating that scientists had easy and sufficient access to infrastructure facilities, including computers, phones, and the internet (65.71%), analytical software (75.71%), electricity (87.14%), stationery (60.00%), field and demonstration equipment (62.86%), overhead and slide projectors (71.43%), slides (65.71%), physical facilities (45.71%), transportation (60.00%), and lecture/training halls (57.14%). However, 45.71 per cent of respondents said it was difficult to get lab equipment. Furthermore, 48.57% of the responders had no access to quarters amenities.

Table 5. Distribution of availability for different types of infrastructure facilities to scientists (N=70)

| Sl. no. | Items | Easily available | | Available with difficulty | | Not at all available | |
|---------|---|------------------|-------|---------------------------|-------|----------------------|-------|
| | | No | % | No | % | No | % |
| 1 | Telephone/internet facilities/computer system | 46 | 65.71 | 7 | 10.00 | 17 | 24.29 |
| 2 | Analytical softwares | 53 | 75.71 | 9 | 12.86 | 8 | 11.43 |
| 3 | Electrical facilities | 61 | 87.14 | 9 | 12.86 | 0 | 0.00 |

| | | | | | | | |
|----|------------------------------------|----|-------|----|-------|----|-------|
| 4 | Stationery | 42 | 60.00 | 20 | 28.57 | 8 | 11.43 |
| 5 | Demonstration/field equipment | 44 | 62.86 | 16 | 22.86 | 10 | 14.29 |
| 6 | Overhead projector/slide projector | 50 | 71.43 | 11 | 15.71 | 9 | 12.86 |
| 7 | Slides | 46 | 65.71 | 13 | 18.57 | 11 | 15.71 |
| 8 | Physical facility | 32 | 45.71 | 27 | 38.57 | 11 | 15.71 |
| 9 | Residential facilities | 17 | 24.29 | 19 | 27.14 | 34 | 48.57 |
| 10 | Transportation facilities | 42 | 60.00 | 16 | 22.86 | 12 | 17.14 |
| 11 | Lecture/training hall | 40 | 57.14 | 22 | 31.43 | 8 | 11.43 |
| 12 | Lab equipment | 29 | 41.43 | 32 | 45.71 | 9 | 12.86 |

4.1.1.17. Organizational climate

Based on the data given in Table 3, the distribution of scientists on organisational climate, revealed that almost three-fourth of the respondents (72.86%) had medium level, followed by 14.29 per cent had low and 12.86 per cent had high level of organisational climate. Fig 12. The findings are in accordance with the study of Raahalya (2020). KAU scientists might have experienced a medium organizational climate within the university due to factors like bureaucratic structures, moderate mutual support, communication gaps, and varying levels of support and recognition, impacting overall workplace satisfaction and cohesion.

4.1.1.18. Job involvement

According to the data in Table 3, almost two-third of respondents (64.29%) had medium level of job involvement, followed by 22.86 per cent and 12.86 per cent who had high and low levels of job involvement respectively. Fig 12. KAU scientists might have medium job involvement in the university due to balancing research commitments with administrative roles, teaching responsibilities, extension works and institutional service obligations, which collectively moderate their overall engagement. They are moderate perfectionist and sometimes stay overtime to complete the task.

4.1.1.19. Job satisfaction

Data presented in the Table 3 on the distribution of scientists based on job satisfaction showed that nearly three-fourth of respondents (74.29%) reported a medium level, followed by 15.71 per cent and 10.00 per cent had low and high level of job satisfaction, respectively. Fig 12. The results associated with the research findings of Gurjar (2018) and Jayasingh *et al.* (2022). KAU scientists might have medium job satisfaction within the university due to

little or no incentives, a medium degree of promotion chances, workplace politics, insufficient transportation, repeated transfers and work beyond office hours.

4.1.1.20. Job commitment

According to data provided in the Table 3, the distribution of scientists based on job commitment revealed that more than two-third of respondents (68.57%) had a medium degree of dedication, followed by 18.57 per cent and 12.86 per cent who had high and low levels of job commitment, respectively. Fig 12. The results aligned with the study of Jayasingh (2019) and Raahalya (2020). Scientists had medium level of job commitment due to factors such as varying levels of institutional support, career development opportunities, and work-life balance impacting their dedication and allegiance to the institution.

4.1.1.21. Job stress

Based on the data available in the Table 3, which distributed scientists by job stress concluded that more than two-third of the respondents (67.14%) had a medium degree of job stress, followed by low and high levels as 18.57 per cent and 14.29 per cent, respectively. Fig 12. The results are in accordance with the conclusion of Raahalya (2020). KAU scientists might have experienced moderate job stress due to a combination of rigorous research demands, teaching responsibilities, administrative duties, and pressure to secure funding and publish, amidst the constraints of academic and institutional expectations. Sometimes, they feel limited time frame to achieve the target.

4.1.2. Category 2 – Technical Officers

Table 6. Distribution of technical officers according to their profile characteristics

| Sl. no. | Profile Characteristics | Category | Technical Officers (n=40) | |
|---------|---------------------------|-------------------------|---------------------------|------------|
| | | | Frequency | Percentage |
| 1. | Age | Young (Up to 35 years) | 0 | 0.00 |
| | | Middle (36 – 50 years) | 22 | 55.00 |
| | | Senior (Above 50 years) | 18 | 45.00 |
| 2. | Educational qualification | Diploma | 8 | 20.00 |
| | | Graduate | 23 | 57.50 |
| | | Post graduate | 9 | 22.50 |
| 3. | Gender | Male | 23 | 57.50 |
| | | Female | 17 | 42.50 |
| 4. | Total work experience | Low (Below 11 years) | 0 | 0.00 |
| | | Medium (11 – 23 years) | 32 | 80.00 |
| | | High (Above 23 years) | 8 | 20.00 |

| | | | | |
|-----|---------------------------|------------------------|-------------------|-------|
| | | Mean = 16.98 | SD = 5.68 | |
| 5. | Training exposure | Low (< 1) | 15 | 37.50 |
| | | Medium (1 – 3) | 20 | 50.00 |
| | | High (> 3) | 5 | 12.50 |
| | | Mean = 1.7 | SD = 1.69 | |
| 6. | Number of transfer | Low (< 1) | 7 | 17.50 |
| | | Medium (1 – 5) | 24 | 60.00 |
| | | High (> 5) | 9 | 22.50 |
| | | Mean = 2.98 | SD = 1.61 | |
| 7. | Self-confidence | Low (< 24.71) | 4 | 10.00 |
| | | Medium (24.71 – 30.34) | 29 | 72.50 |
| | | High (> 30.34) | 7 | 17.50 |
| | | Mean = 27.53 | SD = 2.81 | |
| 8. | Achievement motivation | Low (< 10.77) | 6 | 15.00 |
| | | Medium (10.77 – 15.88) | 30 | 75.00 |
| | | High (> 15.88) | 4 | 10.00 |
| | | Mean = 13.33 | SD = 2.56 | |
| 9. | Perceived workload | Low (< 6.08) | 5 | 12.50 |
| | | Medium (6.08 – 11.47) | 27 | 67.50 |
| | | High (> 11.47) | 8 | 20.00 |
| | | Mean = 8.78 | SD = 2.70 | |
| 10. | Infrastructure facilities | Low (< 8.97) | 5 | 12.50 |
| | | Medium (8.97 – 14.78) | 31 | 77.50 |
| | | High (> 14.78) | 4 | 10.00 |
| | | Mean = 11.88 | SD = 2.90 | |
| 11. | Organizational climate | Low (< 10.87) | 6 | 15.00 |
| | | Medium (10.87 – 20.88) | 27 | 67.50 |
| | | High (> 20.88) | 7 | 17.50 |
| | | Mean = 15.88 | SD = 5.003 | |
| 12. | Job involvement | Low (< 25.37) | 8 | 20.00 |
| | | Medium (25.37 – 37.58) | 29 | 72.50 |
| | | High (> 37.58) | 3 | 7.50 |
| | | Mean = 31.48 | SD = 6.10 | |
| 13. | Job satisfaction | Low (< 22.42) | 5 | 12.50 |
| | | Medium (22.42 – 37.08) | 28 | 70.00 |
| | | High (> 37.08) | 7 | 17.50 |
| | | Mean = 29.75 | SD = 7.33 | |
| 14. | Job commitment | Low (< 12.52) | 6 | 15.00 |
| | | Medium (12.52 – 23.03) | 27 | 67.50 |
| | | High (> 23.03) | 7 | 17.50 |
| | | Mean = 17.78 | SD = 5.26 | |
| 15. | Job stress | Low (< 13.42) | 4 | 10.00 |
| | | Medium (13.42 – 19.98) | 30 | 75.00 |
| | | High (> 19.98) | 6 | 15.00 |
| | | Mean = 16.70 | SD = 3.28 | |

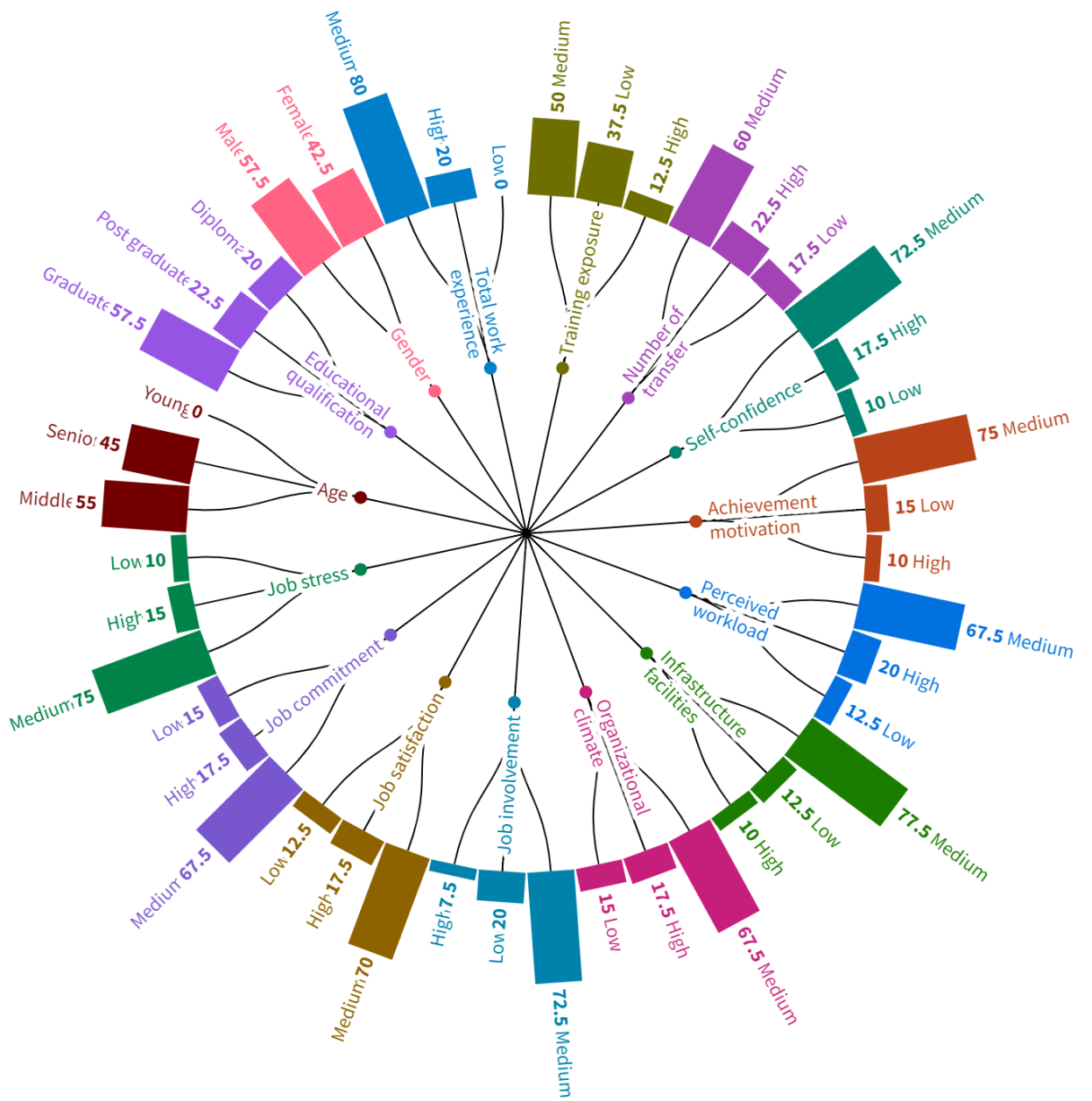


Fig 14. Distribution of Technical Officers according to their profile characteristics

4.1.2.1. Age

The distribution of technical officers based on the data from Table 6. More than half of the respondents (55.00%) belonged to middle aged, followed by seniors (45.00%) and none of them belonged to young age category. Fig 14. The results are in conformity with the results of Govindbhai (2018) and Kusumalatha (2018). The university has not recruited technical officers for the past fourteen years and hence, there were no respondents under the young age category.

4.1.2.2. Educational qualification

The distribution of technical officers based on their educational qualifications in the Table 6, clearly revealed that more than half of the respondents (57.50%) had graduate degree, followed by 22.50 per cent had post graduate degree and 20.00 per cent had diploma degree as educational qualification. Fig 14. The results supported with the studies of Govindbhai (2018), and Kusumalatha (2018). Since, the basic qualification is graduate level, most of the technical officers had a graduate degree. Nonetheless, others have pursued postgraduate studies out of personal inclination.

4.1.2.3. Gender

The distribution of technical officers according to their gender in Table 6 demonstrated that more than half 57.50 per cent of the respondents were males, whereas the remaining (42.50%) were females. Fig 14. The study of Kusumalatha (2018) had similar findings.

4.1.2.4. Total work experience

The distribution of technical officers based on their total work experience as in Table 6 showed that, four-fifth (80.00%) of the respondents had medium work experience, which was followed by 20.00 per cent having high work experience. None of the technical officers had low work experience. Fig 14. The results are in conformity with the results of Kshatriya (2019). They had medium work experience since more than half of the respondents belonged to the middle age group.

4.1.2.5. Training exposure

Data displayed in the Table 6 showed that the distribution of technical officers based on training received by them. The data revealed that half of the respondents (50.00%) received medium level of trainings. The rest of the respondents with 37.50 per cent and

12.50 per cent received low and high level of trainings, respectively. Fig 14. The result supported the past study of Kusumalatha (2018). They showed medium participation in training programmes.

4.1.3.6. Number of transfer

The distribution of technical officers according to the number of transfers in the Table 6 showed that three-fifth of the respondents (60.00%) received medium number of transfers, followed by 22.50 per cent with high and 17.50 per cent with low number of transfers. Fig 14. The result aligned with the findings of Johnson and Wang (2017). The technical officers experienced moderate transfer rates likely due to the need for varied expertise across different agricultural research stations, and to ensure equitable distribution of experienced personnel across the stations in the university.

4.1.2.7. Self-confidence

The data from Table 6 and Fig 14. showed the distribution of technical officers based on their self-confidence, it was found that nearly three-fourth of the respondents (72.50%) had medium level, succeeded by 17.5 per cent and 10.00 per cent had high and low level of self-confidence, respectively. Fig 14. The results are in conformity with the studies of Govindbhai (2018). They exhibited medium self-confidence due to the self-satisfaction about their own personality, the respect they received from the fellow members and they were capable of managing the adverse situation.

4.1.2.8. Achievement motivation

The distribution of technical officers based on their achievement motivation from the data available in the Table 6 reported that, three-fourth of the respondents (75.00%) had medium degree of achievement motivation, followed by 15.00 per cent with a low level and 10.00 per cent with high level of achievement motivation. Fig 14. The outcome aligned with the research findings of Kusumalatha (2018). Technical officers had medium achievement motivation because they enjoyed their work and determination to achieve greater things in life.

4.1.2.9. Perceived workload

The data in the Table 6 revealed that, more than two-third of the respondents (67.50%) reported a medium level of perceived workload, whereas 20.00 per cent reported as high and 12.50 per cent as low level of perceived workload. Fig 14. The results are in

line with the results reported by Kusumalatha (2018). They had medium workload such as fieldwork, administrative responsibilities, and supervision of farm operations.

4.1.2.10. Infrastructure facilities

Based on the data presented in Table 6, the distribution of technical officers revealed that more than three-fourth of them (77.50%) had availed medium level infrastructure facilities, followed by 12.50 per cent with low level and 10.00 per cent with high level of available infrastructure facilities. Fig 14. This outcome is in agreement with the research findings of Govindbhai (2018). University had medium infrastructure facilities due to budget constraints or prioritization of resources towards other university needs.

Table 7. Distribution of technical officers according to the availability of infrastructural facilities (n=40)

| Sl. no. | Items | Easily available | | Available with difficulty | | Not at all available | |
|---------|---|------------------|-------|---------------------------|-------|----------------------|-------|
| | | No | % | No | % | No | % |
| 1 | Telephone/Internet facilities/Computer system | 34 | 85.00 | 3 | 7.50 | 3 | 7.50 |
| 2 | Physical facilities | 21 | 52.50 | 11 | 27.50 | 8 | 20.00 |
| 3 | Electrical facilities | 37 | 92.50 | 3 | 7.50 | 0 | 0.00 |
| 4 | Stationery | 35 | 87.50 | 5 | 12.50 | 0 | 0.00 |
| 5 | Demonstration/field equipment | 25 | 62.50 | 15 | 37.50 | 0 | 0.00 |
| 6 | Quarters facilities | 19 | 47.50 | 9 | 22.50 | 12 | 30.00 |
| 7 | Transportation facilities | 27 | 67.50 | 3 | 7.50 | 10 | 25.00 |

The data listed in Table 7 indicated that the technical officers had adequate and easily access to all infrastructure facilities, including the phone/internet/computer system (85.00%), physical facilities (52.50%), electricity (92.50%), stationery (87.50%), demonstration/field equipment (62.50%), quarters (47.50%), and transportation facilities (67.50%) as needed.

4.1.2.11. Organizational climate

Based on the data available in the Table 6, the distribution of technical officers on organisational climate, revealed that more than two-third of respondents (67.50%) had a medium level, followed by 17.50 per cent with high and 15.00 per cent with low level of organisational climate. Fig 14. The results are in line with the study of Kusumalatha (2018). The moderate level of bureaucracy impacts the overall workplace atmosphere of the university. Technical officers made decisions and solved problems only after consulting with the superior officers.

4.1.2.12. Job involvement

According to the data in the Table 6, nearly three-fourth of respondents (72.50%) had medium level of job involvement, followed by 20.00 per cent and 7.50 per cent who had low and high levels of job involvement, respectively. Fig 14. The result supported with the study of Gupta (2022). University had not done recruitment for the past decade. None of the temporary employees are ready to take up responsibilities and hence, the technical officers experiences workload and work pressure, which results in moderate involvement of technical officers in their job. Sometimes, they stayed overtime to get the task completed.

4.1.2.13. Job satisfaction

Data presented the Table 6 on the distribution of technical officers based on job satisfaction showed that more than two-third of the respondents (70.00%) reported a medium level, followed by 17.50 per cent and 12.50 per cent with high and low level of job satisfaction. Fig 14. The results are in association with the research findings of Govindbhai (2018) and Kusumalatha (2018). The lack of recognition or appreciation for their efforts and contributions within the organization, leads to medium satisfaction in work.

4.1.2.14. Job commitment

According to data in the Table 6, the distribution of technical officers based on job commitment revealed that more than two-third of respondents (67.50%) had a medium degree of dedication, followed by 17.50 per cent and 15.00 per cent who had high and low levels of job commitment, respectively. Fig 14. Due to the medium job involvement, personal satisfaction and workload; they had medium job commitment. They felt freedom and flexibility in workplace.

4.1.2.15. Job stress

Based on the data in the Table 6 which distributed technical officers by job stress concluded that, three-fourth of the respondents (75.00%) had a medium degree of job stress, followed by high and low levels as 15.00 per cent and 10.00 per cent, respectively. Fig 14. The medium workload of technical officers lead to medium job stress. Technical officers felt over-burdened to look after the most of the vacant posts.

4.1.3. Category 3 – Administrative Staff

Table 8. Distribution of administrative staff according to their profile characteristics

| Sl. no. | Profile Characteristics | Category | Administrative Staff (n=70) | |
|---------|---------------------------|------------------------------------|-----------------------------|------------|
| | | | Frequency | Percentage |
| 1. | Age | Young (Up to 35 years) | 18 | 25.71 |
| | | Middle (36 – 50 years) | 31 | 44.29 |
| | | Senior (Above 50 years) | 21 | 30.00 |
| 2. | Educational qualification | Graduate | 47 | 67.14 |
| | | Post graduate | 23 | 32.86 |
| 3. | Gender | Male | 33 | 47.14 |
| | | Female | 37 | 52.86 |
| 4. | Total work experience | Low (Below 4 years) | 11 | 15.71 |
| | | Medium (4 – 22 years) | 49 | 70.00 |
| | | High (Above 22 years) | 10 | 14.29 |
| | | Mean = 12.60 SD = 8.98 | | |
| 5. | Training exposure | Low (< 1) | 12 | 17.14 |
| | | Medium (1 – 5) | 52 | 74.29 |
| | | High (> 5) | 6 | 8.57 |
| | | Mean = 2.41 SD = 2.16 | | |
| 6. | Number of transfer | Low (< 1) | 8 | 11.43 |
| | | Medium (1 – 7) | 51 | 72.86 |
| | | High (> 7) | 11 | 15.71 |
| | | Mean = 3.7 SD = 3.09 | | |
| 7. | Self-confidence | Low (< 21.31) | 12 | 17.14 |
| | | Medium (21.31 – 29.52) | 44 | 62.86 |
| | | High (> 29.52) | 14 | 20.00 |
| | | Mean = 25.41 SD = 4.10 | | |
| 8. | Achievement motivation | Low (< 10.13) | 13 | 18.57 |
| | | Medium (10.13 – 17.59) | 48 | 68.57 |
| | | High (> 17.59) | 9 | 12.86 |
| | | Mean = 13.86 SD = 3.73 | | |
| 9. | Perceived workload | Low (< 4.17) | 13 | 18.57 |
| | | Medium (4.17 – 9.03) | 49 | 70.00 |
| | | High (> 9.03) | 8 | 11.43 |
| | | Mean = 6.60 SD = 2.43 | | |
| 10. | Infrastructure facilities | Low (< 7.9) | 7 | 10.00 |
| | | Medium (7.9 – 12.90) | 47 | 67.14 |
| | | High (> 12.90) | 16 | 22.86 |
| | | Mean = 10.40 SD = 2.50 | | |
| 11. | Organizational climate | Low (< 13.71) | 11 | 15.71 |
| | | Medium (13.71 – 21.52) | 46 | 65.71 |
| | | High (> 21.52) | 13 | 18.57 |
| | | Mean = 17.61 SD = 3.90 | | |
| 12. | Job involvement | Low (< 25.28) | 12 | 17.14 |
| | | Medium (25.28 – 36.52) | 46 | 65.71 |
| | | High (> 36.52) | 12 | 17.14 |
| | | Mean = 30.90 SD = 5.62 | | |

| | | | | |
|-----|------------------|------------------------|----|------------------|
| 13. | Job satisfaction | Low (< 28.57) | 13 | 18.57 |
| | | Medium (28.57 – 38.98) | 42 | 60.00 |
| | | High (> 38.98) | 15 | 21.43 |
| | | Mean = 33.77 | | SD = 5.21 |
| 14. | Job commitment | Low (< 14.46) | 11 | 15.71 |
| | | Medium (14.46 – 21.34) | 46 | 65.71 |
| | | High (> 21.34) | 13 | 18.57 |
| | | Mean = 17.90 | | SD = 3.44 |
| 15. | Job stress | Low (< 14.49) | 12 | 17.14 |
| | | Medium (14.49 – 20.74) | 43 | 61.43 |
| | | High (> 20.74) | 15 | 21.43 |
| | | Mean = 17.61 | | SD = 3.12 |

4.1.3.1. Age

The distribution of administrative staff based on the data from Table 8 revealed that nearly half of the respondents (44.29%) belonged to middle aged, followed by senior having 30.00 per cent and 25.71 per cent belonged to young age category. Fig 15. The results are in conformity with the findings of Smith *et al.* (2023).

4.1.3.2. Educational qualification

The distribution of administrative staff based on their educational qualifications clearly depicted from the Table 8, revealed that more than two-third of the respondents (67.14%) had graduate degree, followed by 32.86 per cent with post graduate degree as educational qualification. Fig 15. The results supported the study of Garcia *et al.* (2024).

4.1.3.3. Gender

The distribution of administrative staff according to their gender based on the data from Table 8 and Fig 15, demonstrated that 52.86 per cent of the respondents were females, whereas the remaining (47.14%) were males. Fig 15. The study of Patel and Gupta (2024) had similar findings. The high literacy rate and educational attainment among women in Kerala, which increases competitiveness for administrative positions.

4.1.3.4. Total work experience

The distribution of administrative staff based on their total work experience from Table 8 showed that, more than two-third (70.00%) of the respondents had medium work experience, which was followed by 15.71 per cent having low work experience and 14.29 per cent had high work experience. Fig 15. The results are in conformity with the findings of Ahmed and Mannan (2019).

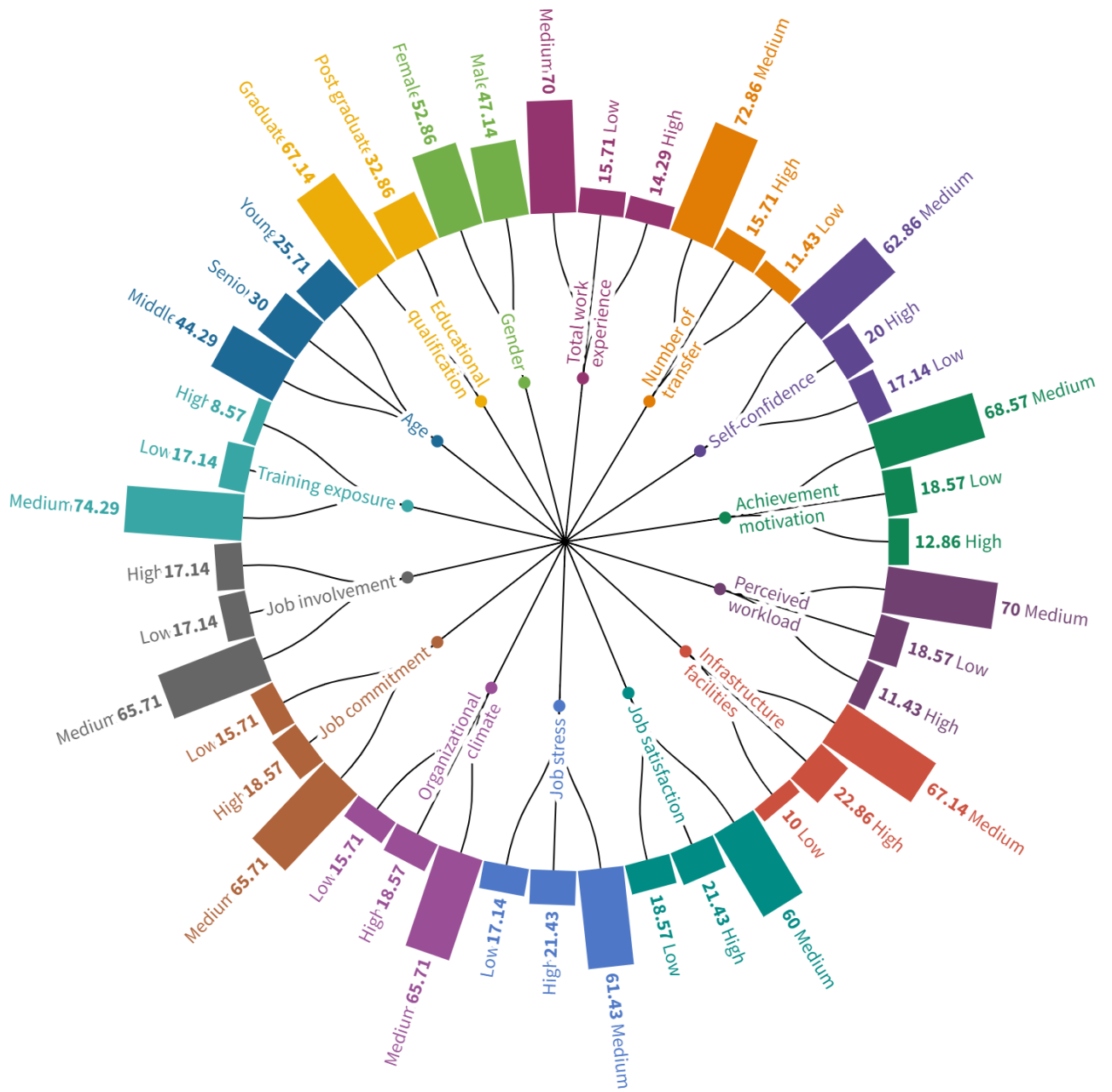


Fig 15. Distribution of Administrative Staff according to their profile characteristics

4.1.3.5. Training exposure

Table 8 displayed the grouping of administrative staff based on training received by them. The data revealed that nearly three-fourth of the respondents (74.29%) received medium level of trainings. The rest of the respondents with 17.14 per cent and 8.57 per cent received low and high degree of trainings, respectively. Fig 15. The result matched with the findings of Ahmed and Mannan (2019). Balancing responsibilities in the workplace and personal interest likely influenced their participation rates, and hence showed that majority received medium level of trainings.

4.1.3.6. Number of transfers

The distribution of administrative staff according to the number of transfers received by them is shown in Table 8. Nearly three-fourth of the respondents (72.86%) received medium number of transfers, followed by 15.71 per cent with high and 11.43 per cent with low number of transfers. Fig 15. The results matched with the findings from the study of Smith and Jones (2018). The rate of transfer among the administrative staff at KAU is due to administrative restructuring, efforts to balance workloads, and a policy that mandates transfer once in every three years. Transfer of employees is a management strategy to ensure work efficiency.

4.1.3.7. Self-confidence

The data from Table 8 and Fig 15. showed the distribution of administrative staff based on their self-confidence, it was concluded that more than half of the respondents (62.86%) had medium level, succeeded by 20.00 per cent and 17.14 per cent with high and low level of self-confidence, respectively. The results were in conformity with the study of Lee and Oh (2021). The medium level of self-confidence among the administrative staff at KAU might be due to their moderate experience and exposure to various administrative tasks.

4.1.3.8. Achievement motivation

The distribution of administrative staff based on their achievement motivation from the data given in Table 8 reported that, more than two-third of the respondents (68.57%) reported a medium degree of achievement motivation, followed by 18.57 per cent with a low level and 12.86 per cent with a high level of achievement motivation. Fig 15. The result is in contrast with the study of Nasrudin *et al.* (2020). The administrative staff at KAU had medium-level achievement motivation due to balanced work demands and moderate

recognition for their efforts from the superiors. They had medium level of motivation to achieve target.

4.1.3.9. Perceived workload

The data from Table 8 revealed that, more than two-third of the administrative staff (70.00%) reported a medium degree of perceived workload, whereas 18.57 per cent reported as low and 11.43 per cent as high degree. Fig 15. The result is in-line with those of Brown and Davis (2019). They handled medium workload with a combination of administrative and financial tasks. Administrative staff were busy to finish the entrusted task within the time-frame.

4.1.3.10. Infrastructure facilities

Based on the data presented in Table 8, the distribution of administrative staff revealed that more than two-third of the respondents (67.14%) had medium level infrastructure facility availability, followed by 22.86 per cent with high and 10.00 per cent with low degree availability of infrastructure facility respectively. Fig 15. The output agreed with the research findings of Smith et al. (2018).

The data presented in Table 9 showed that administrative staff had sufficient and convenient access to infrastructure facilities, such as telephone/ internet/computer systems (84.29%), electricity (85.71%), stationery (82.86%), furniture (87.14%), and transportation facilities (51.43%). However, access to old data and files (54.29%) was reported to be somewhat challenging and time-consuming. Moreover, the availability of quarters facilities was not at all accessible to the respondents when they need (47.14%) the facilities.

Table 9. Distribution of administrative staff according to the availability of infrastructural facilities (n=70)

| Sl. no. | Items | Easily available | | Available with difficulty | | Not at all available | |
|---------|---|------------------|-------|---------------------------|-------|----------------------|-------|
| | | No | % | No | % | No | % |
| 1 | Telephone/Internet facilities/Computer system | 59 | 84.29 | 7 | 10.00 | 4 | 5.71 |
| 2 | Old data and files | 28 | 40.00 | 38 | 54.29 | 4 | 5.71 |
| 3 | Electricity facilities | 60 | 85.71 | 4 | 5.71 | 6 | 8.57 |
| 4 | Stationery | 58 | 82.86 | 4 | 5.71 | 8 | 11.43 |
| 5 | Furnitures | 61 | 87.14 | 7 | 10.00 | 2 | 2.86 |
| 6 | Quarters facilities | 13 | 18.57 | 24 | 34.29 | 33 | 47.14 |
| 7 | Transportation facilities | 36 | 51.43 | 14 | 20.00 | 20 | 28.57 |

Kerala Agricultural University possessed medium infrastructure in administrative office because of budget constraints or prioritization of resources towards academic and research facilities.

4.1.3.11. Organizational climate

Based on the data on the distribution of administrative staff on organisational climate presented in Table 8, revealed that two-third of the respondents (65.71%) had a medium level, followed by 18.57 per cent with high and 15.71 per cent with low level of organisational climate. Fig 15. The administrative staff at KAU felt a medium organizational climate due to factors like bureaucratic processes, medium level of top to bottom communication, and moderate support from higher officials. They had moderate interpersonal trust and friendliness with co-workers.

4.1.3.12. Job involvement

According to the data in Table 8, two-third of the respondents (65.71%) had medium level of job involvement, followed by low and high degree of job involvement as 17.14 per cent, respectively. Fig 15. The results are in accordance with the research findings of El-Sakka and Bakr (2021). The lack of recognition or appreciation for their contributions within the university's administrative framework leads to moderate job involvement.

4.1.3.13. Job satisfaction

Table 8 presented the distribution of administrative staff based on job satisfaction. Three-fifth of the respondents (60.00%) reported a medium level, followed by 21.43 per cent and 18.57 per cent had high and low level of job satisfaction. Fig 15. The result supported with the findings of Ezcurra-Zavaleta *et al.* (2023). Administrative staff were less satisfied with the salary and transfers.

4.1.3.14. Job commitment

According to data from Table 8, the administrative staff distribution based on job commitment revealed that two-third of the respondents (65.71%) had a medium degree of dedication, followed by 18.57 per cent and 15.71 per cent who had high and low levels of job commitment, respectively. Fig 15. Administrative staff had flexibility in the workplace to complete their task, lead them to show moderate job commitment.

4.1.3.15. Job stress

Based on the data in Table 8, which distributed administrative staff by job stress highlighted that, more than three-fifth of the respondents (61.43%) had a medium degree of job stress, followed by high and low levels as 21.43 per cent and 17.14 per cent, respectively. Fig 15. Administrative staff experienced medium job stress due to managing multiple tasks, responsibilities, inconsistent interpersonal dynamics with fellow employees, and over workload.

4.1.4. Category 4 – Labourers

Table 10. Distribution of labourers according to their profile characteristics

| Sl. No. | Profile Characteristics | Category | Labourers (n=70) | |
|---------|---------------------------|------------------------------------|------------------|------------|
| | | | Frequency | Percentage |
| 1. | Age | Young (Up to 35 years) | 5 | 7.14 |
| | | Middle (36 – 50 years) | 50 | 71.43 |
| | | Senior (Above 50 years) | 15 | 21.43 |
| 2. | Educational qualification | Illiterate | 3 | 4.29 |
| | | Primary school | 1 | 1.43 |
| | | Middle school | 12 | 17.14 |
| | | High school | 39 | 55.71 |
| | | Higher secondary | 14 | 20.00 |
| | | Graduate | 1 | 1.43 |
| 3. | Gender | Male | 30 | 42.86 |
| | | Female | 40 | 57.14 |
| 4. | Total work experience | Low (Below 6 years) | 10 | 14.29 |
| | | Medium (6 – 15 years) | 52 | 74.29 |
| | | High (Above 15 years) | 8 | 11.42 |
| | | Mean = 10.89 SD = 4.48 | | |
| 5. | Training exposure | Low (< 1) | 26 | 37.14 |
| | | Medium (1 – 2) | 28 | 40.00 |
| | | High (> 2) | 16 | 22.86 |
| | | Mean = 1.29 SD = 1.19 | | |
| 6. | Self-confidence | Low (< 18.73) | 4 | 5.71 |
| | | Medium (18.73 – 27.38) | 61 | 87.14 |
| | | High (> 27.38) | 5 | 7.14 |
| | | Mean = 23.06 SD = 4.32 | | |
| 7. | Achievement motivation | Low (< 8.71) | 7 | 10.00 |
| | | Medium (8.71 – 15.61) | 48 | 68.57 |
| | | High (> 15.61) | 15 | 21.43 |
| | | Mean = 12.16 SD = 3.45 | | |
| 8. | Perceived workload | Low (< 4.62) | 14 | 20.00 |
| | | Medium (4.62 – 9.18) | 45 | 64.29 |
| | | High (> 9.18) | 11 | 15.71 |
| | | Mean = 6.90 SD = 2.28 | | |
| 9. | Infrastructure facilities | Low (< 6.22) | 18 | 25.71 |
| | | Medium (6.22 – 11.61) | 37 | 52.86 |

| | | | | |
|-----|------------------------|---|----|-------|
| | | High (> 11.61) | 15 | 21.43 |
| | | Mean = 8.91 SD = 2.70 | | |
| 10. | Organizational climate | Low (< 13.42) | 6 | 8.57 |
| | | Medium (13.42 – 20.13) | 57 | 81.43 |
| | | High (> 20.13) | 7 | 10.00 |
| | | Mean = 16.77 SD = 3.35 | | |
| 11. | Job involvement | Low (< 22.48) | 9 | 12.86 |
| | | Medium (22.48 – 40.35) | 51 | 72.86 |
| | | High (> 40.35) | 10 | 14.28 |
| | | Mean = 31.41 SD = 8.93 | | |
| 12. | Job satisfaction | Low (< 16.17) | 11 | 15.71 |
| | | Medium (16.17 – 22.34) | 50 | 71.43 |
| | | High (> 22.34) | 9 | 12.86 |
| | | Mean = 19.26 SD = 3.09 | | |
| 13. | Job commitment | Low (< 13.23) | 10 | 14.29 |
| | | Medium (13.23 – 20.80) | 43 | 61.42 |
| | | High (> 20.80) | 17 | 24.29 |
| | | Mean = 17.01 SD = 3.79 | | |
| 14. | Job stress | Low (< 7.84) | 18 | 25.71 |
| | | Medium (7.84 – 17.85) | 37 | 52.86 |
| | | High (> 17.85) | 15 | 21.43 |
| | | Mean = 12.84 SD = 5.003 | | |

4.1.4.1. Age

The distribution of labourers based on their age from Table 10 showed that more than two-third of the respondents (71.43%) belonged to middle age category, followed by senior having 21.43 per cent and 7.14 per cent belonged to young age category. Fig 16. The result matched up with the findings of Panda (2022). The majority of agricultural labourers belonged to the middle-aged category because younger individuals pursued alternative employment opportunities with potentially higher wages and better working conditions.

4.1.4.2. Educational qualification

The distribution of labourers based on their educational qualifications clearly depicted from the Table 10 revealed that more than half of the respondents (55.71%) had high school, followed by 20.00 per cent had higher secondary, 17.14 per cent had middle school, 4.29 per cent were illiterates and 1.43 per cent both had primary and graduation level educational qualification. Fig 16. The result of Panda (2022) found to be in-line with the present study. The majority of agricultural labourers typically had high school qualifications because the job required only basic education and practical skills rather than advanced academic qualifications.

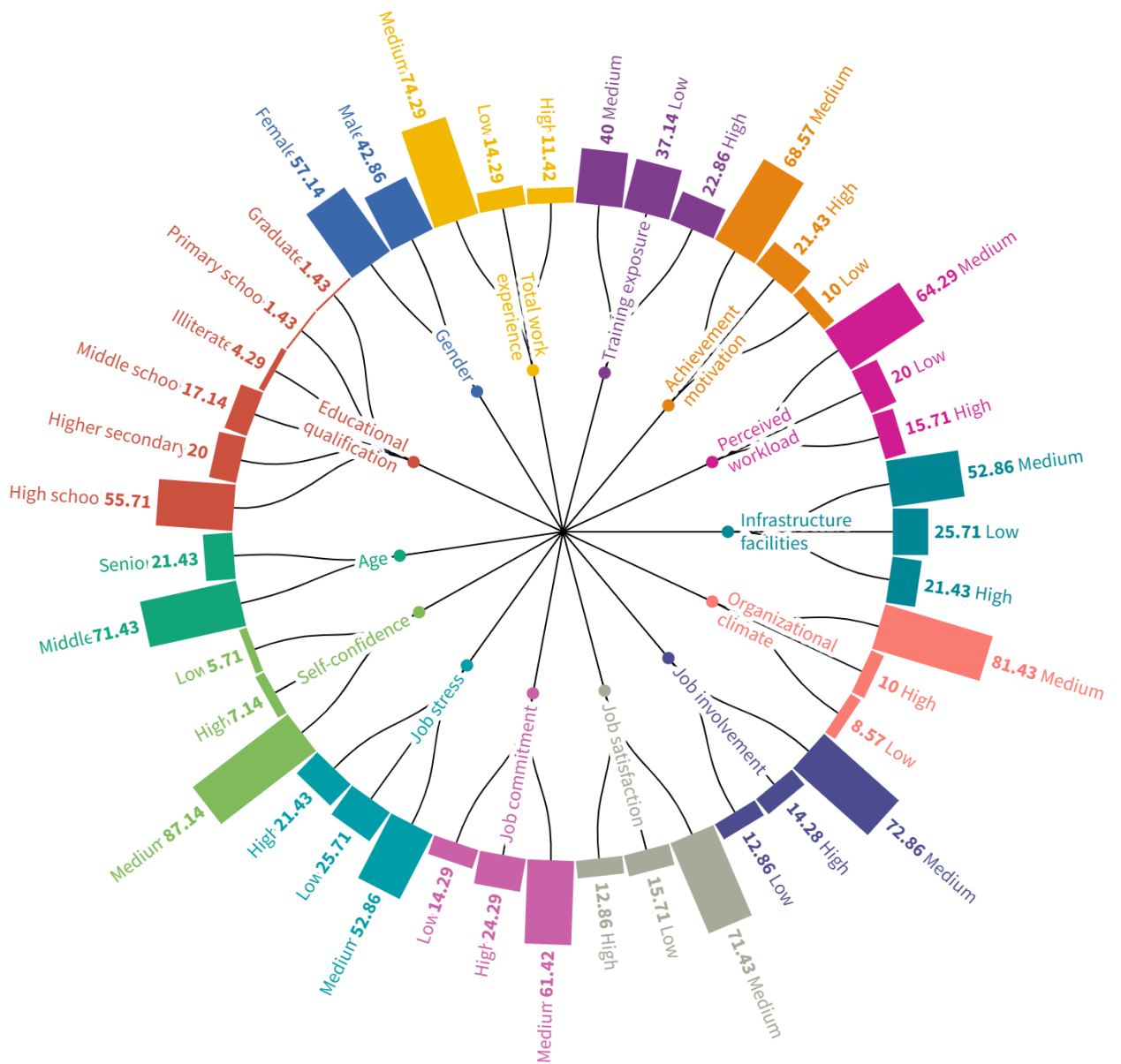


Fig 16. Distribution of Labourers according to their profile characteristics

4.1.4.3. Gender

The distribution of labourers according to their gender based on the data from Table 10 and Fig 16, stated that more than half (57.14%) of the respondents were females, whereas the remaining (42.86%) were males. The result supported the findings of Ismail *et al.* (2018). The majority of agricultural labourers were females because, women belonging to low income or below poverty line go to job to support their families and struggle to meet both ends.

4.1.4.4. Total work experience

The distribution of labourers based on their total work experience as given in the Table 10 showed that, three-fourth (74.29%) of the respondents had medium work experience, followed by 14.29 per cent having low work experience and 11.42 per cent had high work experience. Fig 16. Similar findings were reported by Panda (2022). The average work experience of labourers in KAU was found to be 10-15 years.

4.1.4.5. Training exposure

Table 10 displayed the grouping of labourers based on the training exposure received by them. The data revealed that 40.00 per cent of the respondents had received medium level of trainings. The rest with 37.14 per cent and 22.86 per cent received low and high degree of trainings, respectively. Fig 16. The result aligned with the findings of Panda (2022). Many labourers at universities get moderate opportunities for attending training programmes.

4.1.4.6. Self-confidence

The data from Table 10 and Fig 16 showed the distribution of labourers based on their self-confidence. It was concluded that most of the respondents (87.14%) had medium degree, succeeded by 7.14 per cent and 5.71 per cent had high and low degree of self-confidence, respectively. Study conducted by Panda (2022) aligned with the above findings. The medium self-confidence indicated that the labourers consistently performed tasks across various field situations and felt moderate confidence in understanding new agricultural practices.

4.1.4.7. Achievement motivation

The distribution of labourers based on their achievement motivation as given in Table 10 reported that, more than two-third of the respondents (68.57%) had medium degree of

achievement motivation, followed by 21.43 per cent with high level and 10.00 per cent with low level. Fig 16. Agricultural labourers often had medium achievement motivation due to limited access to resources and training, which constrained their ability to achieve high goals.

4.1.4.8. Perceived workload

The data from Table 10 revealed that, a little less than two-third of the labourers (64.29%) had medium degree of perceived workload, whereas 20.00 per cent reported as low and 15.71 per cent as high degree of perceived workload. Fig 16. Most of the workers experienced a medium perceived workload because of a balance between the seasonal demands and the physical exertion needed for their work.

4.1.4.9. Infrastructure facilities

Based on the data presented in Table 10, the distribution of labourers revealed that more than half of the respondents (52.86%) had medium level infrastructure facility availability, followed by 25.71 per cent with low degree availability and 21.43 per cent with high degree of availability of infrastructure facilities. Fig 16. Most of the labourers at KAU experienced to medium infrastructure facilities due to the limited facilities available in the fields.

Table 11. Distribution of labourers according to the availability of infrastructure facilities (n=70)

| Sl. no. | Items | Easily available | | Available with difficulty | | Not at all available | |
|---------|--|------------------|-------|---------------------------|-------|----------------------|-------|
| | | No | % | No | % | No | % |
| 1 | Irrigation facilities | 29 | 41.43 | 36 | 51.43 | 5 | 7.14 |
| 2 | Physical facilities | 33 | 47.14 | 37 | 52.86 | 0 | 0.00 |
| 3 | Electricity facilities | 41 | 58.57 | 24 | 34.29 | 5 | 7.14 |
| 4 | Field equipment | 34 | 48.57 | 31 | 44.29 | 5 | 7.14 |
| 5 | Field inputs | 28 | 40.00 | 22 | 31.43 | 20 | 28.57 |
| 6 | Housing facilities | 21 | 30.00 | 11 | 15.71 | 38 | 54.29 |
| 7 | Travelling allowance and transportation facilities | 24 | 34.29 | 11 | 15.71 | 35 | 50.00 |
| 8 | Bonus for extra work | 13 | 18.57 | 6 | 8.57 | 51 | 72.86 |

The data presented in Table 11 showed that labourers had sufficient and convenient access to infrastructure facilities, such as electricity (58.57%), field equipment (48.57%) and field inputs (40.00%). However, irrigation facilities (51.43%) and physical facilities such as rest room (52.86%) were available to them with difficulty. Moreover, the

availability of quarters facilities (54.29%), travelling allowance and transportation facilities (50.00%) and bonus given for extra work (72.86%) were not at all available to the labourers.

4.1.4.10. Organizational climate

Based on the distribution of labourers on organisational climate presented in Table 10, revealed that more than four-fifth of the respondents (81.43%) had a medium level, followed by 10.00 per cent had high and 8.57 per cent had low level organizational climate. Fig 16. The findings are in contrast with the findings of Panda (2022). The majority of agricultural labourers experienced a medium organizational climate due to a balance of positive and negative factors like managerial support and resource availability, along with challenges such as communication gap, interpersonal conflicts among peer group and limited growth opportunities.

4.1.4.11. Job involvement

According to the data available in Table 10, nearly three-fourth of the respondents (72.86%) had medium level of job involvement, followed by high and low degree of job involvement as 14.28 per cent and 12.86 per cent, respectively. Fig 16. The majority of labourers at KAU had medium job involvement due to their consistent personal interests with the job roles of labourers.

4.1.4.12. Job satisfaction

The distribution of labourers based on job satisfaction presented in Table 10 showed that nearly three-fourth of the respondents (71.43%) reported a medium level, followed by 15.71 per cent and 12.86 per cent with low and high level of job satisfaction. Fig 16. The result matched up with the findings of Panda (2022). The majority of agricultural labourers had medium job satisfaction due to moderate wages, high physical works/multifarious works, and low co-ordination with senior officials.

4.1.4.13. Job commitment

According to data available from Table 10, the distribution of labourers based on job commitment revealed that more than three-fifth of the respondents (61.42%) had a medium degree of dedication, followed by 24.29 per cent and 14.29 per cent who had high and low levels of job commitment, respectively. Fig 16. The result is in-line with the findings of Panda (2022). Majority of the labourers were under medium level of commitment because they recognized the significance of the agriculture sector and were ready to strive for its

success; they were consistently willing to undertake any fieldwork as directed by senior officials.

4.1.4.14. Job stress

Based on the data available in Table 10, which distributed labourers by job stress concluded that, more than half of the respondents (52.86%) had a medium degree of job stress, followed by low and high levels as 25.71 per cent and 21.43 per cent, respectively. Fig 16. The majority of labourers experienced medium job stress due to high workload and limited resources, combined with a lack of sufficient support systems.

4.2. GAP ANALYSIS BETWEEN EXISTING AND REQUIRED LEVEL OF COMPETENCY AMONG KAU EMPLOYEES

4.2.1. Category 1 – Scientists

4.2.1.1. Competency gap analysis among scientists based on TAASK model

4.2.1.1.1. Trait gap analysis among scientists

According to the TAASK-based competency model of scientists, Table 12 illustrated the Required Competency Level (RCL), Current Competency Level (CCL), and the Gap analysis of each trait, with a graphical representation provided in Fig 17. The data showed that the scientists had highest gap of neuroticism with an index value of 41.73 and lowest gap of agreeableness with 26.90 among the trait competency gap.

Table 12. Trait gap level among scientists (n=70)

| Sl. no. | Components | Mean RCL | Mean CCL | Trait gap | Gap Index | SD |
|---------|---------------------|----------|----------|-----------|-----------|------|
| 1. | Openness | 40 | 23.40 | 16.60 | 41.50 | 7.73 |
| 2. | Conscientiousness | 30 | 17.96 | 12.04 | 40.13 | 4.19 |
| 3. | Extraversion | 20 | 12.60 | 7.40 | 37.00 | 3.52 |
| 4. | Agreeableness | 30 | 21.93 | 8.07 | 26.90 | 4.66 |
| 5. | Neuroticism | 40 | 23.31 | 16.69 | 41.73 | 4.67 |
| 6. | Professional Ethics | 60 | 37.23 | 22.77 | 37.95 | 8.52 |
| | Mean | 36.67 | 22.74 | 13.93 | 37.99 | |

The neuroticism is characterized by anxiety and difficulty in managing stress. Scientists, particularly those in academia or research, may face substantial pressures including funding uncertainties, publication demands, and the competitive nature of their field. These stressors can amplify neurotic tendencies, driving to large gap. This made the scientists more difficult to solve problems effectively, or to collaborate with others for doing scientific research. This result matched up with the findings of Zell and Lesick

(2022); Munjirin *et al.* (2023). Lower neuroticism levels are associated with improved performance.

The scientific activity frequently requires cooperation, open-mindedness, and efficient communication; all of which are essential components of agreeableness. The agreeableness trait among scientists typically has a low gap because of more co-operative and supportive nature towards others. This finding aligns with the study of Babar and Tahir (2020).

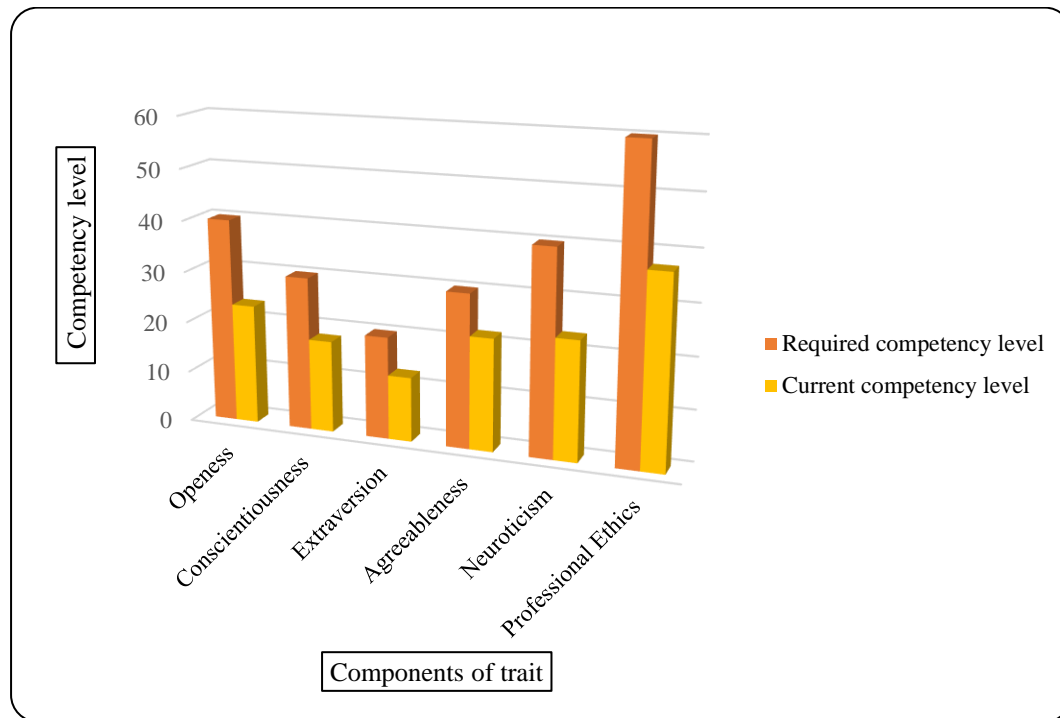


Fig 17. Trait gap analysis among scientists

4.2.1.1.2. Ability gap analysis among scientists

Table 13 showed the Required Competency Level (RCL), Current Competency Level (CCL), gap analysis and gap index of ability, with a graphical representation provided in Fig 18. It was clearly depicted that the scientists showed the highest gap index in crisis management with 46.35 and accountability with minimum gap index of 40.24.

Table 13. Ability gap level among scientists (n=70)

| Sl. no. | Components | Mean RCL | Mean CCL | Ability gap | Gap Index | SD |
|---------|-------------------|----------|----------|-------------|-----------|------|
| 1. | Creativity | 20 | 10.8 | 9.2 | 46.00 | 3.8 |
| 2. | Accountability | 25 | 14.94 | 10.06 | 40.24 | 4.52 |
| 3. | Crisis Management | 20 | 10.73 | 9.27 | 46.35 | 3.89 |
| 4. | Teamwork | 45 | 25.09 | 19.91 | 44.24 | 7.75 |
| | Mean | 27.5 | 15.39 | 12.11 | 44.04 | |

Scientists in KAU work in academic or research settings with systematic paces with emphasis on long-term projects to achieve well-defined goals. The reason for the high competency gap in crisis management among scientists was the lack of exposure on interdisciplinary collaboration and practical experience in real-world crisis scenarios. Specialized knowledge and theoretical research within narrow fields, limited exposure to broader and multidisciplinary approaches essential for effective crisis management might be the reasons for the highest gap in crisis management. The result is in line with the study of Regehr and Bober (2020).

The scientists have to maintain the strict guidelines provided by the funding agencies. The professional reinforcement guarantees that the scientists maintain accountable and responsible in implementing their research projects. Thus, showing less competency gap for accountability. The result is in agreement with the study of Anderson *et al.* (2023).

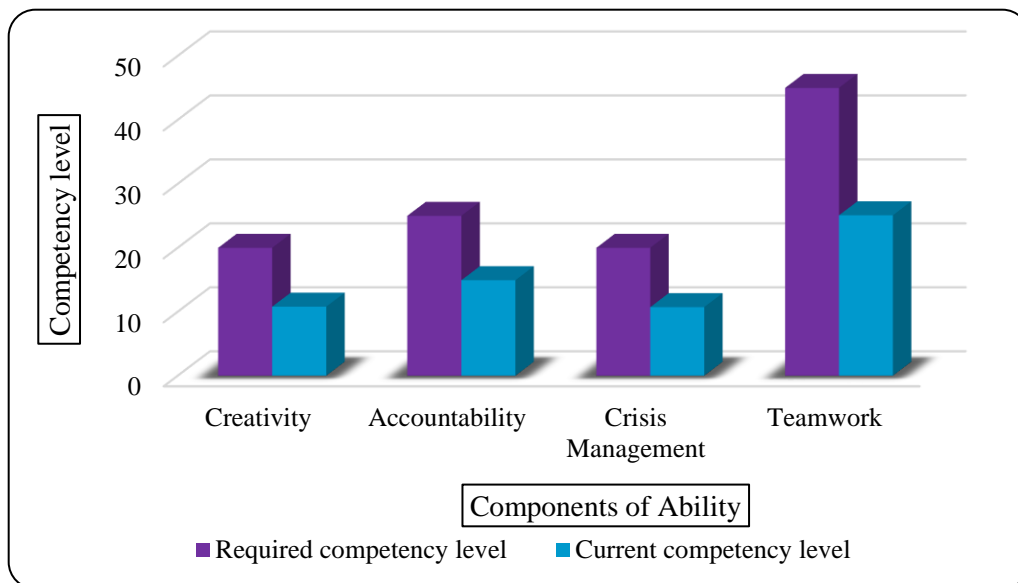


Fig 18. Ability gap analysis among scientists

4.2.1.1.4. Attitude gap analysis among scientists

Table 14 showed the Required Competency Level (RCL), Current Competency Level (CCL), the attitude gap and attitude gap index among scientists.

Table 14. Attitude gap level among scientists (n=70)

| Sl. no. | Statements | Mean RCL | Mean CCL | Attitude gap | Gap index |
|---------|---|----------|----------|--------------|-----------|
| 1. | I am enthusiastic in updating the subject matter | 4 | 3.01 | 0.99 | 24.64 |
| 2. | I inspire students and arouse interest among them | 4 | 2.97 | 1.03 | 25.71 |

| | | | | | |
|-----|--|---|------|------|-------|
| 3. | I have unfriendly and unapproachable behaviour | 4 | 2.99 | 1.01 | 25.36 |
| 4. | I always appreciate the efforts of fellow workers | 4 | 2.90 | 1.10 | 27.50 |
| 5. | I help students outside class hours | 4 | 2.54 | 1.46 | 36.43 |
| 6. | I encourage teamwork | 4 | 3.16 | 0.84 | 21.07 |
| 7. | I address problems with secrecy and avoidance | 4 | 2.91 | 1.09 | 27.14 |
| 8. | I display impatience and lack of determination in doing research | 4 | 2.74 | 1.26 | 31.43 |
| 9. | I take risk in performing my duties | 4 | 2.51 | 1.49 | 37.14 |
| 10. | I devote and dedicate to my research | 4 | 2.89 | 1.11 | 27.86 |
| 11. | When it becomes apparent that the task won't be finished on time, I don't ask for help when needed | 4 | 1.49 | 2.51 | 62.86 |
| 12. | I accept and encourage creativity and innovation | 4 | 2.77 | 1.23 | 30.71 |
| 13. | I retain an optimistic mindset by building resilience | 4 | 2.76 | 1.24 | 31.07 |
| 14. | I avoid collaborations with local schools and colleges to improve agricultural education | 4 | 2.57 | 1.43 | 35.71 |
| 15. | I am flexible and open to new experiences | 4 | 2.81 | 1.19 | 29.64 |
| 16. | During working hours, I exclusively perform work-related tasks | 4 | 2.64 | 1.36 | 33.93 |
| 17. | I don't modify methods of working when the initial strategy turns out to be time-consuming | 4 | 2.46 | 1.54 | 38.57 |
| 18. | I maintain a "to do" list with priority and deadlines indicated as needed | 4 | 2.87 | 1.13 | 28.21 |
| 19. | I keep track of all assignments/ responsibilities | 4 | 3.09 | 0.91 | 22.86 |
| 20. | I have strong interpersonal skills with farmers and agricultural professionals | 4 | 1.94 | 2.06 | 51.43 |
| 21. | I am not interested in doing extension activities | 4 | 2.00 | 2.00 | 50.00 |
| 22. | I encourage and empower the future generation of farmers | 4 | 2.23 | 1.77 | 44.29 |
| 23. | I often conduct trainings, workshops and classes to farmers | 4 | 1.70 | 2.30 | 57.50 |
| 24. | I discourage farmers from using digital technologies in the field | 4 | 3.07 | 0.93 | 23.21 |
| 25. | I prioritize scientific truth over grants and financing, leading to fair studies and integrity | 4 | 2.61 | 1.39 | 34.64 |

| | | | | | |
|-----|--|---|------|------|-------|
| 26. | I am not always ready to partake in in-service trainings | 4 | 2.13 | 1.87 | 46.79 |
| | Mean | 4 | 2.61 | 1.34 | 33.50 |

Scientists exhibited highest attitude gap index of 62.86 by not getting assistance from co-workers, conducted trainings, seminars, and workshops (57.50), and refusing to maintain good interpersonal skills with farmers and agricultural experts (51.42). Scientists revealed a low competency gap in attitudes towards promoting cooperation (21.07) and keeping track of all assignments and tasks (22.86).

4.2.1.1.4. Skill gap analysis among scientists

Table 15 displayed the Required Competency Level (RCL), Current Competency Level (CCL), the skill gap analysis and gap index, with a graphical representation in Fig 19. The data indicated that there was a huge gap in extension skills with gap index of 48.00, whereas scientists exhibited a minimal gap index of 40.95 for functional skills.

Most of the scientists at KAU prioritized research and academic activities over extension works. This preference was a key factor contributing to the gap in extension skills among them. The imbalance results in limited engagement with farmers and stakeholders. Addressing this gap requires providing scientists with the necessary training to effectively engage with the agricultural community. These results are in line with the research study of Bishnoi *et al.*, 2020.

Table 15. Skill gap level among scientists (n=70)

| Sl. no. | Components | Mean RCL | Mean CCL | Skill gap | Gap Index | SD |
|---------|----------------------|----------|----------|-----------|-----------|-------|
| 1. | Functional Skills | 20 | 11.81 | 8.19 | 40.95 | 2.64 |
| 2. | Teaching Skills | 70 | 38.73 | 31.27 | 44.67 | 10.8 |
| 3. | Research Skills | 75 | 40.57 | 34.43 | 45.91 | 14.86 |
| 4. | Extension Skills | 40 | 20.8 | 19.2 | 48.00 | 9.05 |
| 5. | Communication Skills | 40 | 22.44 | 17.56 | 43.90 | 5.8 |
| 6. | Leadership Skills | 40 | 22.85 | 17.14 | 42.85 | 5.92 |
| | Mean | 47.50 | 26.20 | 21.30 | 44.84 | |

The functional skills of agricultural scientists typically showed a low gap because, agricultural scientists were trained to effectively integrate scientific knowledge with practical applications, ensuring their contribution to improving crop yields, sustainability, and agricultural practices. The result is supported by Freeman *et al.* (2017).

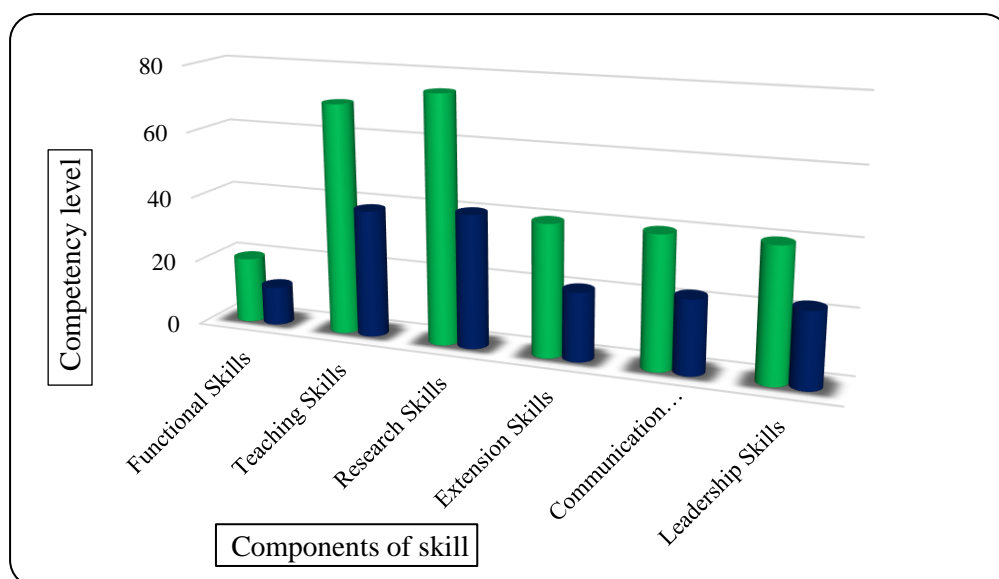


Fig 19. Skill gap analysis among scientists

4.2.1.1.5. Knowledge gap analysis among scientists

Table 16 showed the Required Competency Level (RCL), Current Competency Level (CCL), the knowledge gap and knowledge gap index among scientists.

The knowledge test is divided into four sections: policies, general agriculture, current affairs related to agriculture, and KAU-related topics. Scientists demonstrated a greater knowledge gap in current affairs related to agriculture with an index value of 56.98 and a lower gap in knowledge related to KAU with an index of 48.22.

Table 16. Knowledge gap level among scientists (n=70)

| Sl. no. | Items | Mean RCL | Mean CCL | Knowledge gap | Gap index |
|----------|---|----------|----------|---------------|-----------|
| I | About Policies | | | | |
| 1. | New regulatory body to replace UGC under consideration by Government of India | 1 | 0.29 | 0.71 | 71.43 |
| 2. | Age limit for candidate to apply for UGC-NET Assistant Professor | 1 | 0.57 | 0.43 | 42.86 |
| 3. | Ready platform for agricultural libraries of Indian National Agricultural Research and Education system (NARES) | 1 | 0.09 | 0.91 | 91.43 |
| 4. | ICAR with the assistance of NAHEP and GoI, CAAST project was funded by | 1 | 0.53 | 0.47 | 47.14 |
| | Mean | 1 | 0.37 | 0.63 | 63.22 |

| | | | | | |
|------------|--|---|------|------|-------|
| II | General Agriculture | | | | |
| 5. | Regulated market ensures | 1 | 0.33 | 0.67 | 67.14 |
| 6. | Blanket flower | 1 | 0.39 | 0.61 | 61.43 |
| 7. | Father of Agriculture | 1 | 0.49 | 0.51 | 51.43 |
| 8. | Tag colour of foundation seed | 1 | 0.47 | 0.53 | 52.86 |
| | Mean | 1 | 0.42 | 0.58 | 58.22 |
| III | Current Affairs related to agriculture | | | | |
| 9. | Which crop faced significant yield losses due to an outbreak of a new strain of fungal disease in 2023 | 1 | 0.17 | 0.83 | 82.86 |
| 10. | Country recently launched the world's first-ever "Vegan Silk" from proteins of apples and bananas | 1 | 0.14 | 0.86 | 85.71 |
| 11. | National Farmers' Day is celebrated on | 1 | 0.54 | 0.46 | 45.71 |
| 12. | The year Kerala witness worst floods causing extensive damage to agriculture | 1 | 0.76 | 0.24 | 24.29 |
| 13. | Name the state farmers are the richest in India | 1 | 0.06 | 0.94 | 94.29 |
| 14. | First organic district in Kerala | 1 | 0.63 | 0.37 | 37.14 |
| 15. | Largest agriculture State in India | 1 | 0.54 | 0.46 | 45.71 |
| 16. | No:1 country in agriculture | 1 | 0.53 | 0.47 | 47.14 |
| 17. | Name the Sate in India which has the best soil suited for agriculture | 1 | 0.16 | 0.84 | 84.29 |
| 18. | Name the crop promoted under the "Subhiksha Keralam" project for sustainable agriculture | 1 | 0.61 | 0.39 | 38.57 |
| 19. | Coconut day is celebrated on of every year | 1 | 0.47 | 0.53 | 52.86 |
| 20. | State recently declared Internet access as a fundamental right for its citizens | 1 | 0.46 | 0.54 | 54.29 |
| 21. | National Educational Policy 2020 is released after Years | 1 | 0.27 | 0.73 | 72.86 |
| 22. | Maximum GST rate imposed | 1 | 0.50 | 0.50 | 50.00 |
| 23. | Year in which Krishi Bhavan was established in Kerala | 1 | 0.27 | 0.73 | 72.86 |
| 24. | "T" in NITI Ayog stands for | 1 | 0.44 | 0.56 | 55.71 |
| 25. | e-commerce company launched an online platform for organic farming products | 1 | 0.40 | 0.60 | 60.00 |
| 26. | Forest Research Institute is situated in | 1 | 0.79 | 0.21 | 21.43 |
| | Mean | 1 | 0.43 | 0.57 | 56.98 |
| IV | About KAU | | | | |
| 27. | International publication of KAU | 1 | 0.74 | 0.26 | 25.71 |

| | | | | | |
|-----|---|---|------|------|-------|
| 28. | Recently released rice variety from RRS, Vyttila suitable for Pokkali regions | 1 | 0.10 | 0.90 | 90.00 |
| 29. | Plant nutrient mixture KAU Sampoorna used in | 1 | 0.66 | 0.34 | 34.29 |
| 30. | Plagiarism checking software used by KAU | 1 | 0.57 | 0.43 | 42.86 |
| | Mean | 1 | 0.52 | 0.48 | 48.22 |
| | Overall mean | 1 | 0.43 | 0.57 | 56.80 |

4.2.1.1.6. Competency gap analysis among scientists

Table 17 showed the Required Competency Level (RCL), Current Competency Level (CCL), and the gap, and Gap index of overall core competency of the scientists. The same was graphically given in Fig 20. It was evident that knowledge among scientists exhibited the highest competency gap index of 56.80, while attitude demonstrated the lowest competency gap index of 33.50.

Table 17. Competency gap level among scientists

(n=70)

| Sl. no. | Components | Mean RCL | Mean CCL | Competency gap | Gap Index | SD |
|---------|------------|----------|----------|----------------|-----------|-------|
| 1. | Trait | 36.67 | 22.74 | 13.93 | 37.99 | 28.01 |
| 2. | Ability | 27.5 | 15.39 | 12.11 | 44.04 | 18.12 |
| 3. | Attitude | 4 | 2.61 | 1.34 | 33.50 | 14.61 |
| 4. | Skill | 47.50 | 26.20 | 21.30 | 44.84 | 12.24 |
| 5. | Knowledge | 1 | 0.43 | 0.57 | 56.80 | 7.31 |

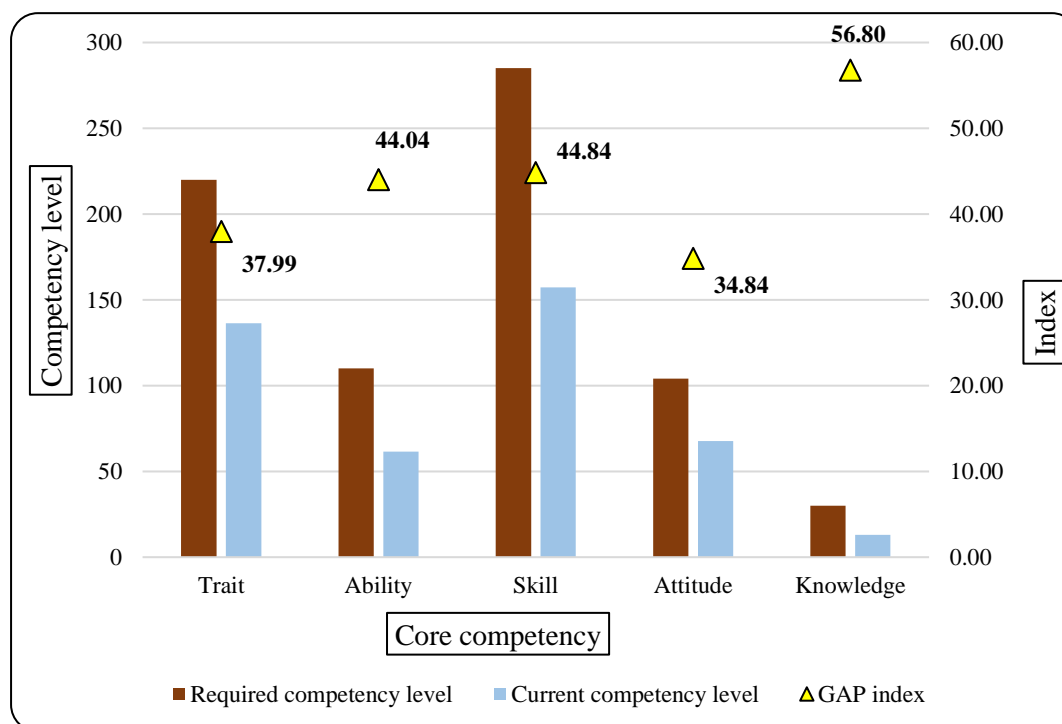


Fig 20. Competency gap analysis among scientists

The scientists category exhibited significant competency gap in knowledge because knowledge of researchers focused deeply on niche areas, leading to a broader gap in general knowledge outside their specialized subjects. Consequently, enhancing interdisciplinary collaboration and promoting continuous learning beyond specialized domains are crucial to bridging knowledge competency gap among scientists. The outcome is consistent with the research of Van-Noorden (2023). The lower competency gap for attitude among scientists was often due to the intrinsic motivation and passion for their field, as highlighted by a study on scientific motivation by Lam (2011).

4.2.2. Category 2 – Technical Officers

4.2.2.1. Competency gap analysis among technical officers based on hexagonal model

In accordance with the competency model for technical officers, Table 18, shows the Required Competency Level (RCL), Current Competency Level (CCL), gap analysis, and gap index for the technical officers respondent group. Knowledge was the most pronounced competency gap with the gap index of 70.42, whereas professional ethics displayed the least gap index with 24.60. A graphical depiction was shown in Fig 21.

Many studies strengthened to the findings, contributed to large competency gap in knowledge among technical officers (i.e., farm officers/farm managers) in KAU. A noteworthy finding from the study of Kumar and Kumar (2020) matched with the result. There was a significant competency gap in knowledge. Technical officers get less chance for updating their knowledge due to lesser opportunities for attending training programmes.

Table 18. Competency gap level among technical officers (n=70)

| Sl. no. | Components | Mean RCL | Mean CCL | Competency gap | Gap Index | SD |
|---------|---------------------|----------|----------|----------------|-----------|------|
| 1. | Personality trait | 55 | 37.38 | 17.63 | 32.05 | 7.17 |
| 2. | Skill | 50 | 31.93 | 18.08 | 36.16 | 5.87 |
| 3. | Ability | 40 | 27 | 13 | 32.50 | 4.36 |
| 4. | Creativity | 25 | 11.6 | 13.4 | 53.60 | 3.33 |
| 5. | Communication | 45 | 28.9 | 16.1 | 35.78 | 3.01 |
| 6. | Leadership | 40 | 25.33 | 14.67 | 36.68 | 5.78 |
| 7. | Teamwork | 35 | 25.98 | 9.02 | 25.77 | 4.08 |
| 8. | Accountability | 35 | 24.5 | 10.5 | 30.00 | 3.19 |
| 9. | Professional ethics | 50 | 37.7 | 12.3 | 24.60 | 4.29 |
| 10. | Attitude | 68 | 47.4 | 20.6 | 30.29 | 5.35 |
| 11. | Knowledge | 24 | 7.1 | 16.9 | 70.42 | 4.58 |

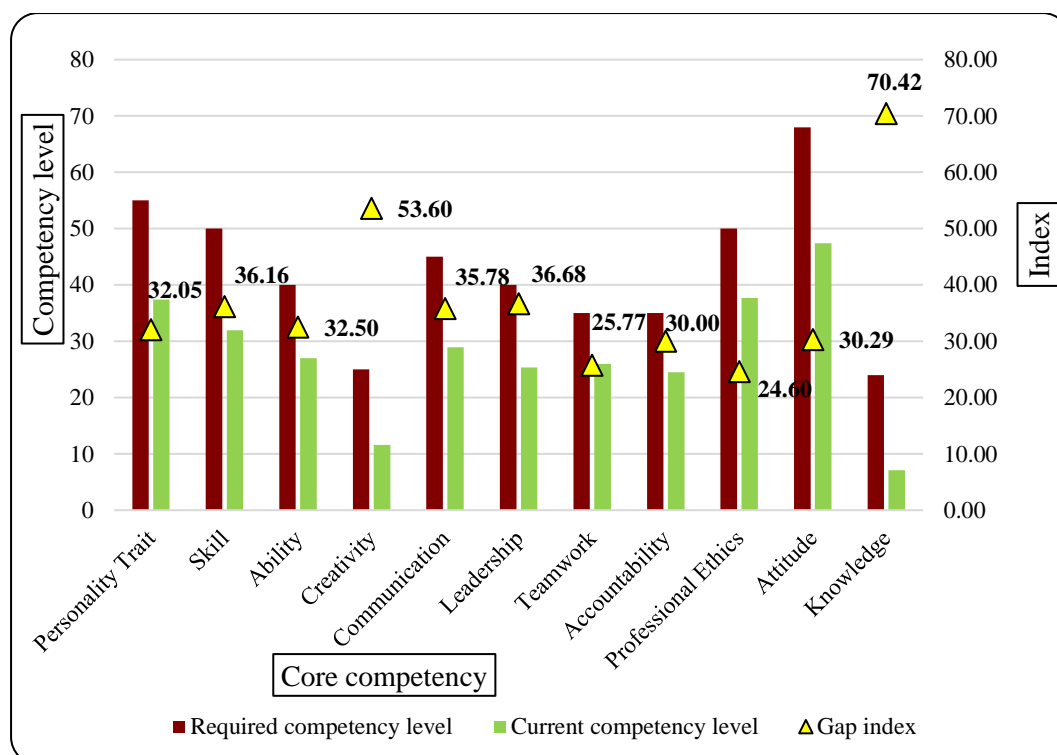


Fig 21. Competency gap analysis among technical officers

Technical officers at KAU exhibited a low competency gap in professional ethics primarily due to practising ethical guidelines for adopting agricultural practices. This is in accordance with the study of Singh and Dutta (2020).

4.2.3. Category 3 – Administrative Staff

4.2.3.1. Competency gap analysis among administrative staff based on Lancaster model

4.2.3.1.1. Skill gap analysis among administrative staff

Table 19, showed the skill gap analysis among the administrative staff of KAU. Problem-solving skills exhibited the largest competency gap index with 44.57, while analytical skills showed the smallest gap index with 37.20. A graphical illustration is shown in Fig 22.

Table 19. Skill gap level among administrative staff (n=70)

| Sl. no. | Components | Mean RCL | Mean CCL | Skill gap | Gap Index | SD |
|---------|------------------------|----------|----------|-----------|-----------|------|
| 1. | Analytical skills | 25 | 15.7 | 9.3 | 37.20 | 3.93 |
| 2. | Problem-solving skills | 30 | 16.63 | 13.37 | 44.57 | 4.78 |
| 3. | Decision-making Skills | 25 | 15.37 | 9.63 | 38.52 | 3.89 |
| | Total | 80 | 47.70 | 32.30 | | |

Administrative staff exhibited a high competency gap in problem-solving skills due to limited exposure to complex decision-making tasks and insufficient training opportunities. The finding is in consistent with the research published in World Economic Forum (2023).

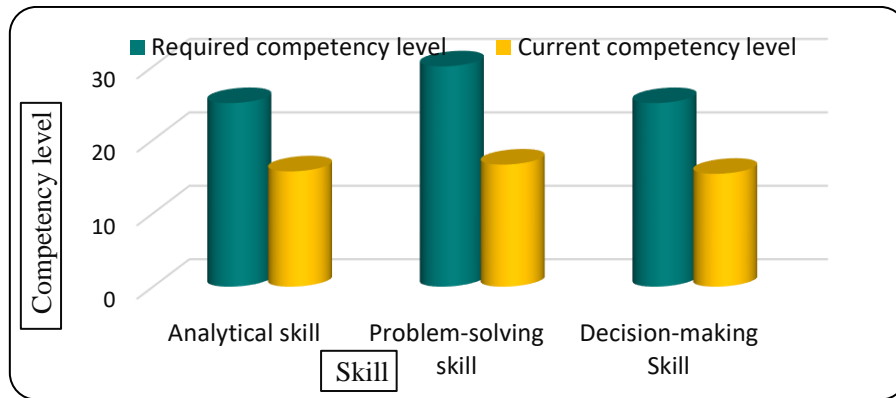


Fig 22. Skill gap analysis among administrative staff

Administrative staff expressed a low competency gap in analytical skills because their roles increasingly demanded and nurtured these capabilities. The modern administrative environment requires handling large volumes of files, optimizing workflows, and supporting decision-making processes. A study by the International Association of Administrative Professionals (IAAP, 2022) corroborated with the result.

4.2.3.1.2. Competency gap analysis among administrative staff

Table 20 showed the Required Competency Level (RCL), Current Competency Level (CCL), competency gap analysis, and gap index for the administrative staff. Creativity displayed the widest disparity in competency gap index of 56.27, whereas professional ethics exhibited the least competency gap index of 26.25. Fig 23.

Table 20. Competency gap level among administrative staff (n=70)

| Sl. no. | Components | Mean RCL | Mean CCL | Competency gap | Gap Index | SD |
|---------|---------------------|----------|----------|----------------|-----------|-------|
| 1. | Skill | 80 | 47.70 | 32.30 | 40.38 | 8.82 |
| 2. | Ability | 35 | 23.30 | 11.70 | 33.43 | 5.28 |
| 3. | Leadership | 20 | 11.69 | 8.31 | 41.55 | 3.95 |
| 4. | Communication | 30 | 22.10 | 7.90 | 26.33 | 3.37 |
| 5. | Teamwork | 25 | 15.70 | 9.30 | 37.20 | 3.89 |
| 6. | Accountability | 35 | 22.63 | 12.37 | 35.34 | 4.32 |
| 7. | Creativity | 15 | 6.56 | 8.44 | 56.27 | 2.52 |
| 8. | Personality trait | 45 | 30.91 | 14.09 | 31.31 | 4.95 |
| 9. | Professional ethics | 40 | 29.50 | 10.50 | 26.25 | 4.60 |
| 10. | Attitude | 84 | 55.87 | 28.13 | 33.49 | 12.00 |
| 11. | Knowledge | 25 | 13.49 | 11.51 | 46.04 | 5.26 |

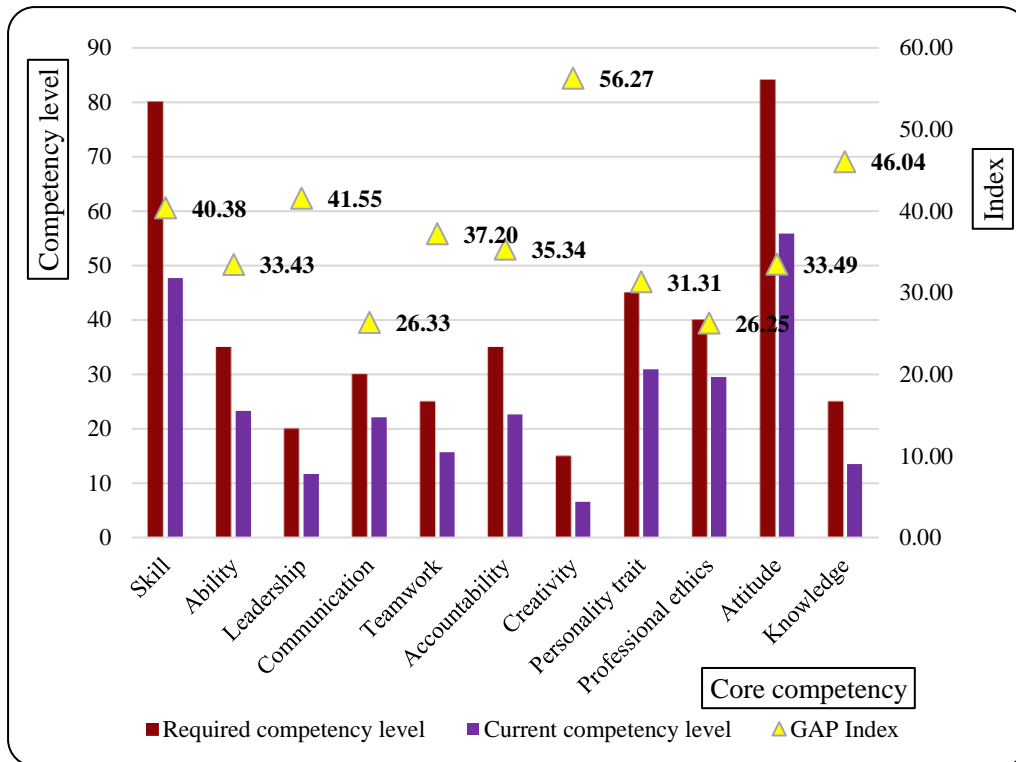


Fig 23. Competency gap analysis among administrative staff

Administrative staff showed a high competency gap in creativity due to their job requirements typically focus more on routine tasks and do not involve novel approaches. Similar findings are reported by Kim and Yoon (2023).

Administrative staff exhibited a low competency gap in professional ethics because of their responsibilities typically involve adherence to punctuality, stipulated protocols, data privacy regulations, and transparent communication practices in their workplace. This is in accordance to the study by Bolisani *et al.* (2021).

4.2.4. Category 4 – Labourers

4.2.4.1. Competency gap analysis among labourers based on pyramid model

According to the competency model for labourers, Table 21 showed the Required Competency Level (RCL), Current Competency Level (CCL), gap analysis, and gap index. Knowledge showed the highest gap index of 65.39, whereas communication exhibited the lowest gap index of 28.07. Fig 24.

Labourers exhibited a high competency gap in knowledge due to lower educational qualification, lack of trainings, and lack of opportunity to update their knowledge on modern agricultural practices. Many labourers gained knowledge on traditional methods passed down through generations, did not get an opportunity to update them on the latest

advancements in technology, pest control, soil health, and crop management. The outcomes stayed in line with the study by FAO, 2016.

Table 21. Competency gap level among labourers (n=70)

| Sl. no. | Components | Mean RCL | Mean CCL | Competency gap | Gap Index | SD |
|---------|---------------------|----------|----------|----------------|-----------|-------|
| 1 | Skill | 35 | 20.51 | 14.49 | 41.40 | 5.51 |
| 2 | Communication | 30 | 21.57 | 8.42 | 28.07 | 4.58 |
| 3 | Leadership | 30 | 17.47 | 12.53 | 41.77 | 5.02 |
| 4 | Ability | 40 | 25.46 | 14.54 | 36.35 | 6.62 |
| 5 | Teamwork | 30 | 20.44 | 9.55 | 31.83 | 3.6 |
| 6 | Personality trait | 35 | 22.64 | 12.36 | 35.31 | 3.95 |
| 7 | Professional ethics | 55 | 34.73 | 20.27 | 36.85 | 4.45 |
| 8 | Attitude | 76 | 44.19 | 31.81 | 41.86 | 10.48 |
| 9 | Knowledge | 18 | 6.23 | 11.77 | 65.39 | 4.01 |

Their effective communication is crucial for coordinating tasks, ensuring productivity, and addressing challenges in the dynamic and team-oriented work in the field. Lower competency gaps for communication among agricultural labourers were due to their continuous interaction improved communication abilities and fluency in local languages. A study by Deshmukh *et al.* (2019) matched up with the findings.

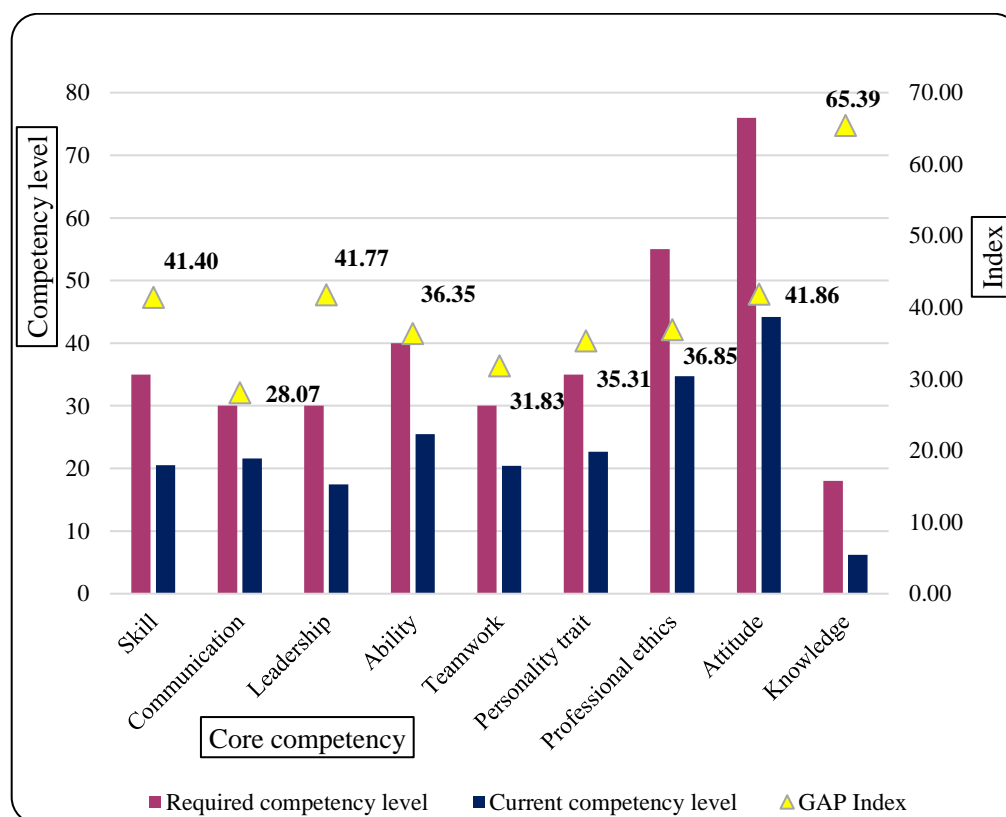


Fig 24. Competency gap analysis among labourers

4.3. FACTORS AFFECTING PERFORMANCE OF KAU EMPLOYEES

4.3.1. Category 1 – Scientists

The Table 22 showed the distribution of scientists based on their job performance. The table data showed that 60.00 per cent of the scientists exhibited medium job performance while, 18.57 per cent of them were categorized under low performance and 21.43 per cent under high performance. Fig 25. The result is in line with the findings of Raahalya (2020).

Table 22. Distribution of scientists according to their job performance

| Sl. no. | Job Performance | Scientists (n=70) | |
|---------------------|------------------------|-------------------|------------|
| | | Frequency | Percentage |
| 1. | Low (< 21.41) | 13 | 18.57 |
| 2. | Medium (21.41 – 33.91) | 42 | 60.00 |
| 3. | High (> 33.91) | 15 | 21.43 |
| | Total | 70 | 100 |
| Mean = 27.66 | | SD = 6.25 | |

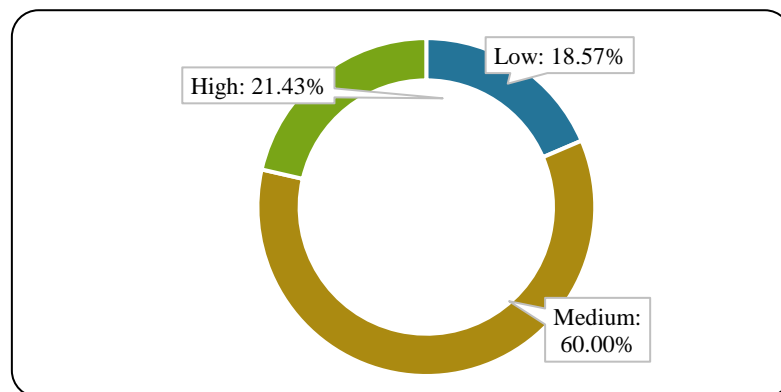


Fig 25. Distribution of scientists based on job performance

Majority of the scientists exhibited medium job performance because of the combination of resource constraints, medium infrastructure facilities available to them demanding workloads, medium job stress and satisfaction levels.

To identify the sampling adequacy and factorability within a set of potential factors, the Kaiser-Meyer-Olkin factor adequacy (KMO score) was calculated for each factor within a set of potential factors. The Table 23, showed the KMO score for each variable. The overall Measure of Sampling Adequacy (MSA) was calculated as 0.63. Therefore,

overall Measure of Sampling Adequacy indicated that the dataset is suitable for factor analysis.

Table 23. KMO factor adequacy according to scientists (n=70)

| Sl. no. | Variables | KMO score |
|---------------------------|-------------------------------------|-----------|
| 1. | Age | 0.72 |
| 2. | Total work experience | 0.71 |
| 3. | Training exposure | 0.86 |
| 4. | Number of transfer | 0.50 |
| 5. | Number of publications | 0.58 |
| 6. | Number of research projects handled | 0.69 |
| 7. | Global exposure | 0.62 |
| 8. | Organisational climate | 0.53 |
| 9. | Infrastructure facility | 0.62 |
| 10. | Self confidence | 0.55 |
| 11. | Achievement motivation | 0.57 |
| 12. | Perceived workload | 0.54 |
| 13. | Job involvement | 0.58 |
| 14. | Job satisfaction | 0.69 |
| 15. | Job commitment | 0.56 |
| 16. | Job stress | 0.71 |
| Overall MSA = 0.63 | | |

After determining suitability of variables for factor analysis, scree plot method was followed to determine the number of factors affecting the job performance of scientists. Seven factors were identified from the scree plot method. The scree plot test is shown in Fig 26, which showed the factors on the x-axis and the matching eigen values on the y-axis, was used to extract the deciding factors.

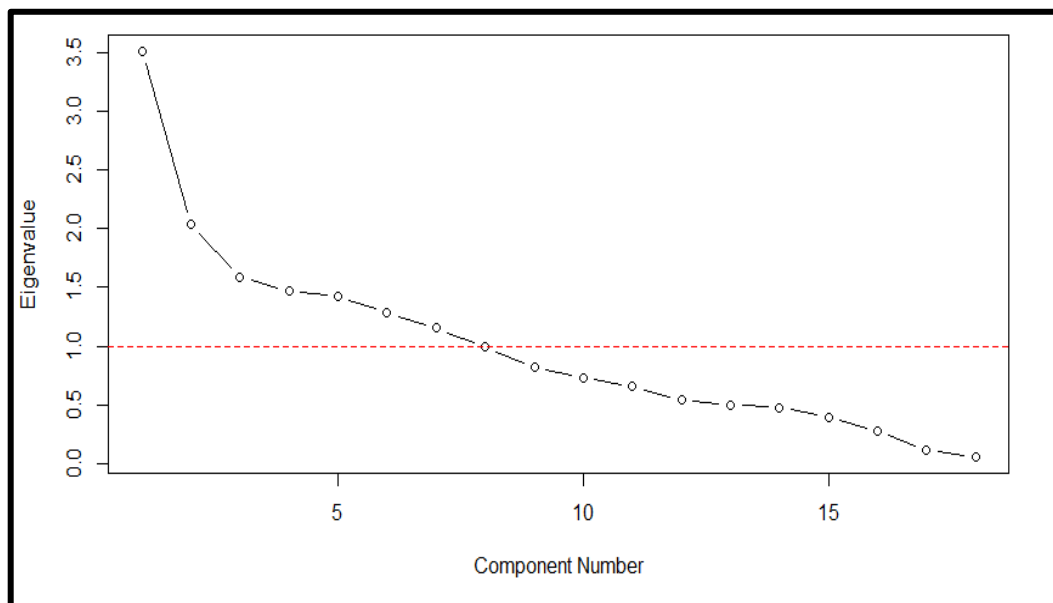


Fig 26. Scree plot for determining number of factors affecting the job performance of scientists

Once factorability was validated and the optimal number of factors were identified, factor analysis was performed. The factor-specific variables and their factor loadings are shown in Table 24. The loadings in the table showed how each variable was loaded onto the seven components (MR1–MR7). Higher absolute values suggested more robust correlations between the variable and the factor.

Data from the Table 24 revealed that age (0.938), total work experience (0.961) and training exposure (0.666) loaded strongly onto MR1 that is, factor 1. This factor emphasized the continuous journey of growth in a professional's career, marked by accumulated experience and ongoing training and development efforts. Therefore, this factor was named as “**career progression and learning**”.

Job Stress (0.654) alone loaded onto MR2 that is, factor 2. This factor reflected the interplay between stressors in the work environment and their impact on employee performance, including how job stress influenced productivity, effectiveness, and overall job outcomes. Therefore, this factor was named as “**job stress**”.

Perceived workload (0.971) loaded almost exclusively onto MR3 that is, factor 3. This factor encompassed various elements related to the amount of physical, mental, and emotional effort required to perform a job. It included task complexity, time pressure, and the volume of work, all contributing to the perception of workload. Therefore, this factor was named as “**workload**”.

Number of publications (0.695) and number of research projects handled (0.884) loaded onto MR4 that is, factor 4. It included the variables such as the number of publications and the number of research projects handled typically related to research output. This factor reflected the individual's contributions to their subject through published work and involvement in research activities. Therefore, this factor was named as “**research productivity**”.

Self-confidence (0.514) and achievement motivation (0.527) loaded onto MR5 that is, factor 5. This factor often encompassed various aspects of personal belief in one's abilities and the motivation to achieve goals. It encompassed personal characteristics related to an individual's self-motivation, ambition, and self-belief in their abilities to achieve success. Therefore, this factor was named as “**personal efficacy**”.

Organisational climate (0.601) and infrastructure facilities (0.570) loaded onto MR6 that is, factor 6. This factor encompassed variables that created a conducive work

environment, influencing employee performance, and overall organizational effectiveness. Therefore, this factor was named as “**work environment**”.

Table 24. Factor loadings for each of the variables affecting job performance of scientists

| Sl. no. | Variables | MR1 | MR2 | MR3 | MR4 | MR6 | MR5 | MR7 |
|---------|-------------------------------------|--------|-------|-------|--------|--------|--------|--------|
| 1 | Age | 0.938 | | | | | | |
| 2 | Total work experience | 0.961 | | | | | | 0.108 |
| 3 | Training exposure | 0.666 | | | | 0.128 | | |
| 4 | Number of publications | -0.111 | | | 0.695 | 0.385 | 0.140 | |
| 5 | Number of research projects handled | | | | 0.884 | | | 0.106 |
| 6 | Organisational climate | | | | | 0.601 | 0.190 | 0.210 |
| 7 | Infrastructure facility | 0.162 | | | | 0.570 | | |
| 8 | Self confidence | | | | -0.185 | -0.210 | 0.514 | |
| 9 | Achievement motivation | | | 0.166 | | 0.125 | 0.527 | -0.201 |
| 10 | Perceived workload | | | 0.971 | -0.123 | | | |
| 11 | Job involvement | | | | | -0.189 | 0.485 | 0.609 |
| 12 | Job satisfaction | -0.303 | 0.202 | | | -0.360 | | 0.551 |
| 13 | Job commitment | | 0.384 | 0.264 | | | | 0.642 |
| 14 | Job stress | | 0.654 | | 0.132 | -0.328 | -0.446 | |

Job involvement (0.609), Job satisfaction (0.551) and Job commitment (0.642) loaded onto MR7 that is, factor 7. These three variables reflected different aspects of how employees related to their work and organization. This factor captured the degree of an employee's psychological investment in their work, including how involved they were in their tasks (job involvement), how positively they felt about their job (job satisfaction), and how committed they were to the organization (job commitment). Therefore, this factor was named as “**job engagement**”.

The summary from the factor loadings and related parameters are shown in Table 25. It clearly depicted that cumulative variance explained by the seven factors was 52%, meaning that the factors account for more than half of the variance in the data. Root Mean Square of the Residuals (RMSR) = 0.03, which indicated a good fit, as smaller values suggested a better fit between the factor model and the data. Tucker Lewis Index (TLI) = 1.001, which was excellent since a value above 0.90 was generally considered a good fit.

RMSEA = 0 with confidence intervals (0, 0.078). RMSEA values less than 0.05 indicated a close fit. Likelihood Chi-Square (χ^2) = 47.92, p-value = 0.48, which indicated that the model fitted the data well, as the p-value was not significant ($p > 0.05$).

Table 25. Factor analysis statistics affecting job performance of scientists

| Sl. no. | Parameter | MR1 | MR2 | MR3 | MR4 | MR6 | MR5 | MR7 |
|---|----------------|-------|-------|-------|-------|-------|-------|-------|
| 1. | SS loadings | 3.186 | 1.350 | 1.090 | 1.065 | 0.982 | 0.908 | 0.731 |
| 2. | Proportion Var | 0.177 | 0.075 | 0.061 | 0.059 | 0.055 | 0.050 | 0.041 |
| 3. | Cumulative Var | 0.177 | 0.252 | 0.313 | 0.372 | 0.426 | 0.477 | 0.517 |
| Root Mean Square of the Residuals (RMSR) | | | | | 0.03 | | | |
| Tucker Lewis Index (TLI) | | | | | 1.001 | | | |
| Root Mean Square Error of Approximation (RMSEA) | | | | | 0 | | | |
| Likelihood Chi-Square (χ^2) | | | | | 47.92 | | | |
| p-value | | | | | 0.48 | | | |

It was apparent from the data in Table 26 that job stress showed a positive and significant relationship with job performance at the 0.1% level of significance. Age, total work experience, and job involvement also exhibited positive significance, while perceived workload showed a negative significance with job performance at the 1% level (alternate hypotheses; H_{1B} was accepted). Training exposure, number of research projects handled, self-confidence, achievement motivation, job satisfaction, and job commitment demonstrated positive and significant relationship with job performance at the 5% significance level. Hence, the alternate hypotheses (H_{1A}) was accepted.

Table 26. Correlation coefficient of factors affecting performance of scientists (n=70)

| Sl. no. | Variables | Job Performance |
|---------|--|-----------------|
| 1. | Age | 0.184** |
| 2. | Total Work Experience | 0.262** |
| 3. | Training Exposure | 0.221* |
| 4. | Frequency of Research Projects Handled | 0.234* |
| 5. | Organizational climate | -0.01 |
| 6. | Self confidence | 0.127* |
| 7. | Achievement motivation | 0.155* |
| 8. | Perceived Workload | -0.007** |
| 9. | Job Involvement | 0.121** |
| 10. | Job Satisfaction | 0.134* |
| 11. | Job Commitment | 0.180* |
| 12. | Job Stress | 0.423*** |

*** Significant at 0.001 level (two tailed) ** Significant at 0.01 level (two tailed)

* Significant at 0.05 level (two tailed)

The increase in job performance among KAU scientists, despite rising job stress, can be attributed to their focus and efficiency. The pressure often drives them to prioritize and

streamline their tasks, resulting in higher productivity and job performance. This phenomenon is known as eustress. The results are congruent with those of Sumiyati *et al.* (2021)

KAU scientists showed increased job performance with age because middle-aged employees tend to be more settled in their career. With age, they gain more experience and develop a deeper understanding of their job roles, enhancing their job involvement. Resulting in committed workforce.

McClelland's theory of needs (1961), which holds that people with high achievement motivation were driven to succeed and improve their performance, supports the link between achievement motivation and work performance.

Greater work experience brings more exposure and involvement (engagement) within an organization, which can lead to enhanced performance.

It was found that individuals with high self-confidence also exhibited high levels of job performance. The probable reason was that confident people were better at overcoming obstacles, and generally experience higher job satisfaction. Additionally, their confidence enabled them to take risks and communicate clearly, which enhanced their work efficiency. The findings are in consistent with those of Umanailo (2021) and Raahalya (2020).

KAU scientists experienced a decline in job performance as their perceived workload increased. The mounting workload lead to fatigue, and decreased focus, all of which negatively impacted their ability to perform effectively. The findings are in agreement with those of Sumiyati *et al.* (2021).

To manage a greater number of research projects, KAU scientists aim to participated more frequently in training sessions specific to their areas of expertise. This approach enabled them to effectively complete research projects, thereby elevating their performance levels.

4.3.2. Category 2 – Technical Officers

Table 27 showed the distribution of technical officers based on their job performance. The data in the table showed that approximately 72.50 per cent of the technical officers exhibited medium job performance, followed by 15.00 per cent was categorized as high performance and 12.50 per cent as low performance. The above data was visually represented in Fig 27. The result is in line with the findings of Manjunath (2015).

Technical officers at KAU demonstrated medium job performance because of sustained workload resulting from a lack of recruitment process over the past decade. The tasks were completed with the help of temporary staff.

Table 27. Distribution of technical officers according to their job performance

| Sl. no. | Job Performance | Technical Officers (n=40) | |
|--------------------|------------------------|---------------------------|------------|
| | | Frequency | Percentage |
| 1. | Low (< 25.22) | 5 | 12.50 |
| 2. | Medium (25.22 – 34.58) | 29 | 72.50 |
| 3. | High (> 34.58) | 6 | 15.00 |
| Total | | 40 | 100 |
| Mean = 29.9 | | SD = 4.68 | |

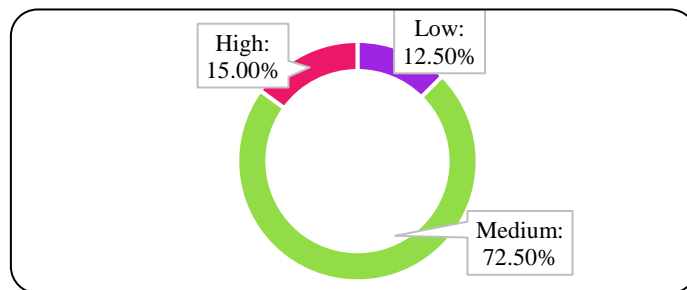


Fig 27. Distribution of technical officers based on job performance

Further Kaiser-Meyer-Olkin factor adequacy (KMO score) was calculated for each factor to evaluate the sampling adequacy and factorability within a set of potential factors. The Table 28, showed the KMO score for each variable. The overall Measure of Sampling Adequacy (MSA) was calculated to be 0.60. Therefore, overall Measure of Sampling Adequacy indicated that the dataset was suitable for factor analysis.

Table 28. KMO factor adequacy according to technical officers (n=40)

| Sl. no. | Variables | KMO score |
|---------------------------|-------------------------|-----------|
| 1. | Age | 0.55 |
| 2. | Total work experience | 0.67 |
| 3. | Number of transfer | 0.65 |
| 4. | Infrastructure facility | 0.75 |
| 5. | Self confidence | 0.51 |
| 6. | Achievement motivation | 0.55 |
| 7. | Perceived workload | 0.54 |
| 8. | Job involvement | 0.61 |
| 9. | Job satisfaction | 0.52 |
| 10. | Job commitment | 0.51 |
| 11. | Job stress | 0.61 |
| Overall MSA = 0.60 | | |

Once it was found that the data was factorable, the next step was to determine the number of factors. The scree plot method was utilized to generate the number of factors and found to be six. The scree plot test is shown in Fig 28, which depicted the factors on the x-axis and the corresponding eigen values on the y-axis was used to extract the determining factors.

Once the factorability was confirmed and optimum number of factors was determined, factor analysis was calculated. The factor wise variable and their factor loadings are presented in Table 29. The loadings in the table showed how each variable loaded onto the six factors (MR1 to MR6). Higher absolute values indicated stronger associations between the variable and the factor. Data from the Table 29 showed that Job commitment (0.85) and job satisfaction (0.78) were highly associated with MR1 that is, factor 1. These three components reflected different aspects of how employees related to their work and organization. This factor captured the degree of how positively they felt about their job (job satisfaction), and how committed they were to the organization (job commitment). Therefore, this factor was named as “**job engagement**”.

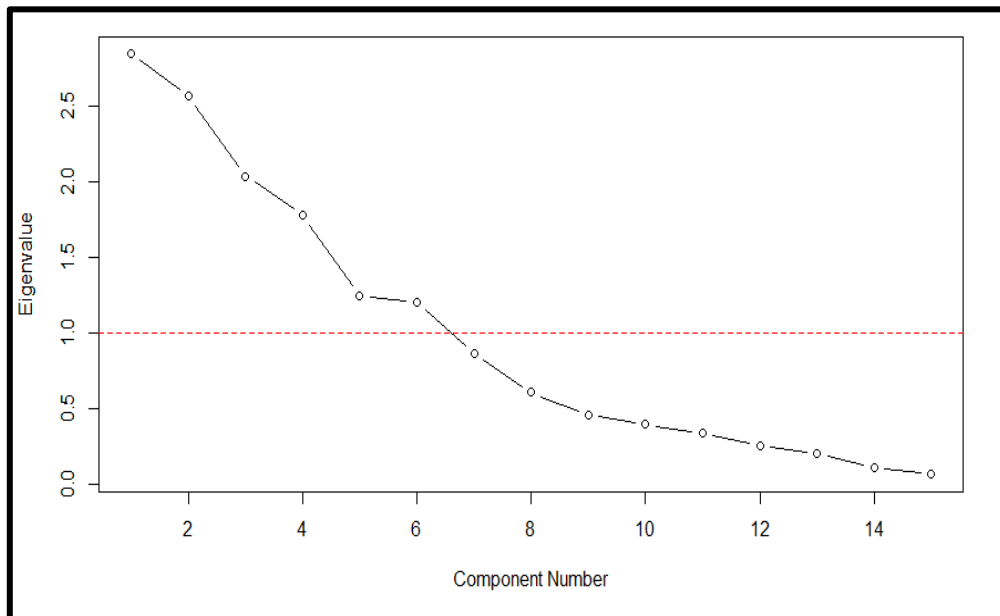


Fig 28. Scree plot for determining number of factors affecting job performance of technical officers

Infrastructure facility showed a negative loading on MR2 (-0.89), indicating an inverse relationship. Number of transfers also loaded on MR2 (0.592) indicating a positive relationship. Number of transfers reflected job stability and internal mobility, which could affect adjustment in the workplace. Infrastructure facility influenced the physical work

environment, affecting efficiency, comfort, and job satisfaction. Together, these variables could form a factor representing how the physical resources, and internal mobility affected an individual's experience and perception of stability and support within an organization. Therefore, this factor was named as “**workplace resources and job mobility**”.

Table 29. Factor loadings for each of the factors affecting job performance of technical officers

| Sl. no. | Variables | MR1 | MR3 | MR2 | MR5 | MR4 | MR6 |
|---------|-------------------------|--------|--------|--------|--------|--------|--------|
| 1. | Age | 0.217 | -0.239 | | 0.635 | | 0.135 |
| 2. | Total work experience | | | | 0.813 | | |
| 3. | Number of transfers | | 0.426 | 0.592 | | -0.191 | 0.181 |
| 4. | Self confidence | -0.221 | 0.721 | 0.144 | -0.257 | | 0.208 |
| 5. | Infrastructure facility | 0.324 | -0.102 | -0.891 | 0.100 | -0.270 | |
| 6. | Achievement motivation | -0.148 | | | | 0.816 | -0.150 |
| 7. | Perceived workload | | | | | | -0.715 |
| 8. | Job involvement | 0.261 | 0.851 | -0.121 | -0.141 | 0.214 | -0.365 |
| 9. | Job satisfaction | 0.783 | -0.101 | | | | |
| 10. | Job commitment | 0.852 | | | | -0.273 | -0.171 |
| 11. | Job stress | | 0.274 | 0.279 | 0.434 | | 0.513 |

Self-confidence (0.72) and job involvement (0.85) had high loadings on MR3, suggesting these were related constructs that is, factor 3. This factor encompassed personal belief in one’s abilities and involvement in task. Therefore, this factor was named as “**personal efficacy**”.

Achievement motivation (0.816) loaded on MR4 that is, factor 4. This factor reflected characteristics related to an individual's drive or intrinsic motivation to succeed, work-related outcomes. Therefore, this factor was named as “**achievement motivation**”.

Age (0.635), and total work experience (0.813) loaded strongly onto MR5 that is, factor 5. This factor emphasized the continuous journey of growth in a professional's career, marked by accumulated experience. Therefore, this factor was named as “**career progression**”.

Job stress (0.513) and perceived workload (-0.715) loaded onto MR6 that is, factor 6. This factor encompassed various stressors that aroused from work conditions, demands, and the work environment. It included elements like workload, role ambiguity, job insecurity, interpersonal conflicts, and lack of control over work tasks. Therefore, this factor was named as “**occupational pressure**”.

Table 30. Factor analysis statistics affecting job performance of technical officers

| Sl. no. | Parameter | MR1 | MR3 | MR2 | MR5 | MR4 | MR6 |
|---|----------------|-------|-------|-------|-------|-------|-------|
| 1. | SS loadings | 2.041 | 1.835 | 1.695 | 1.633 | 1.417 | 1.104 |
| 2. | Proportion Var | 0.136 | 0.122 | 0.113 | 0.109 | 0.094 | 0.074 |
| 3. | Cumulative Var | 0.136 | 0.258 | 0.371 | 0.480 | 0.575 | 0.648 |
| Root Mean Square of the Residuals (RMSR) | | | | | | 0.04 | |
| Tucker Lewis Index (TLI) | | | | | | 0.673 | |
| Root Mean Square Error of Approximation (RMSEA) | | | | | | 0.091 | |
| Likelihood Chi-Square (χ^2) | | | | | | 40.79 | |
| p-value | | | | | | 0.09 | |

The summary from the factor loadings and parameters shown in Table 30, clearly depicted that cumulative variance explained by the seven factors was 65%, meaning that the factors accounted for more than half of the variance in the data. Root Mean Square of the Residuals (RMSR) = 0.04, which indicated a good fit, as smaller values suggested a better fit between the factor model and the data. Tucker Lewis Index (TLI) = 0.673, which was excellent since a value above 0.90 was generally considered a good fit. RMSEA = 0.091 with confidence intervals (0, 0.164). RMSEA values less than 0.05 indicated a close fit. Likelihood Chi-Square (χ^2) was 40.8, p-value was 0.09, which indicated that the model fitted the data well, as the p-value was not significant ($p > 0.05$).

Using Pearson's correlation coefficient, the effect of these factors on the job performance of technical officers was determined. The correlation coefficient for each factor affecting job performance of technical officers was shown in Table 31. The data showed that age and job stress had a positive association with job performance at the 5% level of significance, whereas total work experience and achievement motivation had a positive significance at the 1% level. Hence, the alternate hypotheses H_{1A} was accepted.

Technical officers in KAU showed increased job performance with age and work experience due to several factors. As age and experience increased, their networks within the agricultural community expanded, facilitating better collaboration and access to resources, and thus enhanced their knowledge of local agricultural practices, pests, and diseases, enabling more effective problem-solving and decision-making. The results are in congruent with Kusumalatha *et al.* (2021).

Increased job performance among technical officers in KAU was linked to higher achievement motivation because motivated individuals were more likely to set and pursue challenging goals, exhibited higher levels of persistence, and showed greater initiative. This relationship is supported by McClelland's theory of needs (1961), which posits that

individuals with high achievement motivation are driven to excel and improve their performance.

Technical officers in KAU show increased job performance as job stress increases due to a phenomenon known as eustress, which is positive stress that can enhance performance, motivation and efficiency. The findings agree with those of Sumiyati *et al.* (2021).

Table 31. Correlation coefficient of factors affecting performance of technical officers (n=40)

| Sl. no. | Variables | Job Performance |
|---------|------------------------|-----------------|
| 1. | Age | 0.151* |
| 2. | Total work experience | 0.139** |
| 3. | Achievement motivation | 0.463** |
| 4. | Self confidence | 0.113 |
| 5. | Job satisfaction | 0.180 |
| 6. | Job stress | 0.263* |

** Significant at 0.01 level (two tailed) * Significant at 0.05 level (two tailed)

4.3.3. Category 3 – Administrative Staff

The Table 32 showed the distribution of administrative staff based on their job performance. The data showed that approximately 67.14 per cent of the administrative staff exhibited medium job performance, followed by 18.57 per cent categorized as high performance and 14.29 per cent as low performance. This was graphically shown in Fig 29. The result is in line with the findings of Manjunath (2015).

Table 32. Distribution of administrative staff according to their job performance

| Sl. no. | Job Performance | Administrative Staff (n=70) | |
|---------------------|------------------------|-----------------------------|------------|
| | | Frequency | Percentage |
| 1. | Low (< 24.35) | 10 | 14.29 |
| 2. | Medium (24.35 – 35.59) | 47 | 67.14 |
| 3. | High (> 35.59) | 13 | 18.57 |
| | Total | 70 | 100 |
| Mean = 29.97 | | SD = 5.62 | |

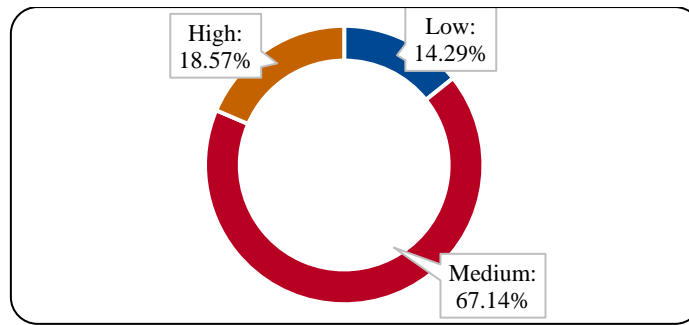


Fig 29. Distribution of administrative staff based on job performance

Table 33. KMO factor adequacy according to administrative staff (n=70)

| Sl. no. | Variables | KMO score |
|---------------------------|-------------------------|-----------|
| 1. | Age | 0.57 |
| 2. | Total work experience | 0.57 |
| 3. | Number of transfer | 0.63 |
| 4. | Organisational climate | 0.61 |
| 5. | Infrastructure facility | 0.50 |
| 6. | Self confidence | 0.68 |
| 7. | Achievement motivation | 0.62 |
| 8. | Perceived workload | 0.52 |
| 9. | Job involvement | 0.72 |
| 10. | Job satisfaction | 0.67 |
| 11. | Job commitment | 0.76 |
| 12. | Job stress | 0.65 |
| Overall MSA = 0.63 | | |

Further Kaiser-Meyer-Olkin factor adequacy (KMO score) was calculated for each factor to evaluate the sampling adequacy and factorability within a set of potential factors. The Table 33, showed the KMO score for each variable. The overall Measure of Sampling Adequacy (MSA) was calculated to be 0.63. Therefore, overall Measure of Sampling Adequacy indicated that the dataset was suitable for factor analysis.

After determining the suitability of factor analysis for the variables, scree plot method was followed to determine the number of factors affecting job performance of administrative staff. Five factors were identified through the scree plot method. The scree plot test is shown in Fig 30, which depicted the factors on the x-axis and the corresponding eigen values on the y-axis was used to extract the determining factors.

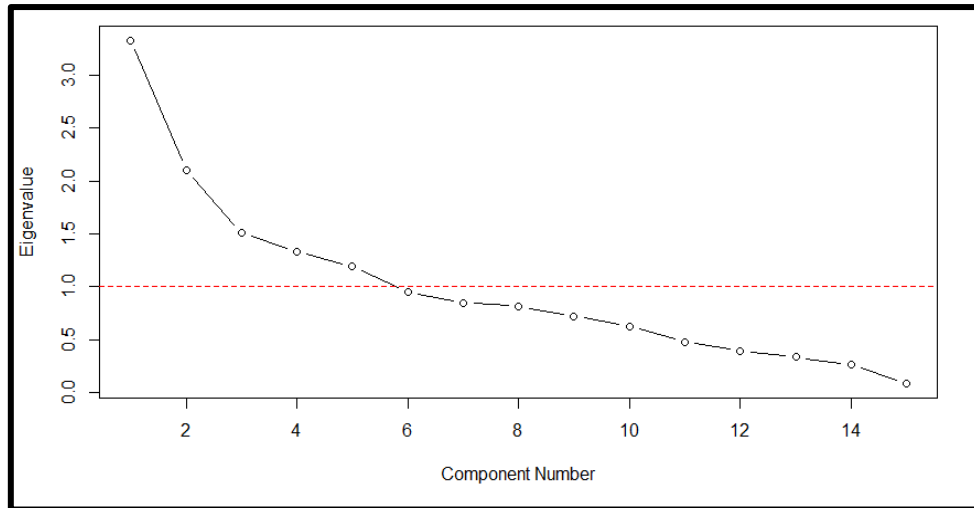


Fig 30. Scree plot for determining number of factors affecting job performance of administrative staff

Once the factorability was confirmed and optimum number of factors were determined, factor analysis was calculated. The factor wise variables and their factor loadings are presented in Table 34. The loadings in the table showed how each variable loads onto the five factors (MR1 to MR5). Higher absolute values indicated stronger associations between the variable and the factor. Data from the table shows that total work experience (0.99), age (0.83) and number of transfer (0.585) had high loadings on MR1 MR5 that is, factor 1. This factor emphasized the continuous journey of growth in a professional's career, marked by accumulated experience. Number of transfers reflected job stability and internal mobility, which can affect adjustment in the workplace. Therefore, this factor was named as “**career progression and job mobility**”.

Table 34. Factor loadings for each of the factors affecting job performance of administrative staff

| Sl. no. | Variables | MR1 | MR2 | MR3 | MR5 | MR4 |
|---------|-------------------------|-------|-------|-------|-------|--------|
| 1. | Age | 0.830 | 0.139 | | | |
| 2. | Total work experience | 0.994 | 0.105 | | 0.128 | |
| 3. | Number of transfers | 0.585 | | | 0.124 | |
| 4. | Organisational climate | 0.296 | | 0.221 | 0.417 | 0.255 |
| 5. | Infrastructure facility | | 0.149 | 0.990 | | |
| 6. | Self confidence | 0.162 | | | | 0.712 |
| 7. | Achievement motivation | | 0.573 | | | 0.180 |
| 8. | Perceived workload | 0.111 | | | 0.545 | -0.287 |
| 9. | Job involvement | | 0.669 | 0.219 | | |
| 10. | Job satisfaction | 0.226 | 0.244 | 0.244 | | 0.637 |
| 11. | Job commitment | | 0.582 | | | |
| 12. | Job stress | | 0.106 | 0.122 | 0.680 | |

Job involvement (0.67), job commitment (0.58), achievement motivation (0.57) and perceived workload (0.545) loaded significantly on MR2 that is, factor 2. These components reflected different aspects of how employees relate to their work and organization and captured the overarching theme of personal investment in one's job, motivation to achieve, and how the perceived workload impacts their involvement. Therefore, this factor was named as “**job engagement**”.

Infrastructure facility (0.990) loaded strongly onto MR3 that is, factor 3. This factor encompassed the availability of physical, technical, and operational resources necessary to support activities within an organization or system. It included facilities like buildings, equipment, utilities, and technological infrastructure that enable effective functioning and performance. Therefore, this factor was named as “**infrastructure facility**”.

Self-confidence (0.712) and job satisfaction (0.63) loaded on to MR4 that is, factor 4. This factor often encompassed various aspects of personal belief in one’s abilities and satisfaction in the completed task. Therefore, this factor was named as “**personal efficacy**”.

Job stress (0.68) and perceived workload (0.545) had notable loadings on MR5 that is, factor 5. This factor encompassed various stressors that arise from work conditions, demands, and the work environment. It can include elements like workload, stress over tasks. Therefore, this factor was named as “**occupational pressure**”.

Table 35. Factor analysis statistics affecting job performance of administrative staff

| Sl. no. | Parameter | MR1 | MR2 | MR3 | MR5 | MR4 |
|---|----------------|-------|-------|-------|-------|-------|
| 1. | SS loadings | 2.246 | 1.920 | 1.190 | 0.945 | 0.915 |
| 2. | Proportion Var | 0.150 | 0.128 | 0.079 | 0.063 | 0.061 |
| 3. | Cumulative Var | 0.150 | 0.278 | 0.357 | 0.420 | 0.481 |
| Root Mean Square of the Residuals (RMSR) | | | | | | 0.04 |
| Tucker Lewis Index (TLI) | | | | | | 0.91 |
| Root Mean Square Error of Approximation (RMSEA) | | | | | | 0.046 |
| Likelihood Chi-Square (χ^2) | | | | | | 46.55 |
| p-value | | | | | | 0.22 |

The summary from the factor loadings and parameters shown in Table 35, clearly depicted that cumulative variance explained by the seven factors was 48.1%, meaning that the factors accounted for more than half of the variance in the data. Root Mean Square of the Residuals (RMSR) = 0.04, which indicated a good fit, as smaller values suggested a better fit between the factor model and the data. Tucker Lewis Index (TLI) = 0.91, which was excellent since a value above 0.90 was generally considered a good fit. RMSEA was

0.046 with confidence intervals (0, 0.164). RMSEA values less than 0.05 indicated a close fit. Likelihood Chi-Square (χ^2) = 46.55, p-value = 0.22, which indicated that the model fitted the data well, as the p-value was not significant ($p > 0.05$).

In order to ascertain the impact of these factors on performance of administrative staff, Pearson's correlation coefficient was employed. The Table 36, exhibits the correlation coefficient of each factor influencing job performance of administrative staff. It was apparent from the data that total work experience, job satisfaction, and job commitment exhibit positive relationship with job performance at the 1% level of significance, whereas age showed positive significance with job performance at 5% level. Hence, the alternate hypotheses H_{1A} was accepted.

Table 36. Correlation coefficient of factors affecting performance of administrative staff (n=70)

| Sl. no. | Variables | Job Performance |
|---------|------------------------|-----------------|
| 1. | Age | 0.023* |
| 2. | Total work experience | 0.231** |
| 3. | Frequency of transfer | 0.002 |
| 4. | Organisational climate | 0.191 |
| 5. | Job satisfaction | 0.225** |
| 6. | Job commitment | 0.284** |

** Significant at 0.01 level (two tailed) * Significant at 0.05 level (two tailed)

Administrative staff at KAU showed increased job performance with age and work experience due to enhanced abilities over a period of time. Senior and more experienced employees had better understanding of institutional processes and networks, contributing to efficiency and effectiveness. The results are in congruent with Guzzo *et al.* (2022). Increased job satisfaction among administrative staff at KAU lead to higher job performance due to improved motivation and involvement. Satisfied employees were more committed and efficient, which lead to better performance. The finding matches with the study of Vratskikh *et al.* (2016).

4.3.4. Category 4 – Labourers

Table 37 showed the distribution of labourers based on their job performance. The data in the table showed that more than three-fourth (77.14%) of the labourers exhibited medium job performance, followed by 14.29 per cent having low job performance and 8.57 per cent as high job performance. The above data was visually shown in Fig 31. The result is in line with the findings of Panda (2022). The medium job performance of labourers at

KAU could be influenced by factors such as inadequate training, lack of motivation due to low wages, or insufficient support systems within the workplace.

Table 37. Distribution of labourers according to their job performance

| Sl. no. | Job Performance | Labourers (n=70) | |
|---------------------|------------------------|------------------|------------|
| | | Frequency | Percentage |
| 1. | Low (< 19.26) | 10 | 14.29 |
| 2. | Medium (19.26 – 32.63) | 54 | 77.14 |
| 3. | High (> 32.63) | 6 | 8.57 |
| Total | | 70 | 100 |
| Mean = 25.94 | | SD = 6.69 | |

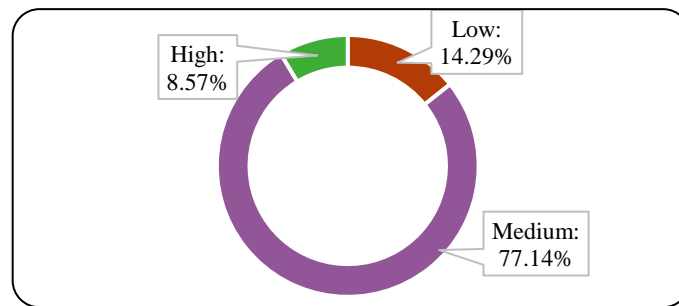


Fig 31. Distribution of labourers based on job performance

Further Kaiser-Meyer-Olkin factor adequacy (KMO score) was calculated for each factor to evaluate the sampling adequacy and factorability within a set of potential factors. The Table 38, showed the KMO score for each variable. The overall Measure of Sampling Adequacy (MSA) was calculated to be 0.60. Therefore, overall Measure of Sampling Adequacy indicated that the dataset was suitable for factor analysis.

Table 38. KMO factor adequacy according to labourers (n=70)

| Sl. no. | Variables | KMO score |
|---------------------------|-------------------------|-----------|
| 1. | Age | 0.65 |
| 2. | Total work experience | 0.52 |
| 3. | Organisational climate | 0.55 |
| 4. | Infrastructure facility | 0.70 |
| 5. | Self confidence | 0.51 |
| 6. | Achievement motivation | 0.75 |
| 7. | Perceived workload | 0.62 |
| 8. | Job involvement | 0.53 |
| 9. | Job satisfaction | 0.55 |
| 10. | Job commitment | 0.55 |
| 11. | Job stress | 0.50 |
| Overall MSA = 0.60 | | |

After determining the suitability of factor analysis for the variables, scree plot method was followed to determine the number of factors affecting job performance of labourers. Seven factors were identified through the scree plot method. The scree plot test shown in Fig 32, which depicts the factors on the x-axis and the corresponding eigen values on the y-axis was used to extract the determining factors.

Once the factorability was confirmed and optimum number of factors were determined, factor analysis was done. The factor wise items and their factor loadings are presented in Table 39. The loadings in the table showed how each variable loaded onto the seven factors (MR1 to MR7). Higher absolute values indicated stronger associations between the variable and the factor.

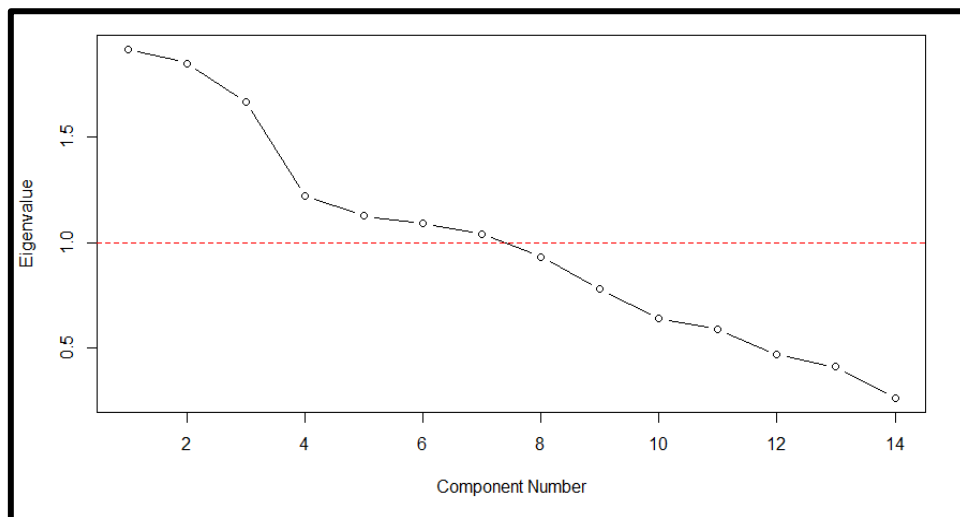


Fig 32. Scree plot for determining number of factors affecting job performance of labourers

Data from the table showed that age had a very high negative loading on MR1 (-0.96) that is, factor 1., indicated that this factor was inversely related to age. This factor was named as “age”.

Job involvement (0.76) and self-confidence (0.56) showed significant loadings on MR2 that is, factor 2. This factor often encompassed various aspects of personal belief in one’s abilities and satisfaction in the completed task. Therefore, this factor was named as “personal efficacy”.

Infrastructure facility (0.675) loaded strongly onto MR3 that is, factor 3. This factor encompassed the availability of physical, technical, and operational resources necessary to support activities within an organization or system. It included facilities like buildings,

equipment, utilities, and technological infrastructure that enable effective functioning and performance. Therefore, this factor was named as “**infrastructure facility**”.

Table 39. Factor loadings for each of the factors affecting job performance of labourers

| Sl. no. | Variables | MR2 | MR1 | MR5 | MR4 | MR6 | MR3 | MR7 |
|---------|-------------------------|-------|--------|--------|--------|--------|--------|--------|
| 1. | Age | 0.138 | -0.963 | | | 0.140 | -0.138 | |
| 2. | Total work experience | | | | 0.210 | -0.153 | 0.141 | |
| 3. | Organisational climate | | | | 0.983 | | | 0.127 |
| 4. | Infrastructure facility | 0.316 | 0.241 | | -0.106 | | 0.675 | -0.229 |
| 5. | Achievement motivation | | 0.110 | 0.968 | | -0.203 | | |
| 6. | Self confidence | 0.557 | 0.168 | 0.156 | | | | |
| 7. | Perceived workload | | | -0.234 | | 0.703 | 0.119 | -0.235 |
| 8. | Job involvement | 0.764 | 0.215 | 0.187 | | | | |
| 9. | Job satisfaction | | | | -0.172 | | | 0.558 |
| 10. | Job commitment | | | 0.187 | 0.106 | 0.121 | 0.342 | 0.735 |
| 11. | Job stress | | | | | 0.763 | | 0.424 |

Organizational climate (0.983) loaded onto MR4 that is, factor 4. It reflected employees' perception of the work environment. Therefore, this factor was named as “**organizational climate**”.

Achievement motivation (0.97) loaded highly on MR5, indicating a strong relationship with job performance. This factor reflected characteristics related to an individual's drive or intrinsic motivation to succeed, work-related outcomes. Therefore, this factor was named as “**achievement motivation**”.

Perceived workload (0.703) and job stress (0.763) loaded onto MR6 that is, factor 6. This factor encompassed various stressors that aroused from work conditions, demands, and the work environment. It included workload, and stress related to interpersonal conflicts with peer group in performing tasks. Therefore, this factor was named as “**occupational pressure**”.

Job commitment (0.735) and job satisfaction (0.558) loaded onto MR7 that is, factor 7. These variables reflected different aspects of how employees related to their work and captured the overarching theme of personal investment in one's job, motivation to achieve,

and how the perceived workload impacted their involvement. Therefore, this factor was named as “**job engagement**”.

Table 40. Factor analysis statistics affecting job performance of labourers

| Sl. no. | Parameter | MR2 | MR1 | MR5 | MR4 | MR6 | MR3 | MR7 |
|---|----------------|-------|-------|-------|-------|-------|-------|-------|
| 1. | SS loadings | 1.381 | 1.215 | 1.120 | 1.092 | 0.826 | 0.819 | 0.790 |
| 2. | Proportion Var | 0.099 | 0.087 | 0.080 | 0.078 | 0.059 | 0.059 | 0.056 |
| 3. | Cumulative Var | 0.099 | 0.185 | 0.265 | 0.343 | 0.402 | 0.461 | 0.517 |
| Root Mean Square of the Residuals (RMSR) | | | | | | 0.02 | | |
| Tucker Lewis Index (TLI) | | | | | | 2.738 | | |
| Root Mean Square Error of Approximation (RMSEA) | | | | | | 0 | | |
| Likelihood Chi-Square (χ^2) | | | | | | 61.17 | | |
| p-value | | | | | | 0.96 | | |

The summary from the factor loadings and parameters shown in Table 40, clearly depicted that cumulative variance explained by the seven factors was 52%, meaning that the factors accounted for more than half of the variance in the data. Root Mean Square of the Residuals (RMSR) = 0.02, which indicated a good fit, as smaller values suggested a better fit between the factor model and the data. Tucker Lewis Index (TLI) = 2.738, which was excellent since a value above 0.90 was generally considered a good fit. RMSEA = 0 with confidence intervals (0, 0.078). RMSEA values less than 0.05 indicated a close fit. Likelihood Chi-Square (χ^2) = 61.17, p-value = 0.96, which indicated that the model fitted the data well, as the p-value was not significant ($p > 0.05$).

In order to ascertain the impact of these factors on performance of labourers, Pearson's correlation coefficient was employed. The Table 41, exhibited the correlation coefficient of each factor influencing job performance of labourers. It was apparent from the data that total work experience and job commitment exhibited positive relationship with job performance at the 1% level of significance (the alternate hypotheses H_{1A} was accepted), whereas age and perceived workload showed negative significance with job performance at 5% level. Hence, the alternate hypotheses H_{1B} was accepted.

Labourers at KAU showed increased job performance with work experience due to the accumulation of skills, and efficiency over time. The results are in congruent with Thomas and Mathew (2022).

Labourers at KAU showed increased job performance as job commitment increased because higher involvement lead to greater motivation, better utilization of skills, and a

stronger commitment to task completion. The findings match with the result of Babu and George (2022).

Table 41. Correlation coefficient of factors affecting performance of labourers (n=70)

| Sl. no. | Variables | Job Performance |
|---------|-------------------------|-----------------|
| 1. | Age | -0.076* |
| 2. | Education qualification | -0.042 |
| 3. | Total work experience | 0.112** |
| 4. | Self confidence | -0.019 |
| 5. | Job commitment | 0.177** |

** Significant at 0.01 level (two tailed) * Significant at 0.05 level (two tailed)

As age increased, labourers working at KAU showed a decrease in job performance due to decline in their overall physical strength, increased health issues, and reduced adaptability to new technologies. This aligns with the study of Mathew *et al.* (2022).

4.4. TRAINING NEEDS OF KAU EMPLOYEES

4.4.1. Category 1 – Scientists

For analysing the training needs of scientists using a systematic approach, three main sections are usually considered: technical, organizational, and socio-psychological domain (Blanchard and Thacker, 2009). Within the technical training need category for scientists, the skills were classified into research aptitude, extension, teaching aptitude, and subject matter expertise. Each of these categories plays a crucial role in shaping the capabilities and effectiveness of scientists in their roles.

4.4.1.1. Training needs of scientists on research aptitude

Under research aptitude, seven items were identified for assessing training needs of scientists. Using collected data on the training needs for these items, the obtained scores and the maximum scores were calculated. Consequently, the Training Need Index (TNI) was assessed. To rank these items based on the training need index, a Garrett score was determined for each item. Table 42 presents the obtained scores, Training Need Index (TNI) and ranking of items to assess training needs of scientists at KAU on research aptitude.

The data clearly showed that the highest training need index (70.71) was for the identification of new research areas. This was followed by the use of AI tools for research (69.29), innovativeness (60.71), scientific publication (52.86), the use of statistical software such as R programming, SPSS, Stata, etc. (50.71), scientific writing (50.00), and the

preparation of project proposals (46.43). Fig 33 provided a visual representation of the above data. The findings align with the study of Jones and Kim (2023).

Table 42. Training needs of scientists at KAU on research aptitude (n=70)

| Sl. no | Components | Extent of training need | | | TNI | Garrett score | Rank |
|--------|---|-------------------------|--------|------------|-------|---------------|------|
| | | Urgently Needed | Needed | Not Needed | | | |
| 1. | Identification of new research area | 33 | 33 | 4 | 70.71 | 72.09 | I |
| 2. | Preparation of project proposals | 16 | 33 | 21 | 46.43 | 66.50 | VII |
| 3. | Innovativeness | 23 | 39 | 8 | 60.71 | 69.57 | III |
| 4. | AI tools for research | 35 | 27 | 8 | 69.29 | 71.97 | II |
| 5. | Statistical software like R programming, SPSS, Stata etc. | 17 | 37 | 16 | 50.71 | 67.34 | V |
| 6. | Scientific writing | 15 | 40 | 15 | 50.00 | 67.07 | VI |
| 7. | Scientific publication | 19 | 36 | 15 | 52.86 | 67.87 | IV |

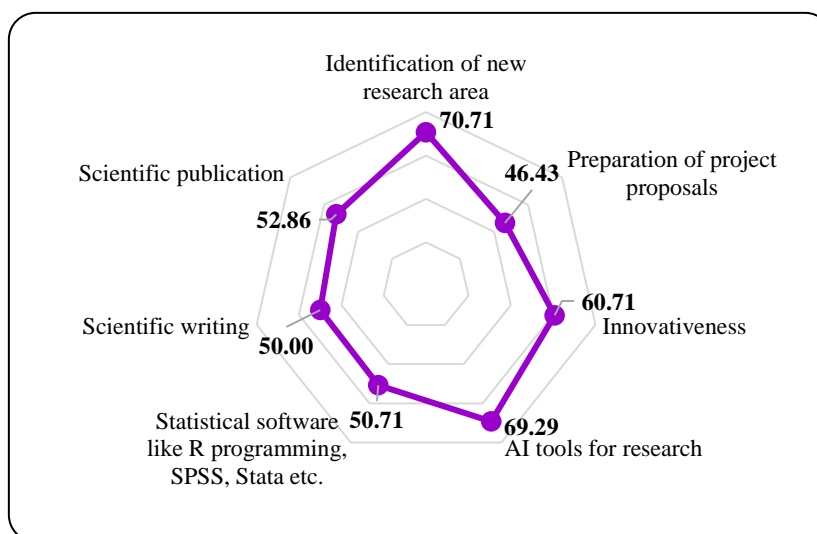


Fig 33. Training needs of scientists on research aptitude

Fig 34 shows the ranking of items for research aptitude according to TNI for scientists respondents. Scientists prioritize identifying new research areas because it drives innovation and keeps their work at the forefront of their field. This focus allows them to explore emerging trends and solve pressing issues, ensuring their research remains relevant and impactful. Additionally, it can lead to new funding opportunities and collaborations. Scientists often give less priority to training on project proposal preparation because they may prioritize technical skills and research directly related to their work. Sometimes,

experienced scientists may rely on their own expertise or institutional support for proposal writing rather than seeking a specialised training training.

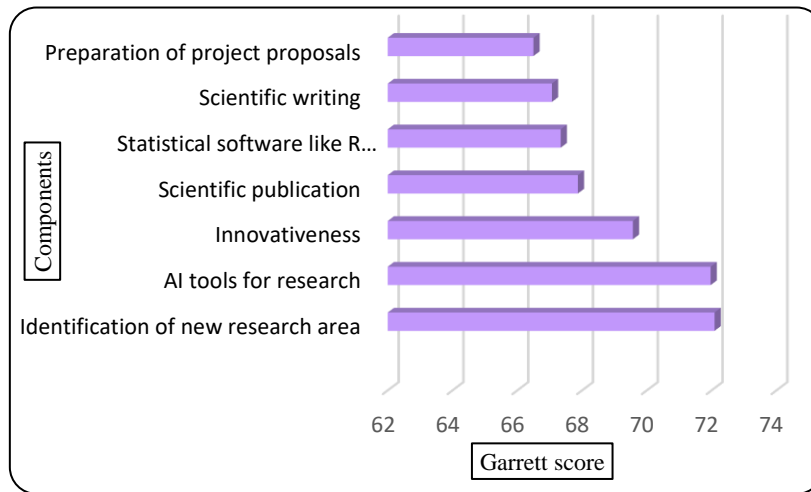


Fig 34. Ranking of training needs of scientists on research aptitude

4.4.1.2. Training needs of scientists on extension activities

Table 43 below shows the obtained scores, Training Need Index (TNI) and ranking of items to assess training needs of scientists at KAU on extension activities. Under extension activities, ten items were identified for training need assessment.

According to the Table 43 digital technologies used for training showed TNI at 60.71, which was followed by procedure for technology transfer at 49.29, training for farmers and other stakeholders using virtual reality (VR) at 50.71, recent technologies developed by KAU at 50.00, guidelines for research stations in product development and sales at 45.71, program planning at 39.29, program evaluation and program monitoring both at 38.57, common guidelines for conducting workshops and program implementation both had training need index of 37.86. Fig 35 shows the training need index. It followed that the digital technologies used in training was the most needed training, while the least training was to had guidelines for conducting workshops and program implementation.

Fig 36 presents the prioritization of training needs of extension activities among scientist respondents. Scientists prioritized training need in digital technologies because these tools enhanced data analysis, and streamlined research processes. Effective use of digital technologies ensured that researchers stayed with advancements, leading to more efficient and innovative scientific work. Scientists prioritized training need for technical skills over workshop guidelines. Workshop guidelines were the least important because

they were part of several workshops and might not feel the need for extensive training on guidelines for conducting workshop.

Table 43. Training needs of scientists at KAU on extension activities (n=70)

| Sl. no. | Components | Extent of training need | | | TNI | Garrett score | Rank |
|---------|---|-------------------------|--------|------------|-------|---------------|------|
| | | Urgently Needed | Needed | Not Needed | | | |
| 1. | Digital technologies used for training | 23 | 39 | 8 | 60.71 | 73.14 | I |
| 2. | Guidelines for research stations in product development and sales | 12 | 40 | 18 | 45.71 | 70.26 | V |
| 3. | VR-assisted training for farmers and other stakeholders | 18 | 35 | 17 | 50.71 | 71.4 | II |
| 4. | Program planning | 11 | 33 | 26 | 39.29 | 69.29 | VI |
| 5. | Program implementation | 11 | 31 | 28 | 37.86 | 69.09 | VIII |
| 6. | Program monitoring | 11 | 32 | 27 | 38.57 | 69.19 | VII |
| 7. | Program evaluation | 11 | 32 | 27 | 38.57 | 69.19 | VII |
| 8. | Procedure for transfer of technology | 21 | 27 | 22 | 49.29 | 71.39 | III |
| 9. | Common guidelines for conducting workshop | 11 | 31 | 28 | 37.86 | 69.09 | VIII |
| 10. | Recent technologies developed by KAU | 18 | 34 | 18 | 50.00 | 71.29 | IV |

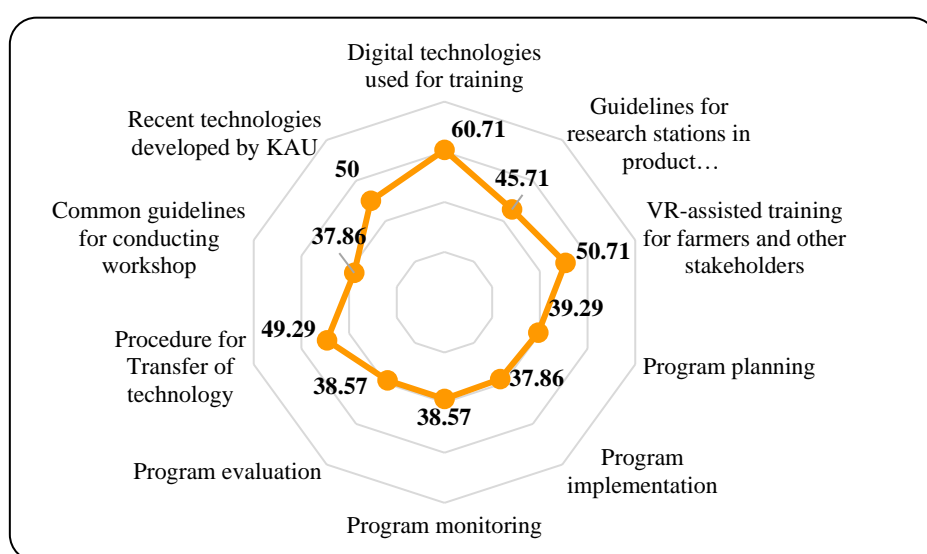


Fig 35. Training needs of scientists on extension activities

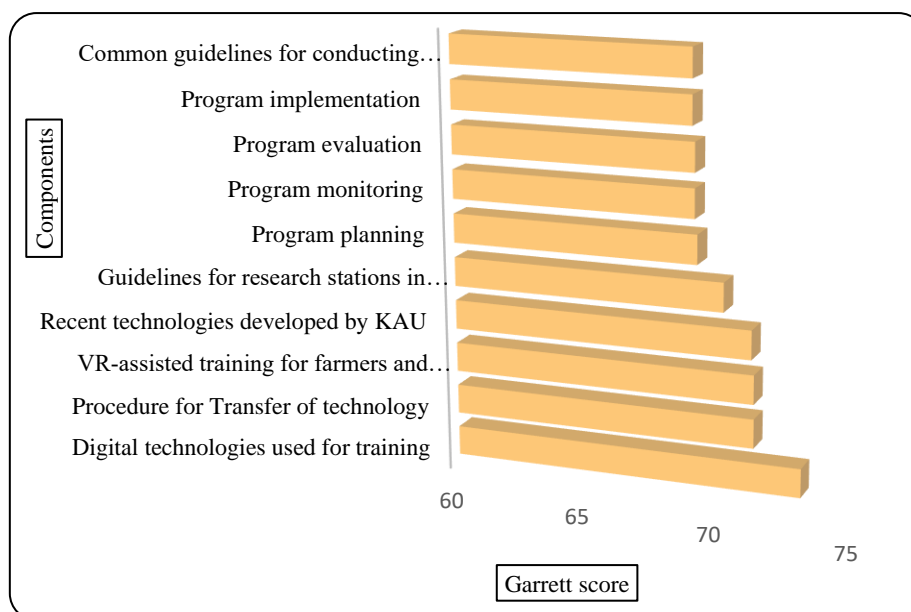


Fig 36. Ranking of training needs of scientists on extension activities

4.4.1.3. Training needs of scientists on teaching aptitude

Table 44 below shows the obtained scores, Training Need Index (TNI) and ranking of items to assess training needs of scientists at KAU on teaching aptitude. Under teaching aptitude, four items were identified for assessing training need among scientists.

Table 44. Training needs of scientists at KAU on teaching aptitude (n=70)

| Sl. no. | Components | Extent of training need | | | TNI | Garrett score | Rank |
|---------|------------------------------|-------------------------|--------|------------|-------|---------------|------|
| | | Urgently Needed | Needed | Not Needed | | | |
| 1. | Use of modern teaching tools | 24 | 31 | 15 | 56.43 | 58.70 | II |
| 2. | New ICT trends | 28 | 26 | 16 | 58.57 | 59.43 | I |
| 3. | Use of smart classroom | 16 | 37 | 17 | 49.29 | 56.50 | III |
| 4. | Classroom management | 12 | 29 | 29 | 37.86 | 53.36 | IV |

The data clearly indicated that new ICT trends for teaching was the highest training need with an index value of 58.57. This was followed by the use of modern teaching tools (56.43), smart classrooms (49.29), and classroom management (37.86). The findings supported with the study of Kharde *et al.*, (2014).

These priorities were visually represented in Fig 37 and Fig 38 illustrated the ranking of teaching aptitude for scientist respondents based on their training needs. Scientists prioritized the need for training in new ICT trends in teaching because these tools enhance

the effectiveness and reach of their teaching methods. Scientists gave low priority to classroom management training as they were well versed in classroom management techniques.

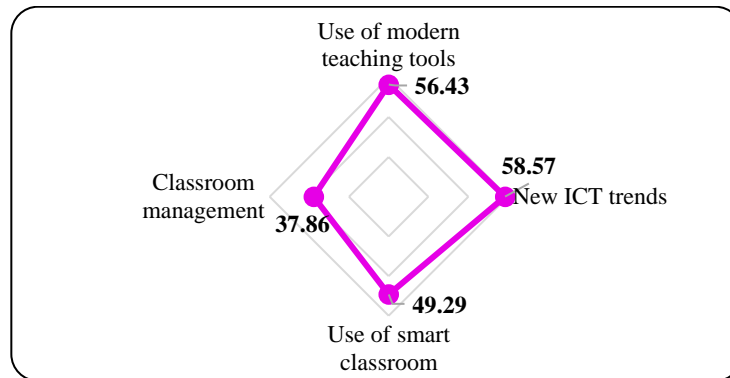


Fig 37. Training needs of scientists on teaching aptitude

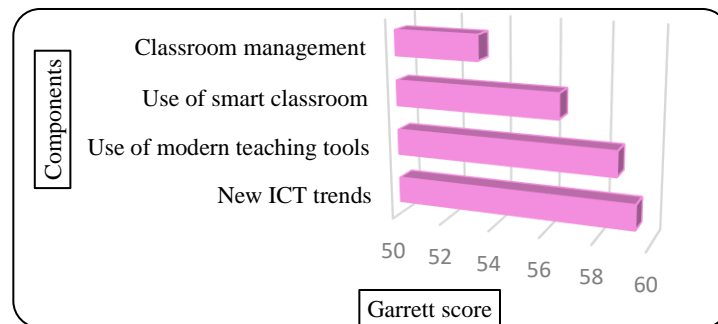


Fig 38. Ranking of training needs of scientists on teaching aptitude

4.4.1.4. Training needs of scientists on subject matter expertise

Table 45 below showed the obtained scores, Training Need Index (TNI) and ranking of items to assess training needs of scientists at KAU on teaching aptitude. Under subject matter expertise, ten items were identified for training need assessment.

The data in the Table 45 clearly indicated that the highest training need index was 62.86 for the artificial intelligence (AI) and its scope in agriculture. This was followed by hands-on training on IoT and robotics in agriculture (62.14), both the use of drones in precision agriculture practices and nanotechnology in agriculture (54.29), climate resilient agriculture (53.57), mobile app development (47.86), advances in farm mechanization (45.00), carbon neutral farming (43.57), software designing (41.43), and varietal release procedure (38.57). These priorities training on subject matter expertise is visually represented in Fig 39.

Table 45. Training needs of scientists at KAU on subject matter expertise (n=70)

| Sl. no. | Components | Extent of training need | | | TNI | Garrett score | Rank |
|---------|---|-------------------------|--------|------------|-------|---------------|------|
| | | Urgently Needed | Needed | Not Needed | | | |
| 1. | Carbon neutral farming | 14 | 33 | 23 | 43.57 | 70.10 | VIII |
| 2. | AI and its scope in agriculture | 30 | 28 | 12 | 62.86 | 73.94 | I |
| 3. | Nanotechnology in agriculture | 23 | 30 | 17 | 54.29 | 72.24 | III |
| 4. | Use of drone in precision agriculture practices | 18 | 40 | 12 | 54.29 | 71.89 | V |
| 5. | Climate resilient agriculture | 23 | 29 | 18 | 53.57 | 72.14 | IV |
| 6. | Hands on training on IoT, Robotics in agriculture | 27 | 33 | 10 | 62.14 | 73.63 | II |
| 7. | Software designing | 17 | 24 | 29 | 41.43 | 70.01 | IX |
| 8. | Advances in farm mechanization | 14 | 35 | 21 | 45.00 | 70.30 | VII |
| 9. | Mobile app development | 22 | 23 | 25 | 47.86 | 71.27 | VI |
| 10. | Varietal release procedure | 16 | 22 | 32 | 38.57 | 69.54 | X |

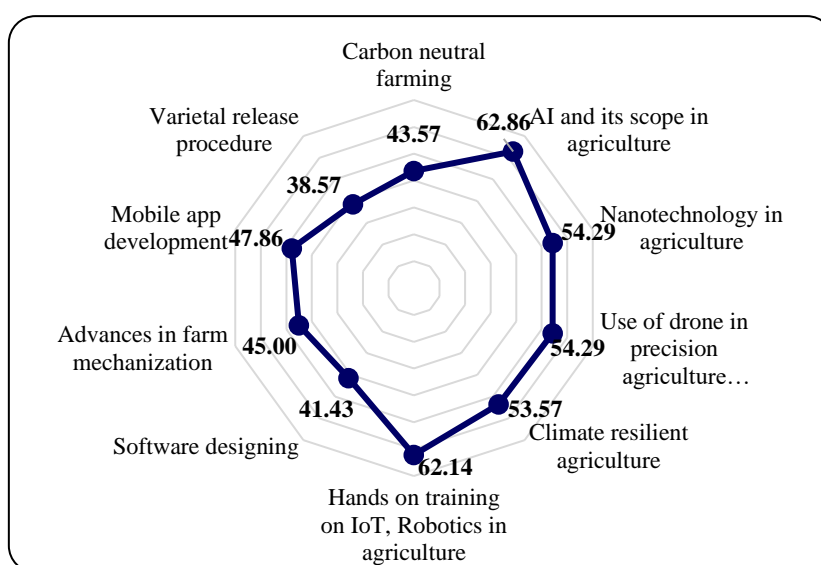


Fig 39. Training needs of scientists on subject matter expertise

Fig 40 illustrated the ranking of items for subject matter expertise for scientists respondents based on training need. Scientists gave high priority to training in AI and its scope in agriculture due to AI's potential to revolutionize farming practices, improve crop

yields, and optimize resource use. Understanding AI applications helps scientists leverage data-driven insights for precision agriculture, pest and disease prediction, and sustainable farming techniques. This training ensured they stay at the forefront of technological advancements and can implement innovative solutions effectively. Scientists gave the least priority to training on varietal release procedures because these processes might be very familiar to scientists and hence might not require training on the subject area.

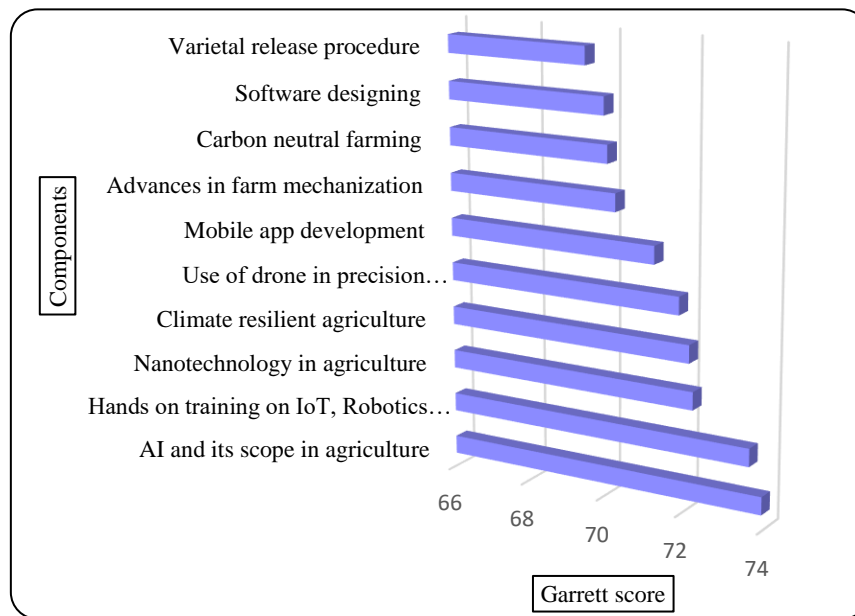


Fig 40. Ranking of training needs of scientists on subject matter expertise

4.4.1.5. Training needs of scientists on office management and administration

Within the organizational training need category for scientists, the skills were classified into office management and administration, financial management and project management. Under office management and administration, ten items were identified for assessing training need of scientists at KAU. Table 46, below showed the obtained scores, Training Need Index (TNI) and ranking of items to assess training needs of scientists at KAU on office management and administration.

It was apparent from the data that the highest Training Need Index (TNI) related to office management and administration was 52.86 for the procedures related to handling and completing externally funded research projects in KAU. This was followed by a TNI of 48.57 for KAU statute, policy, and regulations, 40.71 for both labour norms and procurement and purchase rules, 40.00 for purchase of equipment, 38.57 for the appointment of Research Associate (RA), 37.86 for information related to the Right To Information (RTI) Act and 37.14 for office automation. Other training needs include the

information related to the protocols for handling confidential or sensitive information (35.71) and preparation of the annual progress report (27.86), respectively. These priorities were visually represented in Fig 41.

Table 46. Training needs of scientists at KAU on office management and administration (n=70)

| Sl. no. | Components | Extent of training need | | | TNI | Garrett score | Rank |
|---------|---|-------------------------|--------|------------|-------|---------------|------|
| | | Urgently Needed | Needed | Not Needed | | | |
| 1. | Preparation of annual progress report | 7 | 25 | 38 | 27.86 | 67.40 | X |
| 2. | RTI act | 9 | 35 | 26 | 37.86 | 69.27 | VII |
| 3. | Protocol for handling confidential or sensitive information | 10 | 30 | 30 | 35.71 | 68.71 | IX |
| 4. | Appointment of RA | 14 | 26 | 30 | 38.57 | 69.40 | VI |
| 5. | Purchase of equipment | 14 | 28 | 28 | 40.00 | 69.56 | V |
| 6. | Procedures to be followed in handling and completing external funded research projects in KAU | 25 | 24 | 21 | 52.86 | 72.19 | I |
| 7. | KAU statute, policy and regulation | 21 | 26 | 23 | 48.57 | 71.30 | II |
| 8. | Office automation | 15 | 22 | 33 | 37.14 | 68.94 | VIII |
| 9. | Labour norms | 16 | 25 | 29 | 40.71 | 69.84 | III |
| 10. | Procurement and purchase rules | 12 | 33 | 25 | 40.71 | 69.60 | IV |

Fig 42 displayed the ranking of items for office management and administration for scientists respondents based on training need. Scientists gave high priority to training need on procedures for handling and completing externally funded research projects at KAU due to the complex regulatory requirements, strict compliance standards, and significant financial accountability involved within the university. Scientists showed least priority for trainings on preparation of annual progress reports because it was seen as a routine administrative task rather than a strategic priority.

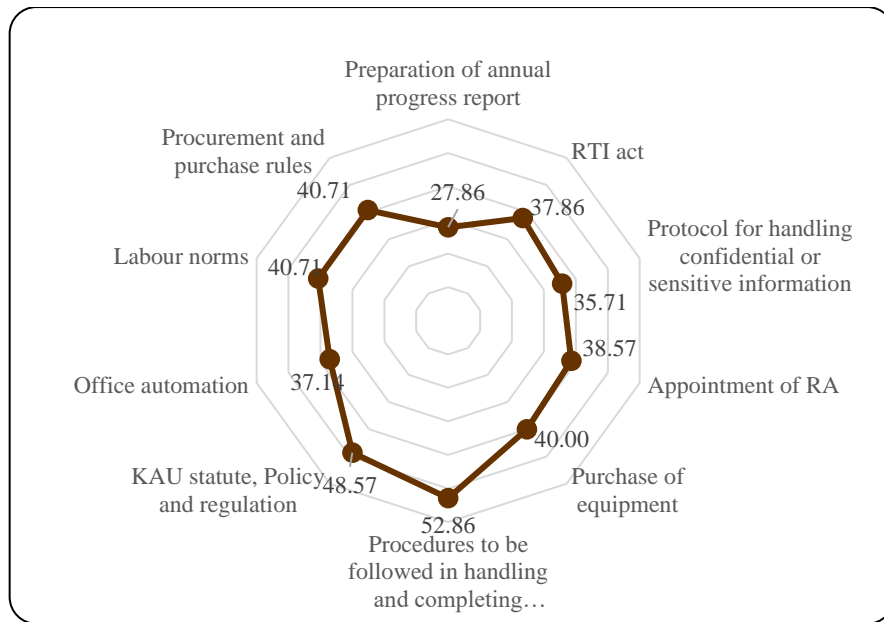


Fig 41. Training needs of scientists on office management and administration

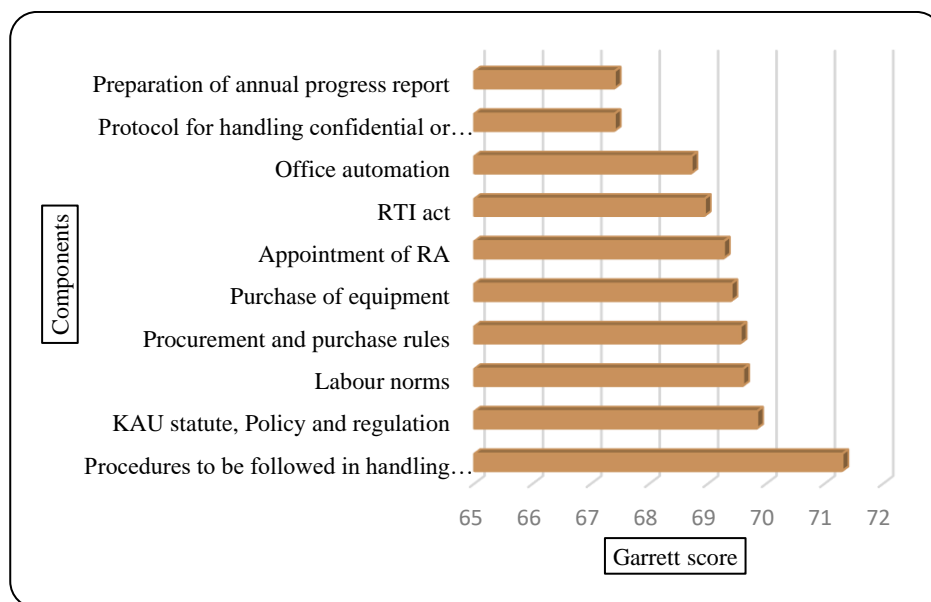


Fig 42. Ranking of training needs of scientists on office management and administration

4.4.1.6. Training needs of scientists on financial management

Under financial management, three items were identified for assessing training need. Table 47, below showed the obtained scores, Training Need Index (TNI), and ranking of items to assess training needs of scientists at KAU on financial management.

The data revealed that the highest priority was to understand more on the use of University Functional Accountability System - UFAST (49.50), followed by revolving funds their schemes, and modes of operation, and finally, University Service (57.86), and

Payroll Administrative Repository for Kerala - uniSPARK (57.14). These indices were graphically shown in Fig 43.

Table 47. Training needs of scientists at KAU on financial management (n=70)

| Sl. no. | Components | Extent of training need | | | TNI | Garrett score | Rank |
|---------|--|-------------------------|--------|------------|-------|---------------|------|
| | | Urgently Needed | Needed | Not Needed | | | |
| 1. | UFAST | 15 | 26 | 29 | 60.00 | 49.50 | I |
| 2. | UniSPARK | 15 | 30 | 25 | 57.14 | 44.87 | III |
| 3. | Revolving fund – scheme and mode of operations | 16 | 27 | 27 | 57.86 | 47.01 | II |

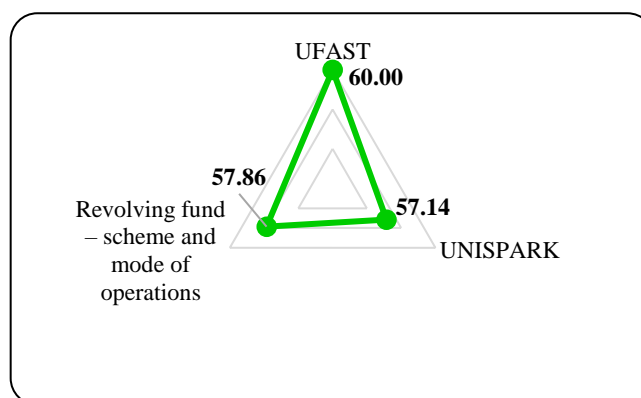


Fig 43. Training needs of scientists on financial management

Fig 44 displayed the ranking of financial management items for scientist respondents based on their training needs. KAU scientists prioritized training needs in learning to use UFAST for administrative works to enhance efficiency in administrative processes, streamline data management, and improve overall operational effectiveness. Learning financial management helped in minimizing errors and optimizing resource allocation. Familiarising UFAST offers advantages over uniSPARK by providing more integrated administrative features, and enhanced user support. It also typically offered better customization options to fit specific organizational needs and processes. Scientists expressed less training need to learn uniSPARK.

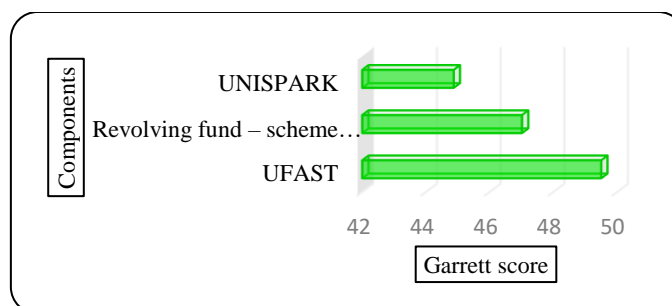


Fig 44. Ranking of training needs of scientists on financial management

4.4.1.7. Training needs of scientists on project management

Eleven items were identified for training need assessment under project management. Table 48 below showed the obtained scores, Training Need Index (TNI), and ranking of items to assess training needs of scientists at KAU on project management.

The data indicated that the least Training Need Index (TNI) related to project management was 32.14 for procedures to start a zero-balance account for projects. This was preceded by the training need index of 34.29 for both demanding and releasing funds to the prime account and maintaining project records, including consumables, equipment, issue registers, stock registers, and miscellaneous items, 38.57 (TNI) for requesting AS, TS, and FS, and 39.29 (TNI) for both the fund flow system in DBT and releasing funds to the comptroller account, 40.00 (TNI) to both procedures related to project completion reports, utilization certificates, asset transfer certificates, and procedures for releasing and mapping funds in UFAST, 42.86 (TNI) was noted for both project preparation and implementation. Finally, a TNI of 44.29 (TNI) for finding suitable funding agency. These indices were graphically displayed in Fig 45. Fig 46 displayed the ranking of training need of scientists for project management. Scientists prioritized need for training on finding suitable funding agencies because securing grants was crucial for initiating and continuing research in agriculture. This skill directly impacts their project's success and overall research career.

Table 48. Training needs of scientists at KAU on project management (n=70)

| Sl. no. | Components | Extent of training need | | | TNI | Garrett score | Rank |
|---------|---|-------------------------|--------|------------|-------|---------------|------|
| | | Urgently Needed | Needed | Not Needed | | | |
| 1. | Project preparation | 17 | 26 | 27 | 42.86 | 70.97 | III |
| 2. | Finding suitable funding agencies | 16 | 30 | 24 | 44.29 | 71.11 | I |
| 3. | Project implementation | 18 | 24 | 28 | 42.86 | 71.02 | II |
| 4. | Release of funds to comptroller account | 14 | 27 | 29 | 39.29 | 70.30 | V |
| 5. | Request AS, TS, and FS | 12 | 30 | 28 | 38.57 | 70.08 | VI |
| 6. | Release and mapping funds in UFAST | 13 | 30 | 27 | 40.00 | 70.30 | V |
| 7. | Fund flow system in DBT | 10 | 35 | 25 | 39.29 | 70.07 | VII |
| 8. | Start of zero balance account for project | 7 | 31 | 32 | 32.14 | 68.90 | X |

| | | | | | | | |
|-----|--|----|----|----|-------|-------|------|
| 9. | Demanding and releasing fund to prime account | 11 | 26 | 33 | 34.29 | 69.42 | IX |
| 10. | Project records maintenance – consumables, equipment, issue register, stock register, miscellaneous etc. | 12 | 24 | 34 | 34.29 | 69.49 | VIII |
| 11. | Procedure related to project completion report, utilization certificate, asset transfer certificate etc. | 17 | 22 | 31 | 40.00 | 70.57 | IV |

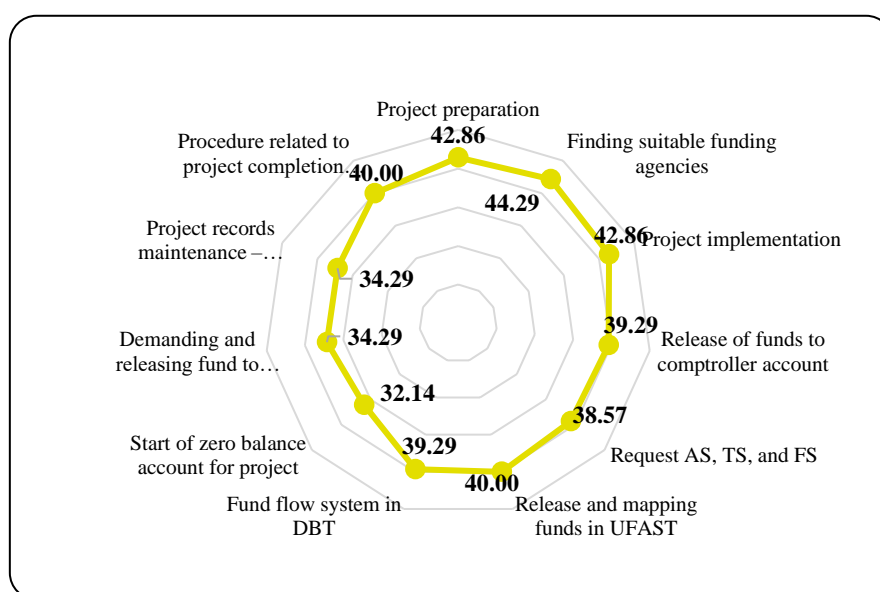


Fig 45. Training needs of scientists on project management

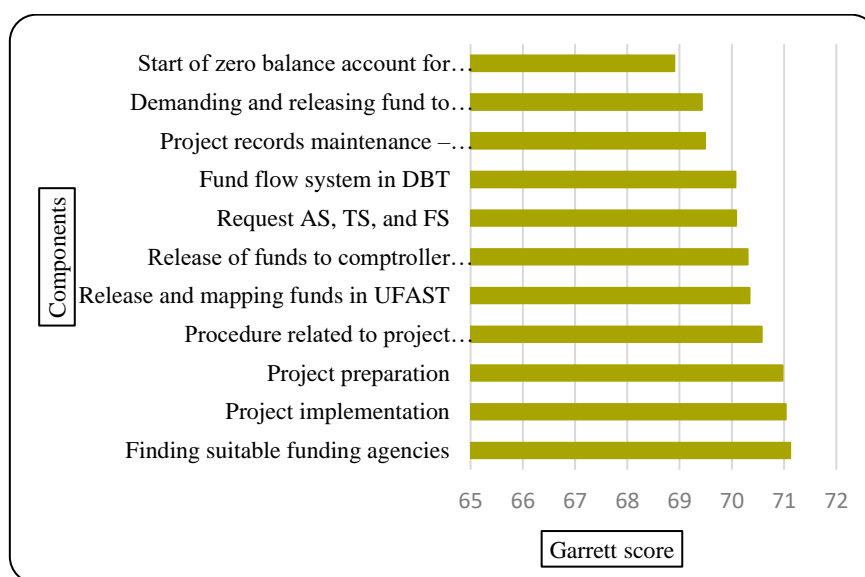


Fig 46. Ranking of training needs of scientists on project management

4.4.1.8. Training needs of scientists on selected socio-psychological domain

Four items were identified for assessing training need under socio-psychological domain. Table 49 below showed the obtained scores, Training Need Index (TNI), and ranking of items to assess training needs of scientists at KAU on socio-psychological domain.

The data showed that the highest Training Need Index (TNI) related to the socio-psychology of scientists was 48.57 for personality development. This was followed by 46.43 for stress management, 39.29 for time management, and 35.71 for work-life balance. These indices were displayed in Fig 47 and ranked in Fig 48.

Scientists prioritized the need for training in personality development because it enhanced their interpersonal skills, and aided in conflict resolution. Training on personality development supports resilience and stress management, essential for handling research projects to attain the results within the time-frame. Scientists had a lower priority for work-life balance training because they manage the work as well as personal life situation.

Table 49. Training needs of scientists at KAU on socio-psychological domain (n=70)

| Sl. no. | Components | Extent of training need | | | TNI | Garrett score | Rank |
|---------|-------------------------|-------------------------|--------|------------|-------|---------------|------|
| | | Urgently Needed | Needed | Not Needed | | | |
| 1. | Time management | 14 | 27 | 29 | 39.29 | 54.23 | III |
| 2. | Stress management | 17 | 31 | 22 | 46.43 | 56.11 | II |
| 3. | Work-life balance | 15 | 20 | 35 | 35.71 | 53.43 | IV |
| 4. | Personality development | 19 | 30 | 21 | 48.57 | 56.74 | I |

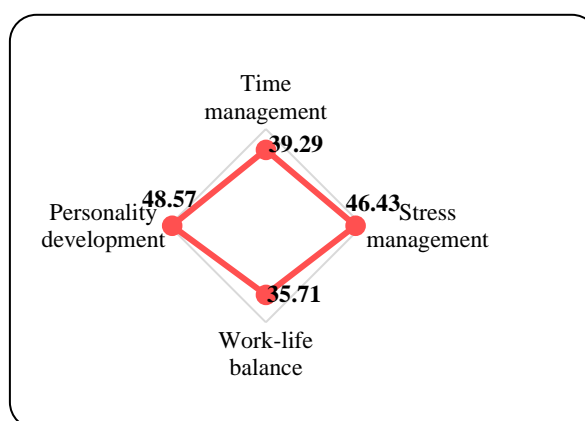


Fig 47. Training needs of scientists on socio-psychological domain

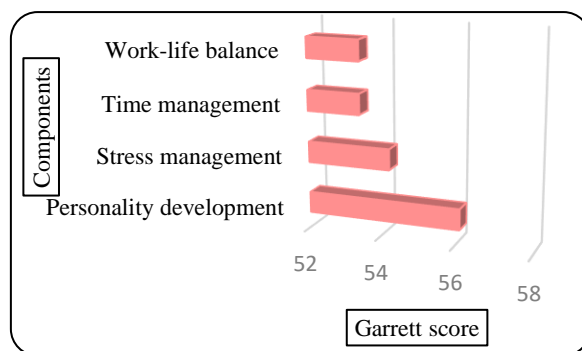


Fig 48. Ranking of training needs of scientists on socio-psychological domain

4.4.1.9. Overall training needs of scientists at KAU

The overall training need of the scientists category including technical, organizational and socio-psychological was shown in Table 50. Based on the data, it was clearly apparent that index for training need in technical domain was 50.16, socio-psychological domain was 42.50, and organizational domain was 39.70.

Table 50. Overall training needs of scientists at KAU (n=70)

| Sl. no. | Areas | Obtained score | Maximum score | TNI |
|--|--------------------------------------|----------------|---------------|--------------|
| I | Technical | 2177 | 4340 | 50.16 |
| 1 | Research aptitude | 561 | 980 | 57.24 |
| 2 | Extension activities | 628 | 1400 | 44.86 |
| 3 | Teaching aptitude | 283 | 560 | 50.54 |
| 4 | Subject matter expertise | 705 | 1400 | 50.36 |
| II | Organizational | 1334 | 3360 | 39.70 |
| 1 | Financial management | 175 | 420 | 41.67 |
| 2 | Office management and administration | 560 | 1400 | 40.00 |
| 3 | Project management | 599 | 1540 | 38.90 |
| III | Socio-psychological domain | 238 | 560 | 42.50 |
| Overall Training Need Index = 44.12 | | | | |

This suggested that the most pressing training needs of scientists were in technical domain, followed by socio-psychological domain, with the least emphasis on organizational training. Therefore, overall TNI of scientists at KAU was 44.12. This information was visually illustrated in Fig 49. Scientists prioritized the need for technical training because it directly enhanced their research and subject matter expertise. Socio-psychological training was valued next for improving resilience and mental well-being, which were crucial for handling research projects. Organizational training was the least prioritized as it was often viewed as less critical to their core scientific functions.

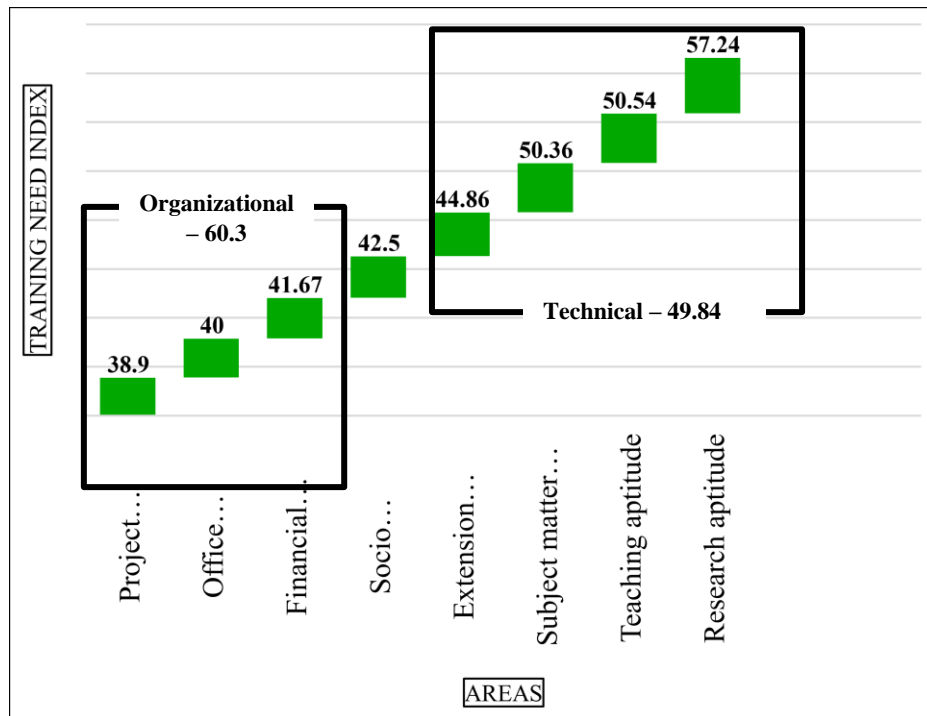


Fig 49. Overall training needs of scientists at KAU

4.4.2. Category 2 – Technical Officers

To analyse the training needs of technical officers systematically, three primary sections were considered: technical, organizational, and socio-psychological domain (Blanchard and Thacker, 2009). Within the technical training need category for technical officers, the skills were divided into input management, agronomic practices, soil and water management, plant protection, post-harvest technology, and field extension activities. Each of these subject areas are essential for enhancing the capabilities and effectiveness of technical officers.

4.4.2.1. Training needs of technical officers on input management

For handling the input management, six items were identified as training needs. Data collected on these items were used to calculate the obtained scores and the maximum scores. Consequently, the Training Need Index (TNI) was assessed for each item. To rank these items based on their training need index, a Garrett score was determined. Table 51, displayed the obtained scores, TNI, and rankings to assess the training need of technical officers at KAU on the input management.

The data clearly indicated that the highest Training Need Index (TNI) for handling inputs was for new fertilizer formulations, with a TNI of 41.25. This was followed by the selection of appropriate varieties for specific field scenario with the TNI of 40.00. technical

officers reported that both improved crop varieties and enhancing soil fertility using the right amount of manures and fertilizers were the TNI of 36.25 each. The next priority was, modern seed production methods with a TNI of 28.75, and preparing compost with TNI of 26.25. These indices were pictorially represented in Fig 50.

Table 51. Training needs of technical officers at KAU on input management (n=40)

| Sl. no. | Components | Extent of training need | | | TNI | Garrett score | Rank |
|---------|--|-------------------------|--------|------------|-------|---------------|------|
| | | Urgently Needed | Needed | Not Needed | | | |
| 1. | Selection of appropriate varieties for the particular field scenario | 8 | 16 | 16 | 40.00 | 62.20 | II |
| 2. | Improved crop varieties | 3 | 23 | 14 | 36.25 | 60.90 | IV |
| 3. | New seed production methods | 8 | 7 | 25 | 28.75 | 60.18 | V |
| 4. | Preparing compost | 3 | 15 | 22 | 26.25 | 59.10 | VI |
| 5. | Enhancing soil fertility using the right amount of manures and fertilisers | 8 | 13 | 19 | 36.25 | 61.53 | III |
| 6. | New fertilizer formulations | 13 | 7 | 20 | 41.25 | 63.05 | I |

Fig 51 showed the ranking of training needs of technical officers on input management. The ranking was new fertilizer formulations (1st), selection of appropriate varieties for the particular field scenario (2nd), enhancing soil fertility using the right amount of manures and fertilisers (3rd), improved crop varieties (4th), modern seed production methods (5th) and preparing compost (6th).

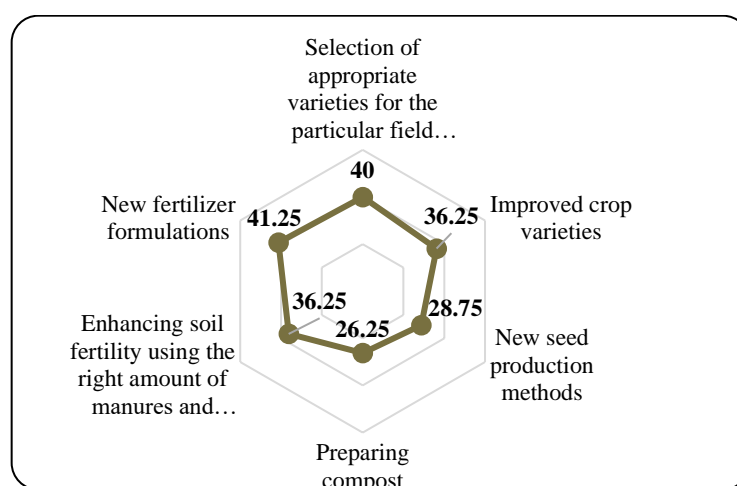


Fig 50. Training needs of technical officers on input management

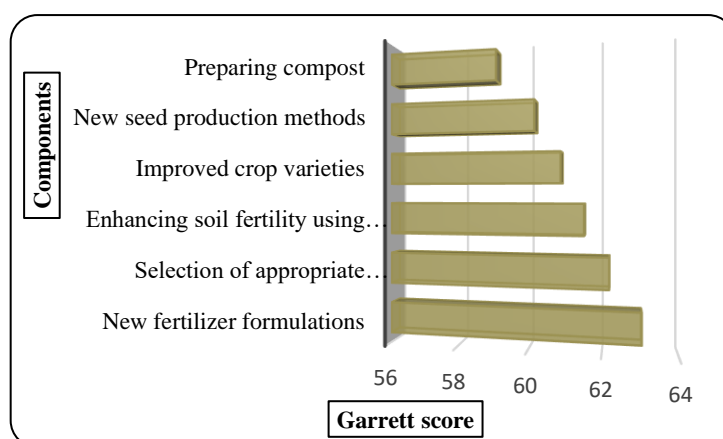


Fig 51. Ranking of training needs of technical officers on input management

Technical officers prioritized high training need on recently released fertilizers to ensure that they adopted the most up-to-date and effective agricultural inputs, enhance crop yields, and address emerging soil health and pest resistance issues. They showed low priority to training on compost preparation due to a perceived adequacy of current knowledge on compost.

4.4.2.2. Training need of technical officers on agronomic practices

Eight items were identified for assessing training need under agronomic practices. Table 52 below showed the obtained scores, Training Need Index (TNI), and ranking of items to assess training need of technical officers at KAU on agronomic practices.

Table 52. Training needs of technical officers at KAU on agronomic practices (n=40)

| Sl. no. | Components | Extent of training need | | | TNI | Garrett score | Rank |
|---------|---|-------------------------|--------|------------|-------|---------------|------|
| | | Urgently Needed | Needed | Not Needed | | | |
| 1. | Tillage preparation for crucial crops | 3 | 14 | 23 | 25.00 | 63.95 | V |
| 2. | Management of nurseries for required crops | 3 | 15 | 22 | 26.25 | 64.125 | IV |
| 3. | Transplanting methods | 3 | 10 | 27 | 20.00 | 63.25 | VIII |
| 4. | Weed-control procedure | 3 | 17 | 20 | 28.75 | 64.475 | III |
| 5. | Intercultural operations | 4 | 11 | 25 | 23.75 | 63.925 | VI |
| 6. | Determining crop maturity indices and the appropriate harvest stage | 4 | 9 | 27 | 21.25 | 63.575 | VII |

| | | | | | | | |
|----|---|----|----|----|-------|--------|----|
| 7. | Different methods of farm waste recycling/utilisation | 14 | 12 | 14 | 50.00 | 69.1 | I |
| 8. | Integrated farming methods | 4 | 17 | 19 | 31.25 | 64.975 | II |

The data clearly indicated that the highest training need index for agronomic practices was 50.00 for different methods of farm waste recycling/utilisation. This was followed by 31.25 (TNI) for integrated farming methods, and 28.75 (TNI) for weed-control procedure, management of nurseries for required crops with TNI of 26.25, and tillage preparation for crucial crops with 25.00 (TNI). Intercultural operations with TNI of 23.75, determining crop maturity indices were 21.25 (TNI), and transplanting methods with TNI of 20.00. These priorities were visually illustrated in Fig 52, highlighting that the lowest priority for training needs was transplanting methods, and with the highest priority was given to different methods of farm waste recycling/utilization. The ranking for training need on agronomic practices was further detailed in Fig 53.

Technical officers prioritized training need on farm waste recycling because it promotes sustainable agriculture, reduces environmental pollution, and enhances soil fertility, leading to more productive and eco-friendly farming practices. Technical officers gave the least priority to training need on transplanting methods because these techniques were seen as basic and well-understood, and they already had sufficient practical experience.

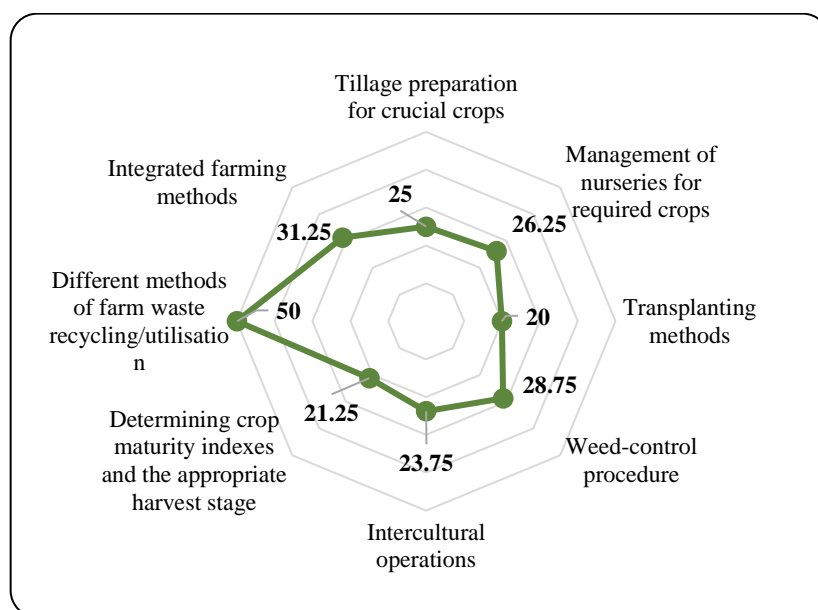


Fig 52. Training needs of technical officers on agronomic practices

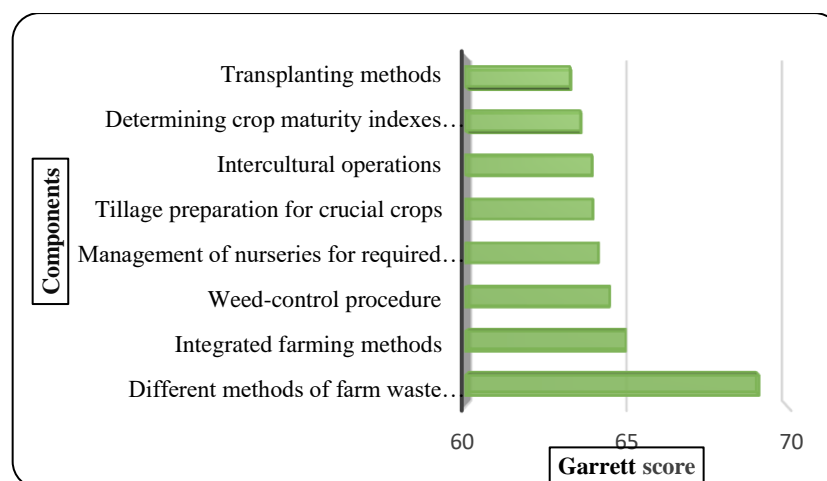


Fig 53. Ranking of training needs of technical officers on agronomic practices

4.4.2.3. Training needs of technical officers on soil and water management

Under soil and water management, three items were identified for assessing training need. Table 53 below showed the obtained scores, Training Need Index (TNI), and ranking of items to assess training need of technical officers at KAU on soil and water management.

The data revealed that the highest training need index of technical officers under soil and water management was 37.50 for irrigation management. This was followed by a TNI of 27.50 for understanding various soil types, their nutritional condition, and management techniques, and 21.25 (TNI) for procedures for collecting soil samples. These indices and rankings are illustrated in Fig 54 and Fig 55, respectively.

Table 53. Training needs of technical officers at KAU on soil and water management (n=40)

| Sl. no. | Components | Extent of training need | | | TNI | Garrett score | Rank |
|---------|--|-------------------------|--------|------------|-------|---------------|------|
| | | Urgently Needed | Needed | Not Needed | | | |
| 1. | Procedures for collecting soil samples | 4 | 9 | 27 | 21.25 | 39.08 | III |
| 2. | Various soil types, their nutritional condition, and management techniques | 3 | 16 | 21 | 27.5 | 41.45 | II |
| 3. | Irrigation management | 8 | 14 | 18 | 37.5 | 45.25 | I |

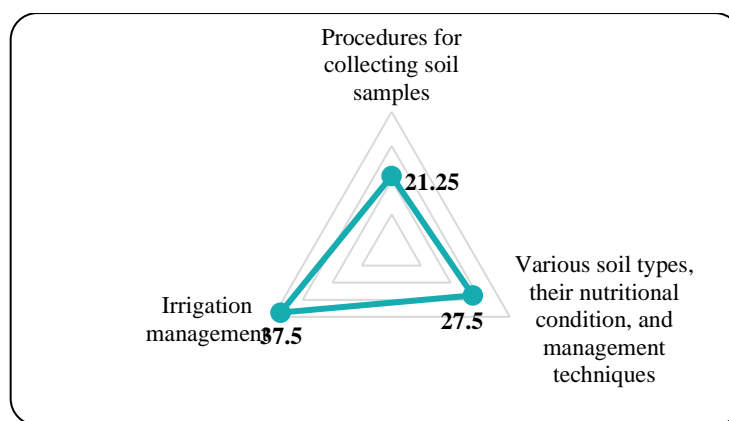


Fig 54. Training needs of technical officers on soil and water management

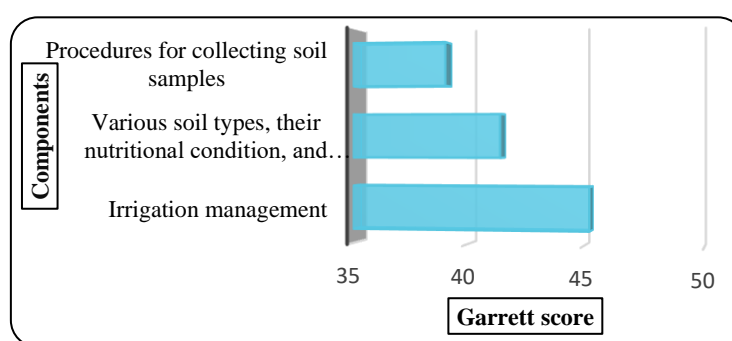


Fig 55. Ranking of training needs of technical officers on soil and water management

Technical officers prioritized training need in irrigation management because efficient water use was critical for maximizing crop yields, ensuring sustainable agriculture, and addressing water scarcity challenges. They gave least priority to training need on soil sample collection procedures because they might consider it a basic skill already known to them.

4.4.2.4. Training needs of technical officers on plant protection

Six items were identified for assessing training need under plant protection. Table 54 below showed the obtained scores, Training Need Index (TNI), and ranking of items to assess training need of technical officers at KAU on plant protection.

The data in the Table 54 showed that the highest training need index of technical officers under plant protection was 48.75 for pest detection and management techniques. This was followed by a TNI of 41.25 for plant protection equipment and maintenance, and 40.00 for application method of pesticides and fungicides in crops. Next, the training need index was 37.50 (TNI) for disease diagnosis and treatment methods, 31.25 (TNI) for integrated pest and disease management, and 30.00 (TNI) for preparation of various concentrations of pesticides and fungicides.

Table 54. Training needs of technical officers at KAU on plant protection (n=40)

| Sl. no. | Components | Extent of training need | | | TNI | Garrett score | Rank |
|---------|--|-------------------------|--------|------------|-------|---------------|------|
| | | Urgently Needed | Needed | Not Needed | | | |
| 1. | Pest detection and management techniques | 14 | 11 | 15 | 48.75 | 64.53 | I |
| 2. | Disease diagnosis and treatment methods | 8 | 14 | 18 | 37.5 | 61.75 | IV |
| 3. | Application method of pesticides and fungicides in crops | 9 | 14 | 17 | 40.00 | 62.33 | III |
| 4. | Preparation of various concentrations of pesticides and fungicides | 4 | 16 | 20 | 30.00 | 59.90 | VI |
| 5. | Plant protection equipment and maintenance | 9 | 15 | 16 | 41.25 | 62.55 | II |
| 6. | Integrated pest and disease management | 5 | 15 | 20 | 31.25 | 60.25 | V |

This indicated that the least priority for training need of technical officers under plant protection was the preparation of pesticide and fungicide concentrations, while the highest priority for training need was given to pest detection and management techniques. These indices are visually shown in Fig 56 with the prioritization graphically represented in Fig 57.

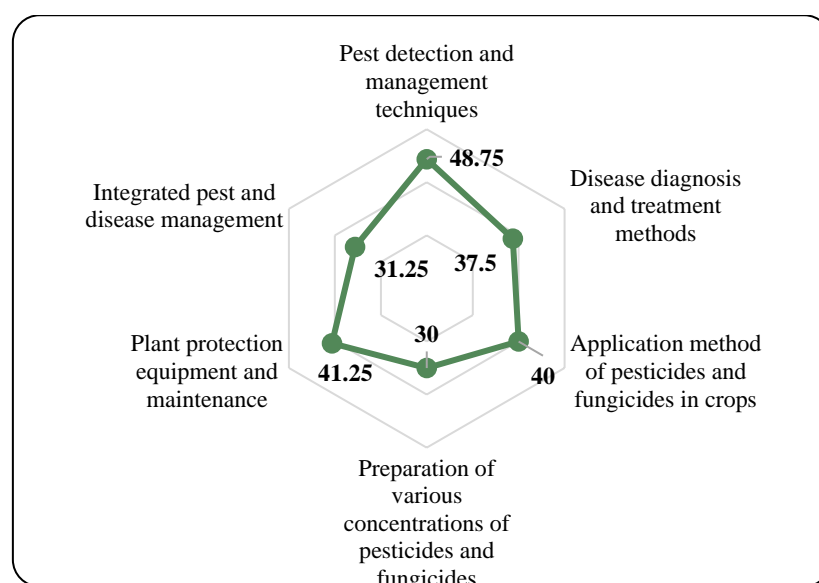


Fig 56. Training needs of technical officers on plant protection

Technical officers prioritized training need in pest detection and management techniques because these skills were crucial for timely detection and control of pests prevented outbreaks and reduced the reliance on chemical pesticides, promoting eco-friendly practices. They gave less importance for training need in preparation of pesticide and fungicide concentrations, because these were seen as routine tasks with established guidelines, whereas other areas like integrated pest management, sustainable practices, and advanced crop management required more specialized and updated knowledge.

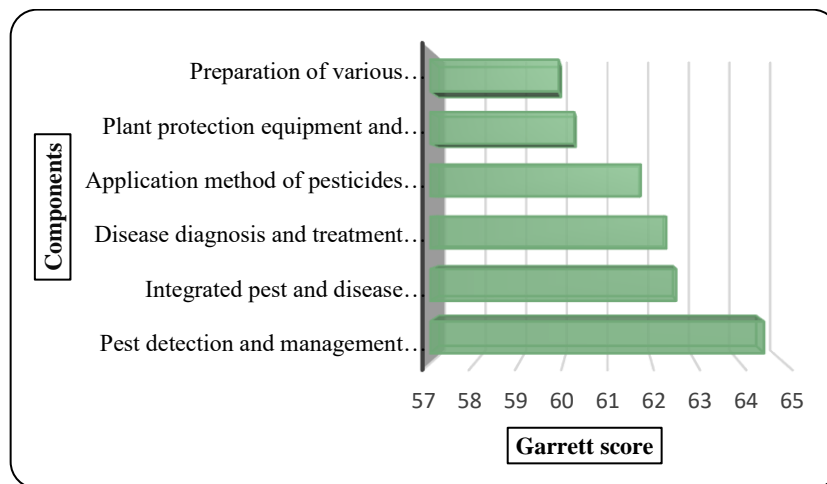


Fig 57. Ranking of training needs of technical officers on plant protection

4.4.2.5. Training need of technical officers on post-harvest technology

Five items were identified for training need assessment under post-harvest technology. Table 55 below showed the obtained scores, Training Need Index (TNI), and ranking of items to assess training need of technical officers at KAU on post-harvest technology.

The data highlighted that the highest training need index for post-harvest technology was 35.00 for various post-harvest technologies, which was ranked first. This was followed by 28.75 (TNI) for packaging of produce, ranked second, and 23.75 (TNI) for agricultural product harvesting techniques, ranked third. The next priority on training need was post-harvest processing of by-products with a TNI of 18.75, ranked fourth, technologies for grading and sorting of the produce with a TNI of 15.00, ranked fifth. The training need index was illustrated in Fig 58, and the ranking was shown in Fig 59.

Technical officers prioritize training need on post-harvest technologies to enhance food preservation, reduce losses, and improve marketability of agricultural produce, ensuring better economic returns for the university.

Table 55. Training needs of technical officers at KAU on post-harvest technology
(n=40)

| Sl. no. | Components | Extent of training need | | | TNI | Garrett score | Rank |
|---------|---|-------------------------|--------|------------|-------|---------------|------|
| | | Urgently Needed | Needed | Not Needed | | | |
| 1. | Agricultural product harvesting technique | 5 | 9 | 26 | 23.75 | 55.375 | III |
| 2. | Post-harvest processing of by-product | 3 | 9 | 28 | 18.75 | 54.125 | IV |
| 3. | Grading and sorting of the produce | 4 | 4 | 32 | 15.00 | 53.5 | V |
| 4. | Various post-harvest technologies | 9 | 10 | 21 | 35.00 | 58.125 | I |
| 5. | Packaging of produce | 4 | 15 | 21 | 28.75 | 56.25 | II |

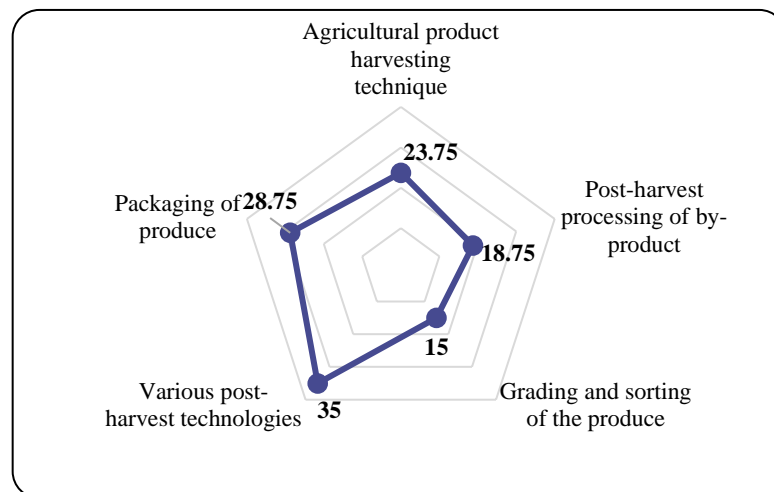


Fig 58. Training needs of technical officers on post-harvest technology

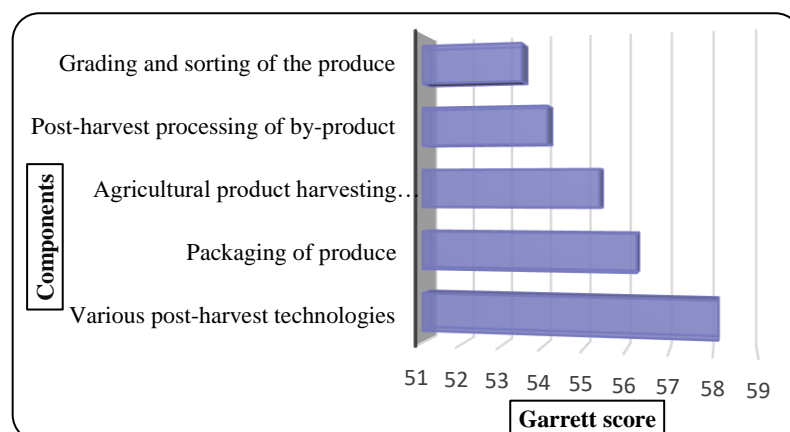


Fig 59. Ranking of training needs of technical officers on post-harvest technology

4.4.2.6. Training need of technical officers on field problems

Under field problems, two items were identified for training need assessment. Table 56 below showed the obtained scores, Training Need Index (TNI), and ranking of items to assess training need of technical officers at KAU on field problems.

The data below depicted that the highest training need index for field problems was 21.25 for analysing field problems, while the least priority was 15.00 for giving solutions to field problems on time. These training needs are graphically represented in Fig 60, with the ranking shown in Fig 61.

Table 56. Training needs of technical officers at KAU on field problems (n=40)

| Sl. no. | Components | Extent of training need | | | TNI | Garrett score | Rank |
|---------|---|-------------------------|--------|------------|-------|---------------|------|
| | | Urgently Needed | Needed | Not Needed | | | |
| 1. | Analysing field problems | 3 | 6 | 31 | 21.25 | 14.90 | I |
| 2. | Giving solution to field problems on-time | 3 | 11 | 26 | 15.00 | 10.28 | II |

Technical officers prioritized training need in analysing field problems because it equipped them to identify and address real-time agricultural challenges, enhanced decision-making for better crop management, and improved field productivity and sustainability. Technical officers provided second priority to training need for giving solutions to field problems on-time because addressing immediate field issues was crucial for maintaining crop health and productivity.

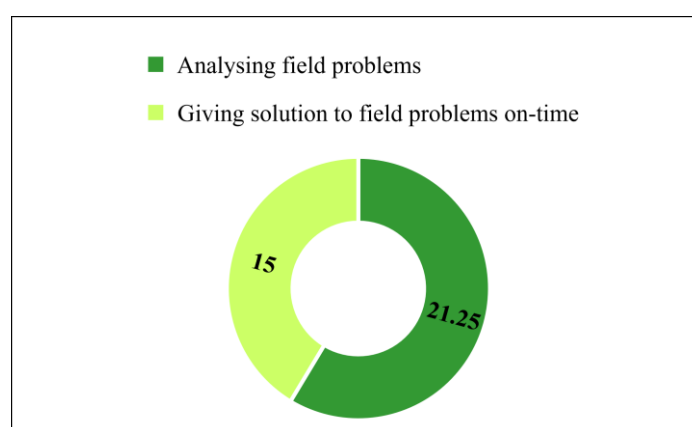


Fig 60. Training needs of technical officers on field problems

However, they prioritized training for analysing field issues first, ensuring that they had the essential knowledge and skills needed to diagnose and solve these problems

effectively. This approach ensured long-term sustainability and competency in handling diverse agricultural challenges.

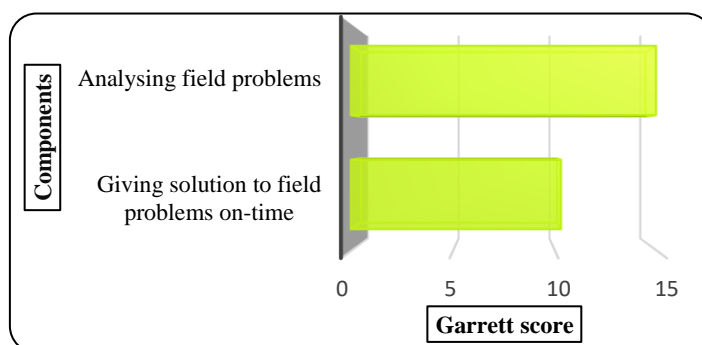


Fig 61. Ranking of training needs of technical officers on field problems

4.4.2.7. Training need of technical officers on office management and administration

Under organizational training need for technical officers that is, office management and administration, four items were identified for assessing training need of technical officers. Table 57 below showed the obtained scores, Training Need Index (TNI), and ranking of items to assess training need of technical officers at KAU on office management and administration.

Table 57. Training needs of technical officers at KAU on office management and administration (n=40)

| Sl. no. | Components | Extent of training need | | | TNI | Garrett score | Rank |
|---------|---|-------------------------|--------|------------|-------|---------------|------|
| | | Urgently Needed | Needed | Not Needed | | | |
| 1. | Digital data recording / e-filing | 4 | 6 | 30 | 17.50 | 48.6 | II |
| 2. | RTI management | 0 | 6 | 34 | 7.50 | 45.8 | IV |
| 3. | Proficient in using farm management software | 12 | 9 | 19 | 41.25 | 55.1 | I |
| 4. | Handling various mandatory registers kept in office | 0 | 9 | 31 | 11.25 | 46.7 | III |

Technical officers gave highest priority for training need on the proficiency in farm management software facilitates better communication and coordination among team members, stakeholders, and external agencies. This ensured that everyone had access to accurate, real-time information, leading to more informed and timely decisions. They gave least priority to training needs in RTI (Right to Information) management because they

focus more on immediate, practical farm operations and productivity issues. RTI management was seen as less directly impactful on daily farming activities.

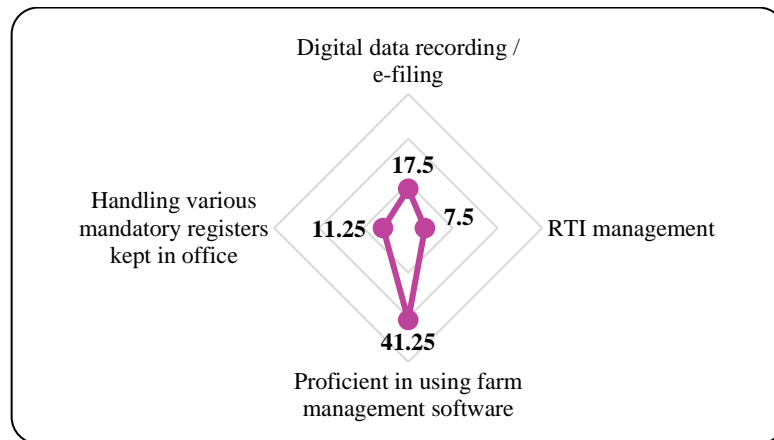


Fig 62. Training needs of technical officers on office management and administration

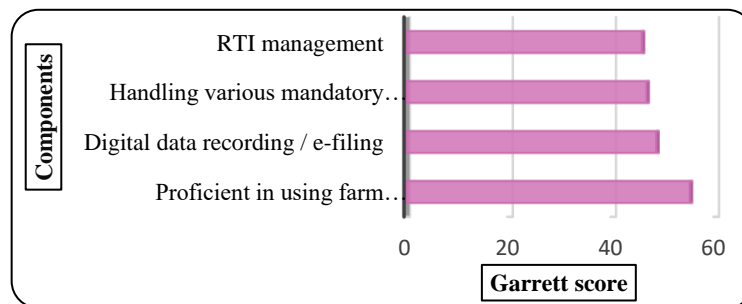


Fig 63. Ranking of training needs of technical officers on office management and administration

4.4.2.8. Training need of technical officers on selected socio-psychological domain

Five items were identified for training need assessment under socio-psychological domain of training need for technical officers. Table 58 below showed the obtained scores, Training Need Index (TNI), and ranking of items to assess training need of technical officers at KAU on socio-psychological domain.

The data from the table shows that the highest Training Need Index (TNI) of technical officers under socio-psychological domain was for a time management at 31.25. This was followed by stress management with a TNI of 28.75, work-life balance at 22.50 (TNI), and customer-friendly approach at 18.75 (TNI). The least priority was given to personality development, with a TNI of 17.50. The ranking was shown in Fig 64 and training need index was displayed in Fig 65.

Table 58. Training needs of technical officers at KAU on socio-psychological domain

(n=40)

| Sl. no. | Components | Extent of training need | | | TNI | Garrett score | Rank |
|---------|----------------------------|-------------------------|--------|------------|-------|---------------|------|
| | | Urgently Needed | Needed | Not Needed | | | |
| 1. | Time management | 11 | 3 | 26 | 31.25 | 57.63 | I |
| 2. | Stress management | 10 | 3 | 27 | 28.75 | 57.00 | II |
| 3. | Work-life balance | 4 | 10 | 26 | 22.50 | 55.00 | III |
| 4. | Customer-friendly approach | 4 | 7 | 29 | 18.75 | 54.25 | IV |
| 5. | Personality development | 4 | 6 | 30 | 17.50 | 54.00 | V |

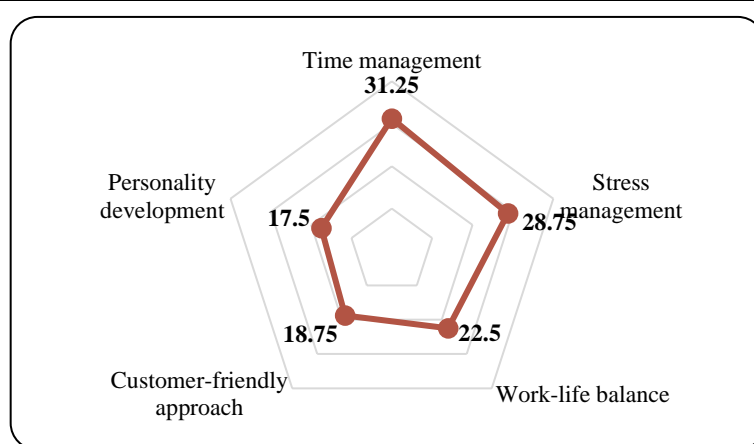


Fig 64. Training needs of technical officers on socio-psychological domain

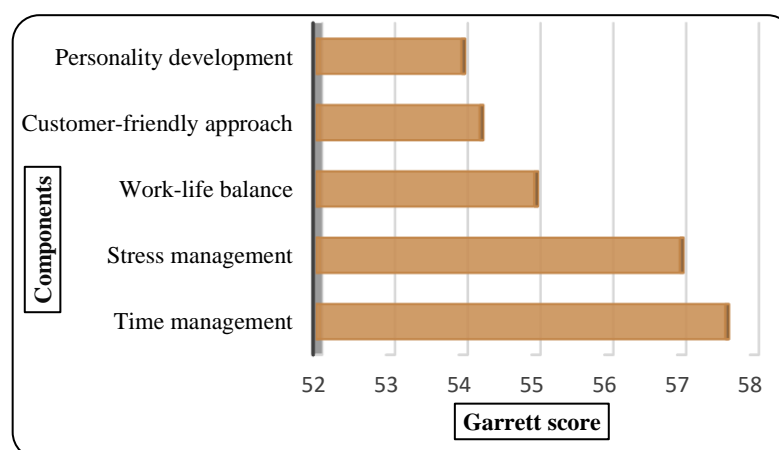


Fig 65. Ranking of training needs of technical officers on socio-psychological domain

Technical officers prioritized the training need on time management because it enhanced productivity, ensured timely completion of agricultural tasks, which was crucial for successful farm operations. They prioritized the need for training on technical skills, directly related to agricultural productivity. Personality development might be seen as less

immediately impactful on farming outcomes. Hence, they stated least priority for training needs on personality development.

4.4.2.1. Overall training need of technical officers at KAU

The overall training need index for the technical officers category including technical, organizational and socio-psychological domain was shown in Table 59. Based on the data, it was clearly apparent that index for training need in technical domain was 30.25, socio-psychological domain was 23.75 and organizational domain was 19.38. This suggested that the most pressing training needs for technical officers were in technical domain, followed by socio-psychological domain, with the least emphasis on organizational training. Therefore, overall TNI for technical officers at KAU was 24.46. This information is visually illustrated in Fig 66.

Table 59. Overall training needs of technical officers at KAU (n=40)

| Sl. no. | Areas | Obtained score | Maximum score | TNI |
|--|-----------------------------------|----------------|---------------|--------------|
| I | Technical domain | 726 | 2400 | 30.25 |
| 1 | Input management | 164 | 480 | 34.79 |
| 2 | Agronomic practises | 181 | 640 | 28.28 |
| 3 | Soil and water management | 69 | 240 | 28.75 |
| 4 | Plant protection | 183 | 480 | 38.13 |
| 5 | Post-harvest technology | 97 | 400 | 24.25 |
| 6 | Field problems | 29 | 160 | 18.13 |
| II | Socio-psychological domain | 95 | 400 | 23.75 |
| III | Organizational domain | 62 | 320 | 19.38 |
| Overall Training Need Index = 24.46 | | | | |

Technical officers prioritized technical training because these skills would directly impact the agricultural productivity of KAU. Socio-psychological training was valued next, as it enhanced resilience and decision-making under stress, improved communication and teamwork, and fostered better adaptability to changes and challenges in agriculture. Organizational training was the least prioritized as it was viewed as less critical to their core technical functions.

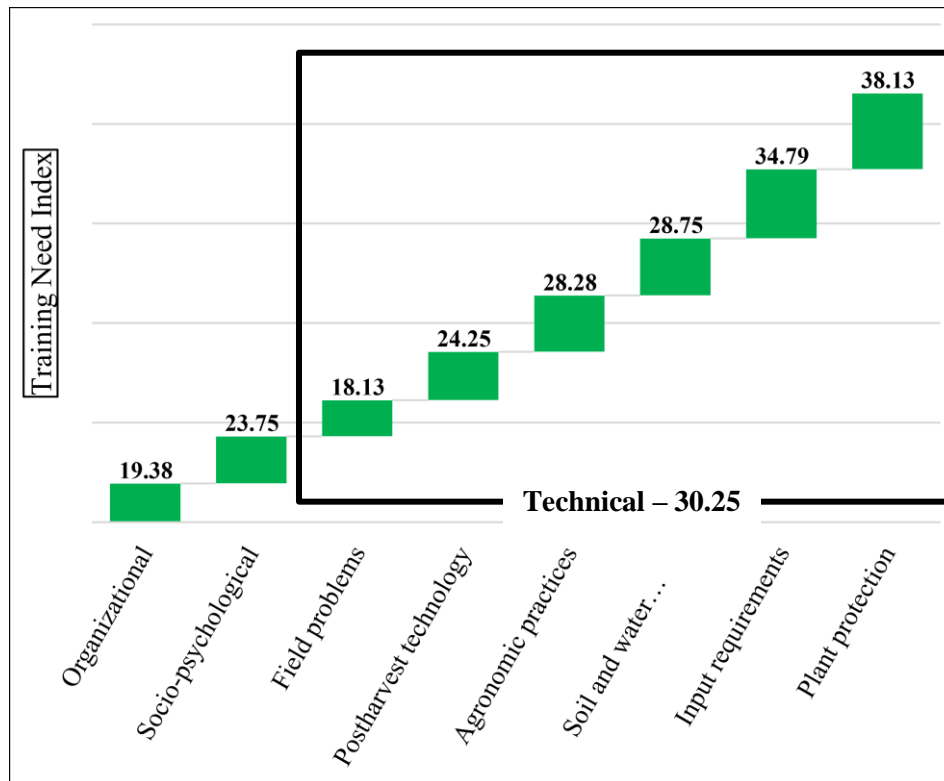


Fig 66. Overall training needs of technical officers at KAU

4.4.3. Category 3 – Administrative Staff

Three main domains were taken into consideration in order to systematically analyse the training needs of administrative staff: technical, organisational, and socio-psychological domains (Blanchard and Thacker, 2009). Office administration, office management, and finance management were the skill sets categorised within the technical training needs of administrative staff members. To improve the capacities and efficacy of administrative staff, each of these skill sets are necessary.

4.4.3.1. Training needs of administrative staff on office management and administration

Eight items were determined to be the training needs for the office administration and management. As a result, Training Need Index (TNI) of each item was evaluated. A Garrett score was calculated to order these items according to their training need index. The acquired scores, TNI, and rankings the items to assess training need of administrative staff at KAU on office management are shown in Table 60.

According to the data, University Service and Payroll Administrative Repository for Kerala (UniSPARK) was the highest training need index for office management and administration with 67.14. This was followed by legal knowledge (42.14), University

Pension Administration SysTem - UPAST (40.71), University Functional Accountability System - UFAST (38.57), KAU Act and statute (37.86), drafting, reviewing, and editing legal documents, including agreements, contracts, and policies (34.29), protocols for handling sensitive or confidential information (33.57), and the least index for maintaining audit documents in an office (31.43). The same data is visually displayed in Fig 67.

Table 60. Training needs of administrative staff at KAU on office management and administration (n=70)

| Sl. no. | Components | Extent of training need | | | TNI | Garrett score | Rank |
|---------|---|-------------------------|--------|------------|-------|---------------|------|
| | | Urgently Needed | Needed | Not Needed | | | |
| 1. | Protocol for handling confidential or sensitive information | 3 | 41 | 26 | 33.57 | 64.96 | VII |
| 2. | Drafting, reviewing, and editing legal documents, such as contracts, agreements, and policies | 7 | 34 | 29 | 34.29 | 65.40 | VI |
| 3. | KAU Act and statute | 7 | 39 | 24 | 37.86 | 65.90 | V |
| 4. | Upkeeping of audit documents in an office | 7 | 30 | 33 | 31.43 | 65.00 | VIII |
| 5. | UFAST | 14 | 26 | 30 | 38.57 | 66.56 | IV |
| 6. | UPAST | 10 | 37 | 23 | 40.71 | 66.59 | III |
| 7. | UniSPARK | 34 | 26 | 10 | 67.14 | 72.31 | I |
| 8. | Legal knowledge | 8 | 43 | 19 | 42.14 | 66.60 | II |

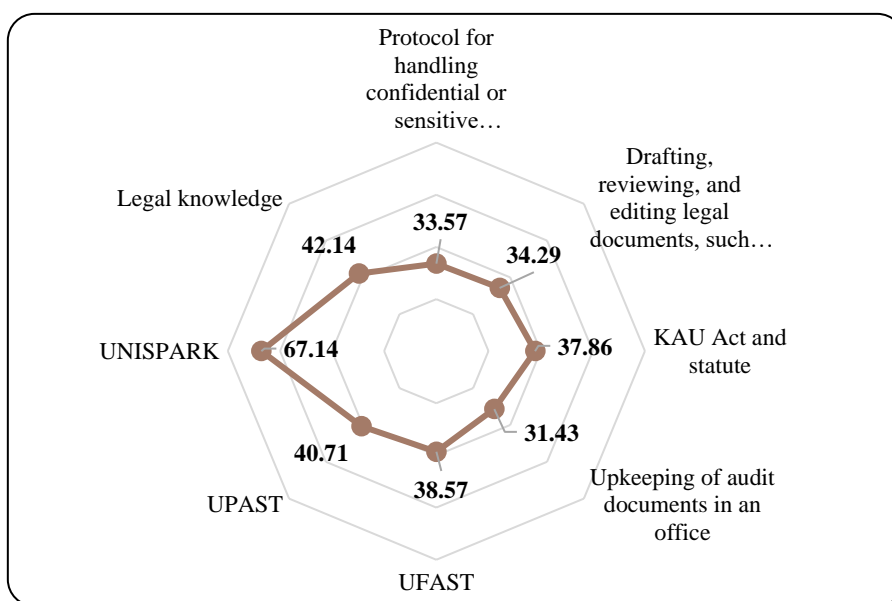


Fig 67. Training needs of administrative staff on office management and administration

Among the components identified under office management and administration, UniSPARK was the highest ranked whereas maintaining audit papers at an office was the lowest rank on training need. Fig 68 displayed the graphical depiction for ranking.

Administrative staff at KAU prioritized training need in UniSPARK software to streamline administrative processes and improve data management efficiency. Proficiency in this software enhanced their ability to support research and educational initiatives by providing timely access to information. Additionally, effective use of UniSPARK promoted better collaboration among departments, ultimately contributing to the university's overall operational success.

They gave less priority to training on maintaining audit papers since existing staff were already familiar with basic auditing processes, leading to a lower perceived necessity for additional training.

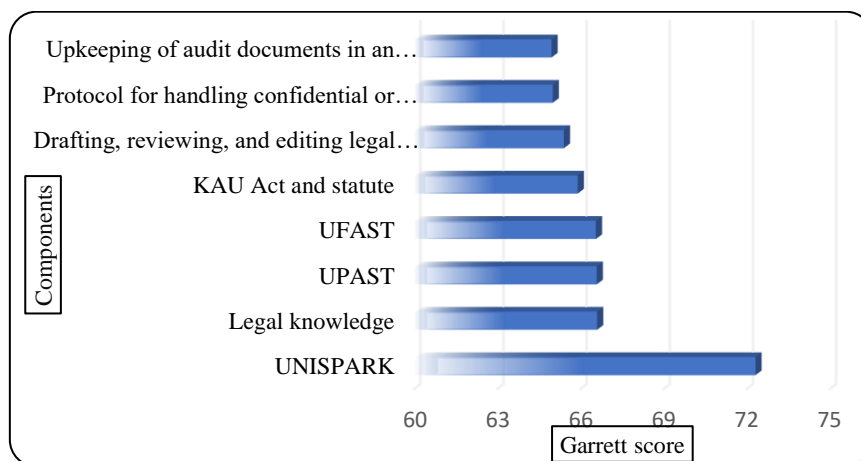


Fig 68. Ranking of training needs of administrative staff on office management and administration

4.4.3.2. Training need of administrative staff on financial management

Table 61 below showed the obtained scores, Training Need Index (TNI), and ranking of items to assess training need of administrative staff at KAU on financial management among administrative staff at KAU. Nine items were identified for training need under financial management.

The data from the Table 61 clearly showed that the highest Training Need Index (TNI) was 47.14 for GST filing, followed by 44.29 (TNI) for income tax return filing, 41.43 (TNI) for knowledge of financial regulations and tax laws, 40.71 (TNI) for income tax filing, 35.71 (TNI) for TA rules – KSSR, 32.86 (TNI) for financial procedures, 31.43 (TNI) for budget management, 30.00 (TNI) for reviewing and analysing financial reports, and

26.43 (TNI) for managing financial transactions, which includes accounts payable and receivable to ensure accuracy and timely processing. Fig 69.

Table 61. Training needs of administrative staff at KAU on financial management
(n=70)

| Sl. no. | Components | Extent of training need | | | TNI | Garrett score | Rank |
|---------|--|-------------------------|--------|------------|-------|---------------|------|
| | | Urgently Needed | Needed | Not Needed | | | |
| 1. | Financial regulations and tax laws | 6 | 46 | 18 | 41.43 | 68.23 | III |
| 2. | Income tax filing | 8 | 41 | 21 | 40.71 | 67.50 | IV |
| 3. | Income tax return filing | 12 | 38 | 20 | 44.29 | 68.27 | II |
| 4. | GST filing | 11 | 44 | 15 | 47.14 | 69.39 | I |
| 5. | Review and analyse financial reports | 4 | 34 | 32 | 30.00 | 66.49 | VIII |
| 6. | Manage financial transactions, including accounts, funds payable and receivable, ensuring accuracy and timely processing | 2 | 33 | 35 | 26.43 | 65.84 | IX |
| 7. | Financial procedures | 5 | 36 | 29 | 32.86 | 66.96 | VI |
| 8. | Budget management | 6 | 32 | 32 | 31.43 | 66.83 | VII |
| 9. | TA rules -KSSR | 7 | 36 | 27 | 35.71 | 67.06 | V |

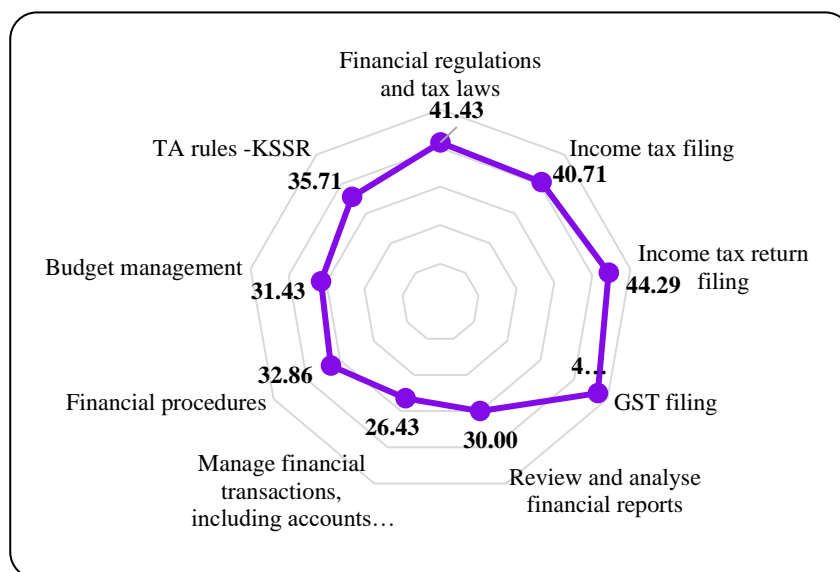


Fig 69. Training needs of administrative staff on financial management

In terms of ranking, the highest-ranked training need was for GST filing, while the least-ranked training need was for managing financial transactions. Fig 70 illustrated the graphical representation of the rankings based on training need. The administrative staff of Kerala Agricultural University prioritized training need in GST filing to ensure compliance with tax regulations, minimizing the risk of penalties and legal issues. Proficient GST filing streamlines financial processes, enhances transparency, and improves overall efficiency in managing university finances. They gave less priority to training on managing financial transactions due to their familiarity with financial transactions, leading to a lower perceived necessity for additional training.

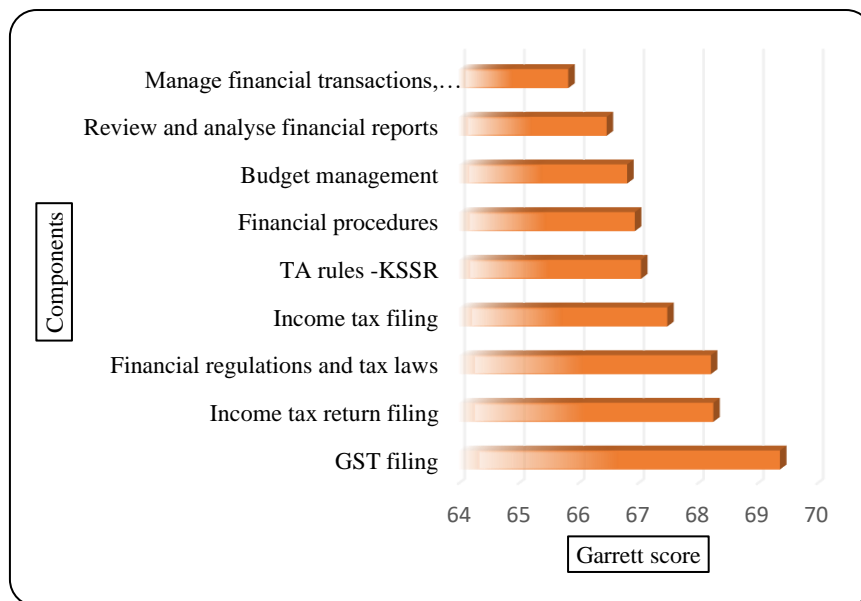


Fig 70. Ranking of training needs of administrative staff on financial management

4.4.3.3. Training need of administrative staff on organizational domain

Six items were identified as training needs under organizational domain. Table 62, below presented the obtained scores, Training Need Index (TNI), and ranking of these items to assess training need of administrative staff at KAU on organizational domain.

The data in the Table 62 clearly indicates that the highest Training Need Index (TNI) on financial management was for digital data recording/e-filing, with an index of 54.29. This was followed by RTI management (49.29), handling various mandatory registers to be maintained in the office (24.29), office procedures (23.57), handling funds allotted for various purposes (18.57), and the lowest index of 15.00 for university rules. Fig 71 and Fig 72.

Table 62. Training needs of administrative staff at KAU on organizational domain

(n=70)

| Sl. no. | Components | Extent of training need | | | TNI | Garrett score | Rank |
|---------|---|-------------------------|--------|------------|-------|---------------|------|
| | | Urgently Needed | Needed | Not Needed | | | |
| 1. | Digital data recording / e-filing | 22 | 32 | 16 | 54.29 | 65.34 | I |
| 2. | RTI management | 15 | 39 | 16 | 49.29 | 63.94 | II |
| 3. | Handling various mandatory registers to be maintained in office | 4 | 26 | 40 | 24.29 | 58.66 | III |
| 4. | Handling funds allotted for various purposes | 3 | 20 | 47 | 18.57 | 57.56 | V |
| 5. | University rules | 2 | 17 | 51 | 15.00 | 56.84 | VI |
| 6. | Office procedures | 1 | 31 | 38 | 23.57 | 58.31 | IV |

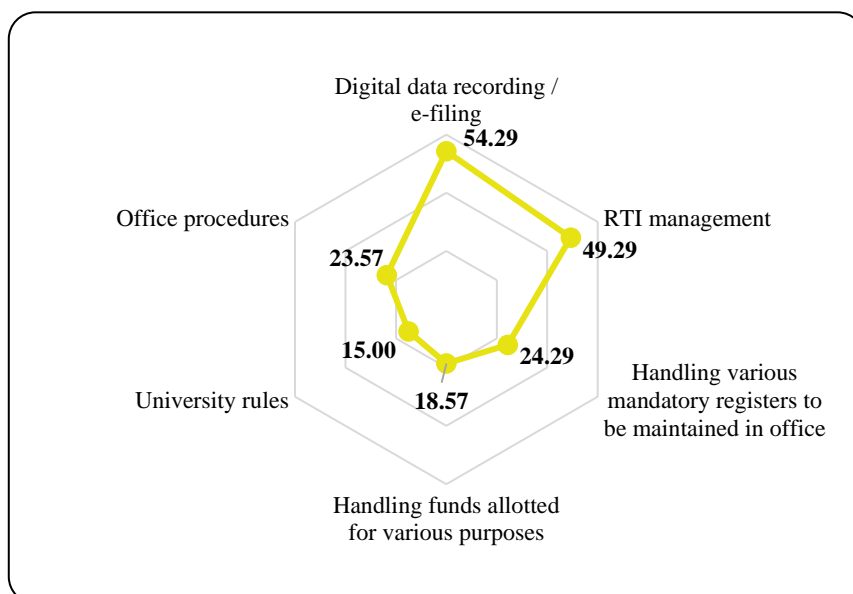


Fig 71. Training needs of administrative staff on organizational domain

The administrative staff of KAU prioritized training need in e-filing to streamline documentation processes, and reduce paperwork-related errors. Implementing e-filing improved data management and accessibility, allowing for quicker retrieval of information. It ensures that the university remains competitive and up-to-date with best practices in administrative operations.

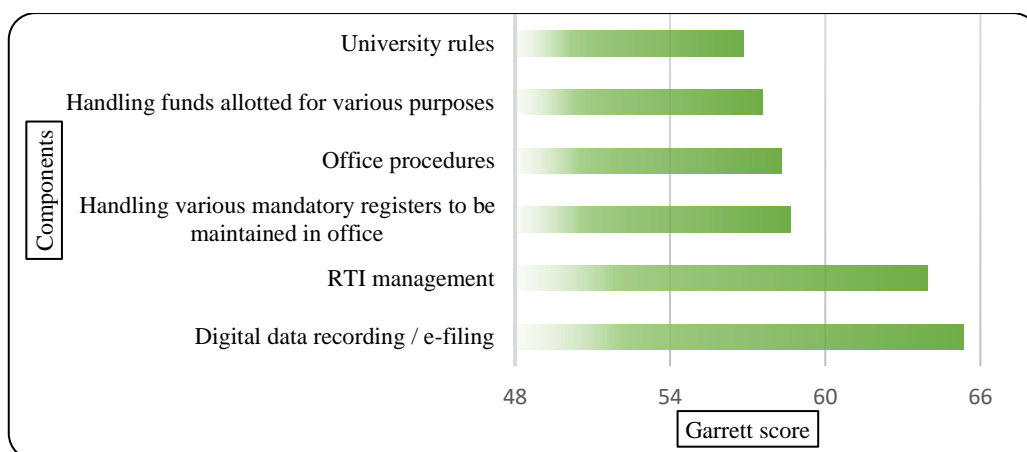


Fig 72. Ranking of training needs of administrative staff on organizational domain

4.4.3.4. Training need of administrative staff on selected socio-psychological attributes

Five items were identified as training needs in the socio-psychological domain. The resulting scores, Training Need Index (TNI), and item ranking were displayed in Table 63 among administrative staff at KAU.

The data unambiguously showed that the personality development and time management had the highest training need index for the socio-psychological domain, with an index of 25.71, followed by stress management and work-life balance, with an index of 16.43 each. Customer-friendly approach was the least training need of administrative staff with an index of 13.57. Fig 73 provided an illustration of training need among administrative staff.

Table 63. Training needs of administrative staff at KAU on socio-psychological domain (n=70)

| Sl. no. | Components | Extent of training need | | | TNI | Garrett score | Rank |
|---------|----------------------------|-------------------------|--------|------------|-------|---------------|------|
| | | Urgently Needed | Needed | Not Needed | | | |
| 1. | Time management | 8 | 20 | 42 | 25.71 | 55.71 | I |
| 2. | Stress management | 3 | 17 | 50 | 16.43 | 53.50 | II |
| 3. | Work-life balance | 2 | 19 | 49 | 16.43 | 53.50 | II |
| 4. | Customer-friendly approach | 0 | 19 | 51 | 13.57 | 52.71 | III |
| 5. | Personality development | 6 | 24 | 40 | 25.71 | 55.71 | I |

The ranking of training needs of administrative staff under socio-psychological domain is displayed in Fig 74, based on TNI. Time management and personality development were ranked the highest as urgently needed training need. The customer-

friendly approach was the lowest ranked on training need, preceded by work-life balance and stress management, ranked equally.

The administrative staff of KAU prioritized training need in personality development and time management to enhance interpersonal skills, enabling more effective communication and collaboration within teams. Improved time management skills helped staff to increase productivity, meet deadlines efficiently, and balance multiple responsibilities. The training on personality development and time management fosters more positive work environment and promote professional growth, benefiting both the staff and the university as a whole. On the other-hand, they prioritized least training needs for customer-friendly approach as they focus more on the training needs under technical domain.

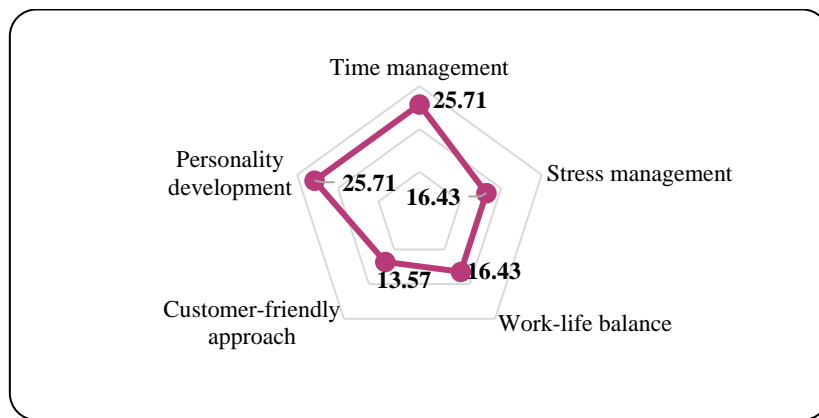


Fig 73. Training needs of administrative staff on socio-psychological domain

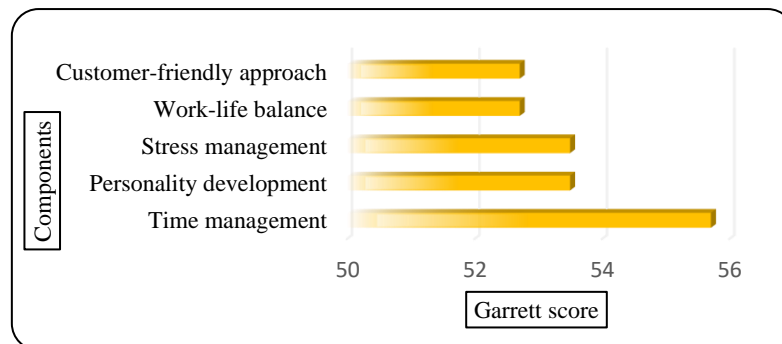


Fig 74. Ranking of training needs of administrative staff on socio-psychological domain

4.4.3.1. Overall training need of administrative staff at KAU

Table 64 showed the overall training needs of the administrative staff, which includes the organisational, socio-psychological, and technical domains. The training need index in organisational domain, socio-psychological domain, and technical domain were 30.83, 19.57, and 38.57, respectively. This indicated that technical and organisational training

were the most urgent training needs of administrative staff, whereas socio-psychological training was the least important. The overall training need index of administrative staff at KAU was 29.66. Fig 75 provides a graphical demonstration.

Table 64. Overall training needs of administrative staff at KAU (n=70)

| Sl. no. | Areas | Obtained score | Maximum score | TNI |
|--|--------------------------------------|----------------|---------------|--------------|
| I | Technical domain | 918 | 2380 | 38.57 |
| 1 | Office management and administration | 456 | 1120 | 40.71 |
| 2 | Financial management | 462 | 1260 | 36.67 |
| II | Organizational domain | 259 | 840 | 30.83 |
| III | Socio-psychological domain | 137 | 700 | 19.57 |
| Overall Training Need Index = 29.66 | | | | |

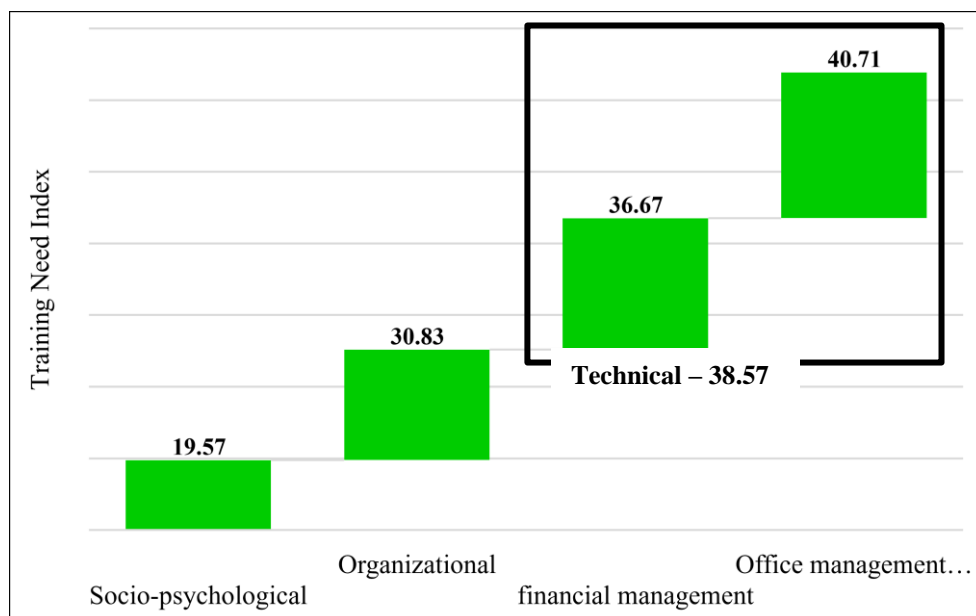


Fig 75. Overall training needs of administrative staffs at KAU

Administrative staff prioritized training need for technical domain because it ensures their effective implementation of university's administrative services. Organizational training need was valued next for enhancing operational efficiency. Socio-psychological domain was the least prioritized training need as they focussed more on technical skills and operational efficiency over mental health and emotional support.

4.4.4. Category 4 – Labourers

To systematically analyse the training needs of labourers, two primary sections were typically considered: technical and socio-psychological domain (Blanchard and Thacker,

2009). Within the technical training need category for labourers, the skills were divided into field preparation, inter-cultural operations, plant protection, and post-harvest technology. Each of these domains was crucial for enhancing the capabilities and effectiveness of labourers.

4.4.4.1. Training need of labourers on field preparation

Four items were identified as training needs under field preparation. Data collected on these items were used to calculate the obtained scores and the maximum scores. Consequently, the Training Need Index (TNI) was assessed for each item. To rank these items based on their TNI, a Garrett score was determined. Table 65 displayed the obtained scores, TNI, and rankings for these items among labourers.

The data in the Table 65 clearly indicate that the highest Training Need Index (TNI) of labourers for field preparation was for enhancing soil fertility using the right amount of manures and fertilizers, with an index of 43.57. This was followed by preparing compost with an index of 40.00, different methods of farm waste recycling/utilization (TNI; 34.29), and procedures for collecting soil samples (TNI; 29.29). This data is visually illustrated in Fig 76.

Table 65. Training needs of labourers at KAU on field preparation (n=70)

| Sl. no. | Components | Extent of training need | | | TNI | Garrett score | Rank |
|---------|--|-------------------------|--------|------------|-------|---------------|------|
| | | Urgently Needed | Needed | Not Needed | | | |
| 1. | Procedures for collecting soil samples | 9 | 23 | 38 | 29.29 | 51.54 | IV |
| 2. | Enhancing soil fertility using the right amount of manures and fertilisers | 24 | 13 | 33 | 43.57 | 55.83 | I |
| 3. | Preparing compost | 19 | 18 | 33 | 40.00 | 54.69 | II |
| 4. | Different methods of farm waste recycling/utilisation | 19 | 10 | 41 | 34.29 | 53.31 | III |

When considering the ranking of the training needs of labourers under field preparation, enhancing soil fertility using the right amount of manures and fertilizers secured the highest rank, while procedures for collecting soil samples holds training need with the lowest rank. The graphical representation of these rankings was shown in Fig 77. Labourers prioritized training need on enhancing soil fertility because the correct use of

manures and fertilizers helped to prevent excessive use of chemicals, which may harm the environment and reduce long-term soil health. They showed least priority on procedures for collecting soil samples because their familiarity with the basic knowledge, leading to lesser necessity for additional training on it.

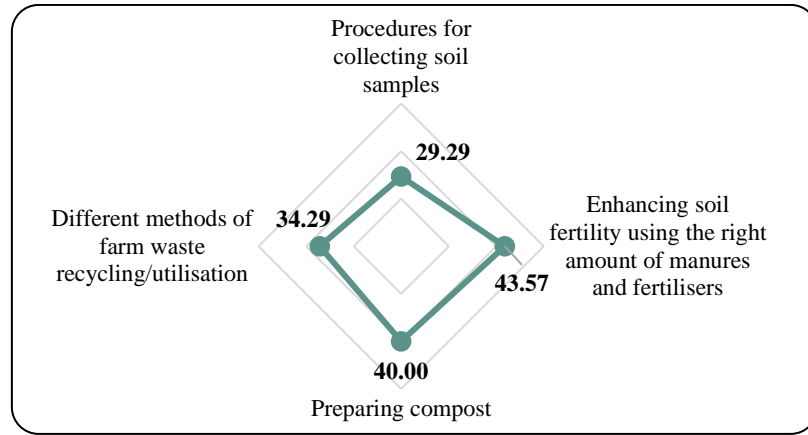


Fig 76. Training needs of labourers on field preparation

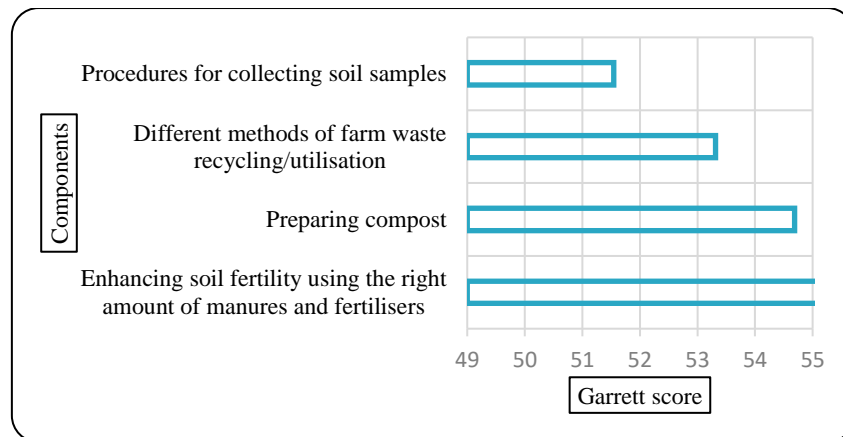


Fig 77. Ranking of training needs of labourers on field preparation

4.4.4.2. Training need of labourers on inter-cultural operations

Ten items were identified as training needs under inter-cultural operations. Table 66 below displayed the obtained scores, Training Need Index (TNI), and rankings for these items to assess the training need of labourers at KAU on inter-cultural operations.

The data clearly indicated that the highest Training Need Index (TNI) of labourers under field preparation was 32.14 for agricultural machinery and equipment operation. A training need index of 30.00 was recorded for seed production, weed-control procedure, application method of weedicides, and farm safety protocols. A TNI of 26.43 was noted for seed sowing techniques, management of nurseries for required crops, transplanting

methods, water management techniques, and method of manuring crop. This data is visually illustrated in Fig 78.

When considering the ranking of these items, the training need of labourers on agricultural machinery and equipment operation had the highest rank, while seed sowing techniques, management of nurseries for required crops, transplanting methods, water management techniques, and method of manuring crop shared the lowest training need. The graphical representation of these rankings is shown in Fig 79.

Table 66. Training needs of labourers at KAU on inter-cultural operations (n=70)

| Sl. no. | Components | Extent of training need | | | TNI | Garrett score | Rank |
|---------|--|-------------------------|--------|------------|-------|---------------|------|
| | | Urgently Needed | Needed | Not Needed | | | |
| 1. | Seed production | 9 | 24 | 37 | 30.00 | 67.84 | II |
| 2. | Seed sowing techniques | 9 | 19 | 42 | 26.43 | 67.34 | III |
| 3. | Management of nurseries for required crops | 9 | 19 | 42 | 26.43 | 67.34 | III |
| 4. | Transplanting methods | 9 | 19 | 42 | 26.43 | 67.34 | III |
| 5. | Weed-control procedure | 9 | 24 | 37 | 30.00 | 67.84 | II |
| 6. | Application method of weedicides | 9 | 24 | 37 | 30.00 | 67.84 | II |
| 7. | Water management techniques | 9 | 19 | 42 | 26.43 | 67.34 | III |
| 8. | Method of manuring crop | 9 | 19 | 42 | 26.43 | 67.34 | III |
| 9. | Agricultural machinery and equipment operation | 9 | 27 | 34 | 32.14 | 68.14 | I |
| 10. | Farm safety protocols | 9 | 24 | 37 | 30.00 | 67.84 | II |

Labourers prioritized training need in machinery and equipment operation because it reduced the risk of accidents and injuries. Proper training ensured safe handling and operation, which protected both the workers and the machinery.

They showed less interest to attend trainings for seed sowing techniques, management of nurseries for required crops, transplanting methods, water management techniques, and method of manuring crop due to familiarity in these topics.

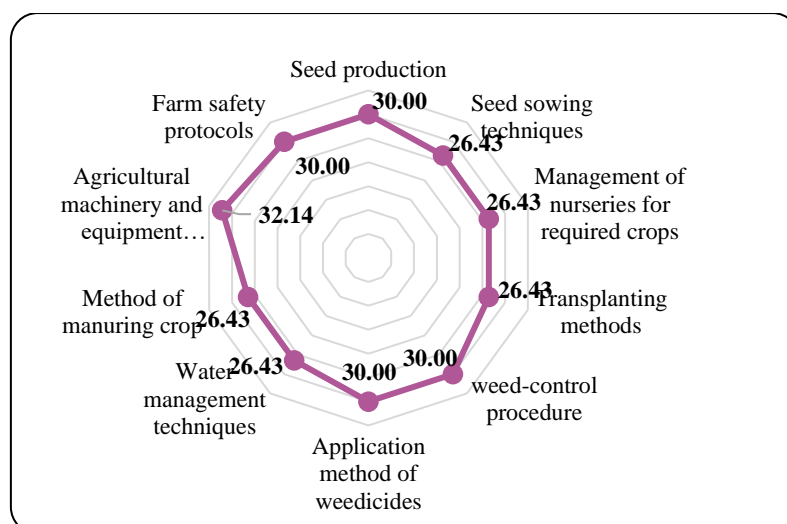


Fig 78. Training needs of labourers on inter-cultural operations

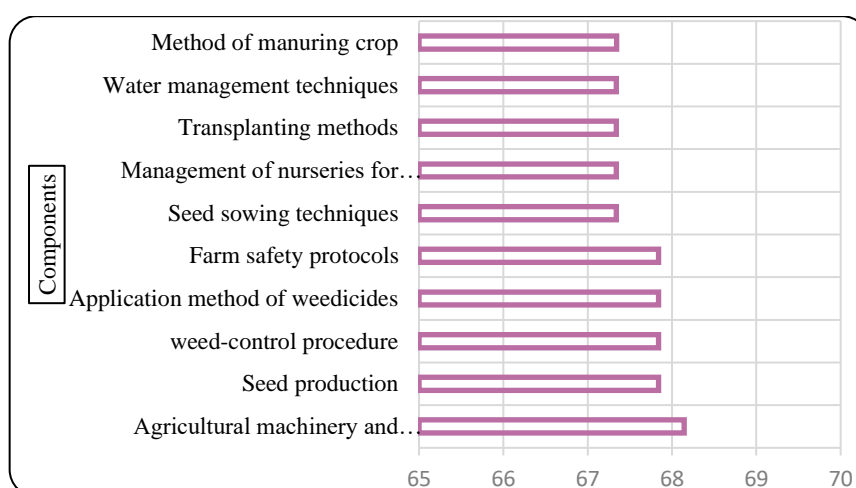


Fig 79. Ranking of training needs of labourers on inter-cultural operations

4.4.4.3. Training need of labourers on plant protection

Four items were identified as training needs under plant protection. Table 67 below displayed the obtained scores, Training Need Index (TNI), and rankings for these items to assess the training need of labourers at KAU on plant protection.

The results appeared to show that the highest training need index of labourers was 47.14 for disease diagnostic and treatment approaches. Labourers had training need index of 45.71 for pest detection and control strategies, as do 42.14 for both pesticide and fungicide application methods in crops, as well as plant protection equipment and maintenance. Fig 80 vividly illustrated this.

The labourers had the highest TNI for disease diagnosis and treatment methods, and pest detection and management techniques with 47.14 and 45.71, respectively. The other

two components on the list were equally ranked as crop pesticide and fungicide application methods, plant protection equipment maintenance with training need index of 42.14 each. Fig 81 shows a graphical depiction of ranking among labourers at KAU.

Labourers prioritized the training need on pest and disease diagnosis and treatment because timely identification and management of pests and diseases helped to prevent significant economic losses. They gave second priority of training need pesticide and fungicide application because the proper application was crucial for maximizing effectiveness and minimizing environmental impact. And also understanding safe handling and application methods was vital for their health and safety, making it a key focus area.

Table 67. Training needs of labourers at KAU on plant protection (n=70)

| Sl. no. | Components | Extent of training need | | | TNI | Garrett score | Rank |
|---------|--|-------------------------|--------|------------|-------|---------------|------|
| | | Urgently Needed | Needed | Not Needed | | | |
| 1. | Pest detection and management techniques | 23 | 18 | 29 | 45.71 | 56.29 | II |
| 2. | Disease diagnosis and treatment methods | 24 | 18 | 28 | 47.14 | 56.69 | I |
| 3. | Application method of pesticides and fungicides in crops | 23 | 13 | 34 | 42.14 | 55.43 | III |
| 4. | Plant protection equipment and maintenance | 23 | 13 | 34 | 42.14 | 55.43 | III |

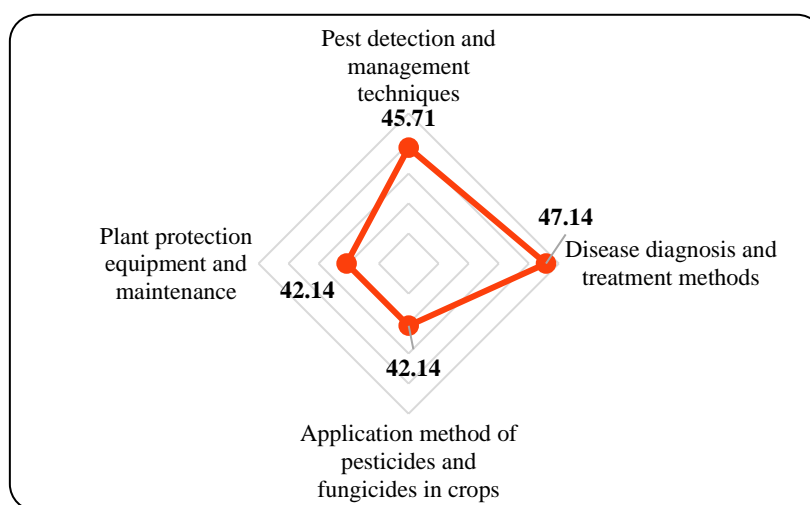


Fig 80. Training needs of labourers on plant protection

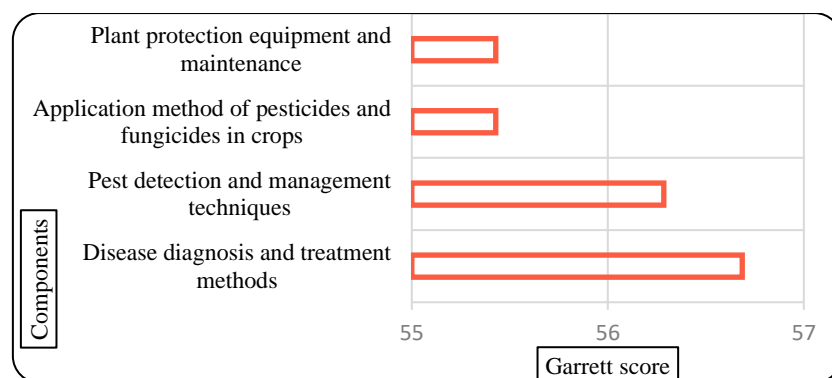


Fig 81. Ranking of training needs of labourers on plant protection

4.4.4.4. Training need of labourers on post-harvest technology

Six items were identified as training needs under post-harvest technology. Table 68 displays the obtained scores, Training Need Index (TNI), and rankings for these items to assess the training need of labourers at KAU on post-harvest technology.

Table 68. Training needs of labourers at KAU on post-harvest technology (n=70)

| Sl. no. | Components | Extent of training need | | | TNI | Garrett score | Rank |
|---------|---|-------------------------|--------|------------|-------|---------------|------|
| | | Urgently Needed | Needed | Not Needed | | | |
| 1. | Determining crop maturity indices and the appropriate harvest stage | 9 | 20 | 41 | 27.14 | 59.53 | I |
| 2. | Stage of harvesting a crop | 9 | 19 | 42 | 26.43 | 59.40 | II |
| 3. | Post-harvest handling methods | 9 | 19 | 42 | 26.43 | 59.40 | II |
| 4. | Grading and sorting of the produce | 9 | 19 | 42 | 26.43 | 59.40 | II |
| 5. | Various post-harvest technologies | 9 | 19 | 42 | 26.43 | 59.40 | II |
| 6. | Packaging of produce | 9 | 19 | 42 | 26.43 | 59.40 | II |

According to the data presented in the Table 68 the highest training need under post-harvest technology was 27.14 for determining crop maturity indicators and the proper harvest stage. A training need index of 26.43 was equally for items such as crop harvesting stage, post-harvest handling techniques, produce grading and sorting, post-harvest technology, and product packaging. Fig 82 gives a graphic representation of the above data.

The ranking of training needs for labourers under post-harvest technologies was shown in Fig 83. The following is the ranking of training needs of labourers: figuring out

crop maturity indices and the right harvest stage (I), crop harvesting stage (II), post-harvest handling techniques (II), produce grading and sorting (II), different post-harvest technologies (II), and produce packaging (II).

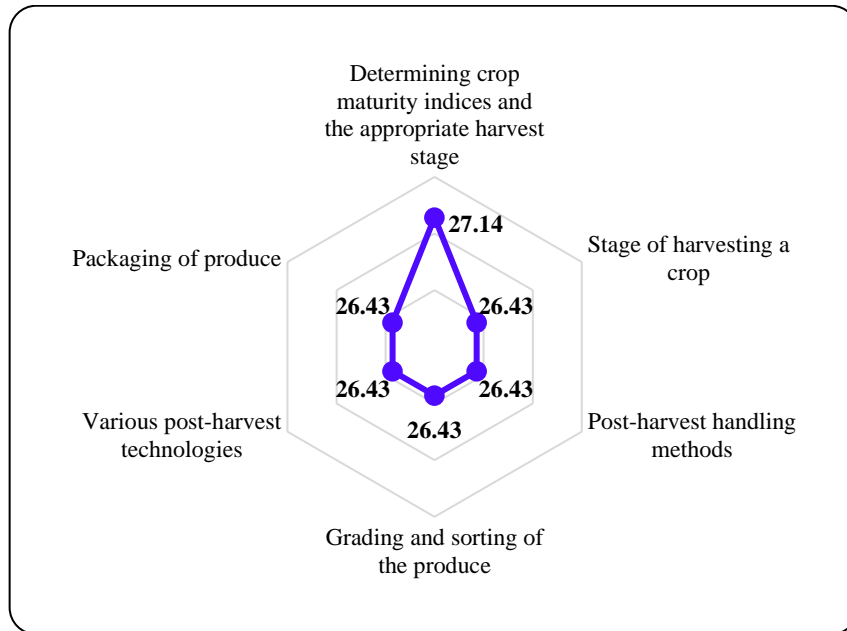


Fig 82. Training needs of labourers on post-harvest technology

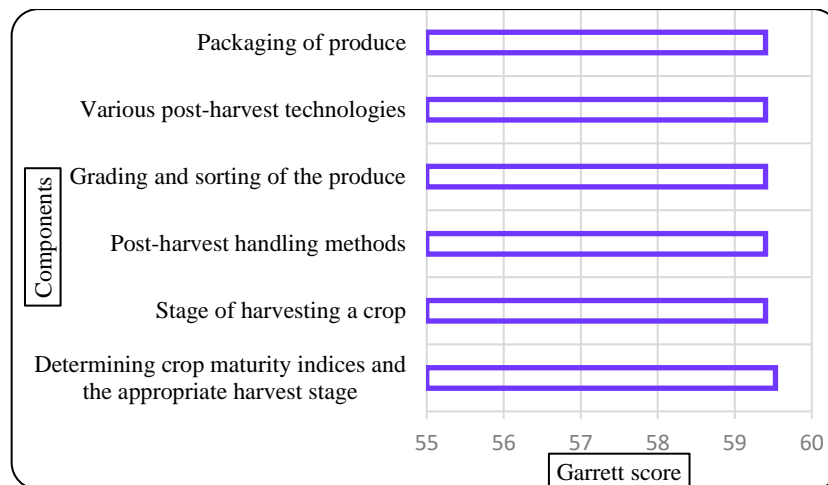


Fig 83. Ranking of training needs of labourers on post-harvest technology

4.4.4.5. Training need of labourers on selected socio-psychological domain

Four items were identified as training needs under socio-psychological domain. Table 69 below displayed the obtained scores, Training Need Index (TNI), and rankings for these items to assess the training need of labourers at KAU on socio-psychological domain.

Table 69. Training needs of labourers at KAU on socio-psychological domain (n=70)

| Sl. no. | Components | Extent of training need | | | TNI | Garrett score | Rank |
|---------|-------------------------|-------------------------|--------|------------|-------|---------------|------|
| | | Urgently Needed | Needed | Not Needed | | | |
| 1. | Time management | 10 | 7 | 53 | 19.29 | 49.20 | III |
| 2. | Stress management | 13 | 26 | 31 | 37.14 | 53.66 | I |
| 3. | Work-life balance | 10 | 10 | 50 | 21.43 | 49.71 | II |
| 4. | Personality development | 10 | 7 | 53 | 19.29 | 49.20 | III |

The data show that stress management (37.14), work-life balance (21.43), time management (19.24), and personality development (19.24) were the TNI under socio-psychological domains. Fig 84 provided an illustration of the data. The training need indices of labourers under socio-psychological domain are shown in Fig 85. Stress management as ranked first, followed by work-life balance, time management, and personality development.

Labourers faced significant physical and emotional challenges, including economic pressures, leading to high levels of stress. Prioritizing training in stress management equips them with coping strategies to handle these pressures effectively. Additionally, improved mental well-being enhances their overall productivity and job satisfaction. They showed least preference of training need for personality development due to its less relevant to their daily task.

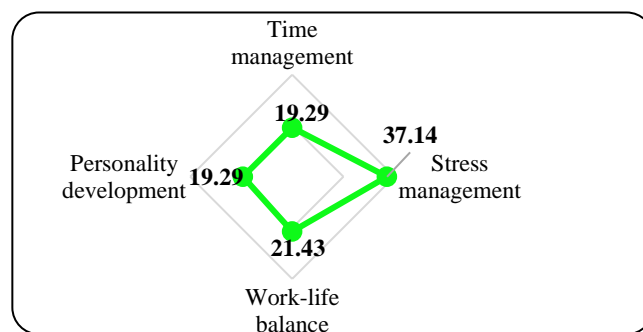


Fig 84. Training need of labourers on socio-psychological domain

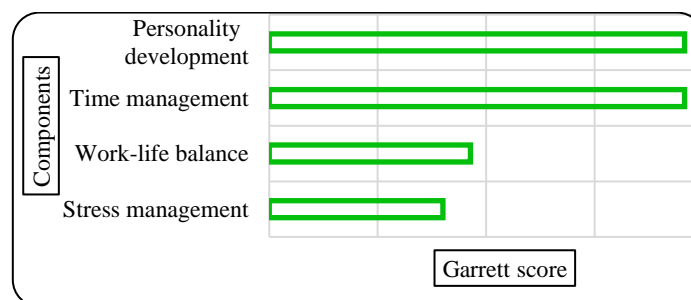


Fig 85. Ranking of training needs of labourers on socio-psychological domain

4.4.4.6. Overall training need of labourers at KAU

The overall training need index of labourers including technical domain, and socio-psychological domain is shown in Table 70. Based on the data, it was clearly apparent that index for training need in technical domain was 31.99, and socio-psychological domain was 24.29. This result suggested that the most pressing training need for labourers were in technical training, and with the least emphasis on socio-psychological areas. Thus, the overall training need index of labourers at KAU was 28.14. This finding is visually illustrated in Fig 86.

Labourers prioritized the need for technical training because it ensured their effective performance in the field. Socio-psychological training was the least prioritized training need as they focused on technical skills and operational efficiency over mental health and emotional support.

Table 70. Overall training needs of labourers at KAU (n=70)

| Sl. no. | Components | Obtained score | Maximum score | TNI |
|--|-----------------------------------|----------------|---------------|--------------|
| I | Technical domain | 1075 | 3360 | 31.99 |
| 1 | Field preparation | 206 | 560 | 36.79 |
| 2 | Inter-cultural operation | 398 | 1400 | 28.43 |
| 3 | Plant protection | 248 | 560 | 44.29 |
| 4 | Post-harvest technology | 223 | 840 | 26.55 |
| II | Socio-psychological domain | 136 | 560 | 24.29 |
| Overall Training Need Index = 28.14 | | | | |

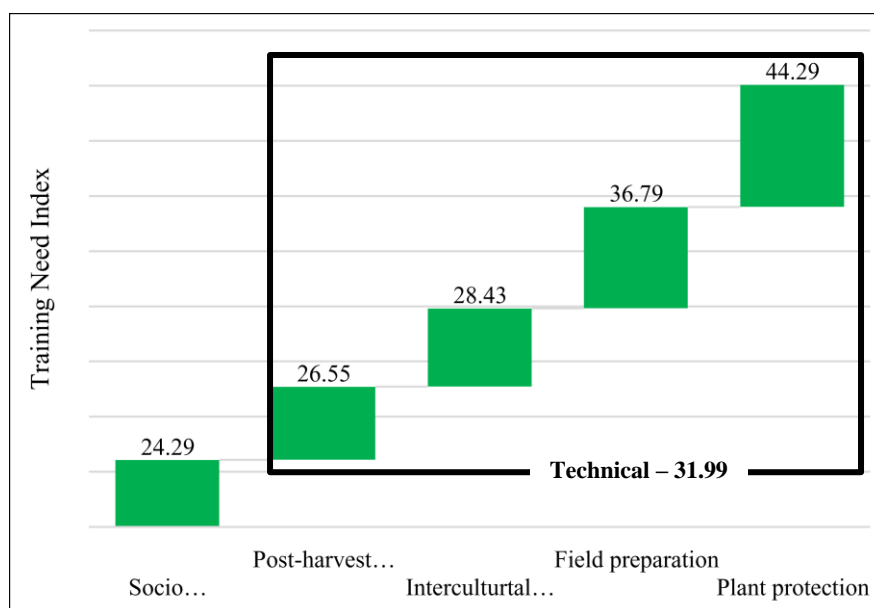


Fig 86. Overall training needs of labourers at KAU

4.5. TRAINING DESIGN FOR ENHANCING THE COMPETENCY OF KAU EMPLOYEES

The final objective of the study was to develop a training design for the four categories of employees based on the findings of training need as felt by them.

4.5.1. Category 1 – Scientists

The following training modules were developed in response to the training needs of scientists at KAU as given below:

Title of the training programme: Competency enhancement programme for Scientists of KAU

Overall description of the training programme: The training program at KAU is designed to enhance the competencies of scientists by focusing on a comprehensive approach that integrates technical, organizational, and socio-psychological domains. This program aims to develop critical skills in research, extension services, teaching, and subject matter expertise, ensuring that scientists are well-equipped to meet the evolving demands in their fields of specialisation. Through a blend of theoretical knowledge and practical applications, the program fosters an environment of continuous learning and professional development, enabling scientists to excel in their roles and contribute effectively to advancements in agricultural sciences.

Execution modalities:

- i) **Number of trainees:** 150 scientists, including Professors, Associate Professors, and Assistant Professors of KAU, will make up five batches of 30 trainees each.
- ii) **Method of operation:** Blended mode (Islam, 2023). Central Training Institute, Mannuthy will serve as venue during offline mode training.
- iii) **Duration:** The training course will last for 10 working days (Reddy and Swamy, 2009) i.e., 5 days as online and 5 days as offline mode
- iv) **Evaluation technique:** A trainer or training coordinator may conduct formative and summative evaluations, often known as pre- and post-training assessments. Multiple-choice questions will be used for evaluation. Once each module is finished, the feedback form has to be completed (Reddy *et al.*, 2017).

Table 71. Modules and session details of the training programme for scientists of KAU

| Sl. no. | Modules and sessions |
|------------------------------------|--|
| Module 1: Research aptitude | |
| 1. | Identification of new research area o Understanding the importance of identifying new research areas. |

| | |
|---|--|
| | <ul style="list-style-type: none"> ○ Discussing the benefits of exploring new research directions. |
| 2. | <p>AI tools for research</p> <ul style="list-style-type: none"> ○ Introduction to concepts - Understanding basics, tools and platforms ○ Hands on-training – data handling and processing |
| 3. | <p>Innovativeness</p> <ul style="list-style-type: none"> ○ Integrating cutting-edge technologies and methodologies can open up new avenues for research. |
| 4. | <p>Scientific writing and publication</p> <ul style="list-style-type: none"> ○ Structuring and writing scientific paper - organization manuscript and writing techniques ○ Navigating publication process - selecting appropriate journals |
| 5. | <p>Statistical software like R programming, SPSS, Stata etc.</p> <ul style="list-style-type: none"> ○ Analysis and visualization capabilities for seamless workflow with help of user-interface statistical softwares. |
| 6. | <p>Preparation of project proposals</p> <ul style="list-style-type: none"> ○ Structuring research proposals for new research areas. ○ Writing compelling proposals to secure funding and support. |
| Module 2: Extension services | |
| 1. | <ul style="list-style-type: none"> ○ Digital technologies used for training ○ Procedure for Transfer of technology ○ VR-assisted training for farmers and other stakeholders |
| 2. | Recent technologies developed by KAU |
| 3. | <p>Guidelines for research stations in product development and sales</p> <ul style="list-style-type: none"> ○ Compliance with regulatory standards and quality assurance protocols ○ Understanding the market and customer needs ○ Developing sales strategies |
| 4. | Program planning, monitoring, implementation and evaluation |
| 5. | <p>Common guidelines for conducting workshop</p> <ul style="list-style-type: none"> ○ Planning and facilitation |
| Module 3: Teaching aptitude | |
| 1. | <ul style="list-style-type: none"> ○ New ICT trends ○ Use of modern teaching tools and smart classroom |
| Module 4: Subject matter expertise | |
| 1. | <p>AI and its scope in agriculture</p> <ul style="list-style-type: none"> ○ Understanding AI Applications in Agriculture ○ Integration of AI with Agricultural Practices |
| 2. | <p>Hands on training on IoT, Robotics in agriculture</p> <ul style="list-style-type: none"> ○ Application covering real-world scenarios and problem-solving ○ Equip participants with the skills to maintain and troubleshoot IoT devices and robotics |
| 3. | <p>Nanotechnology in agriculture</p> <ul style="list-style-type: none"> ○ Nanomaterials for Crop Improvement and Protection ○ Nanotechnology in Soil and Water Management: nano-fertilizers |
| 4. | <p>Climate resilient agriculture</p> <ul style="list-style-type: none"> ○ Adoption of Sustainable Practices ○ Use of Climate-Smart Technologies |
| 5. | <p>Use of drone in precision agriculture practices</p> <ul style="list-style-type: none"> ○ Crop health monitoring, soil analysis, ○ field mapping by understanding the different sensors and cameras (e.g., multispectral, thermal) and interpret the data collected ○ Software tools and platforms for processing drone-collected data, such as generating NDVI maps or 3D models of fields ○ Emphasize to analyse data regarding irrigation, fertilization, pest control ○ Overall crop management to improve yield and efficiency |
| 6. | <ul style="list-style-type: none"> ○ Mobile app development - Programming languages and frameworks, app design and user experience/review, version control ○ Software designing - Programming languages and tools, software architecture and design patterns |
| 7. | <p>Advances in farm mechanization - Automated machinery for tasks such as planting, harvesting, and soil management, focusing on efficiency, accuracy, and cost reduction</p> |
| 8. | <p>Carbon neutral farming</p> <ul style="list-style-type: none"> ○ Soil Health Management ○ Precision Agriculture |

| | |
|---|--|
| | <ul style="list-style-type: none"> ○ Renewable Energy Integration ○ Resource Efficiency and Waste Management |
| 9. | <ul style="list-style-type: none"> ○ Varietal release procedure ○ Regulatory requirements and guidelines for varietal release and documentation ○ Field trials, including the design, implementation, and analysis of results Patenting in agriculture <ul style="list-style-type: none"> ○ The steps involved in filing a patent application, including preparing the necessary documents, describing the invention, and claims drafting ○ Managing and protecting intellectual property in agriculture, including the enforcement of patent rights and licensing agreements |
| Module 5: Office management and administration | |
| 1. | <ul style="list-style-type: none"> ○ Procedures to be followed in handling and completing external funded research projects in KAU ○ Preparation of annual progress report ○ Office automation ○ Protocol for handling confidential or sensitive information ○ Revolving fund – scheme and mode of operations |
| 2. | <ul style="list-style-type: none"> ○ KAU statute, Policy and regulation ○ Labour norms ○ Appointment of RA ○ RTI act |
| 3. | <ul style="list-style-type: none"> ○ Procurement and purchase rules ○ Purchase of equipment |
| Module 6: Financial management | |
| 1. | <ul style="list-style-type: none"> ○ UFAST – University Functional Accountability System ○ Understanding its interface ○ Accessing different modules (such as financial, human resources, and procurement) ○ Utilizing reporting features – Highlight data entry accuracy, Importance of maintaining confidentiality and security protocols ○ Release and mapping funds in UFAST |
| 2. | <ul style="list-style-type: none"> ○ UniSPARK - University Service and Payroll Administrative Repository for Kerala ○ Effectively navigating the UniSPARK interface, including various features, submit requests, and retrieve reports ○ Hands-on practice can help users become comfortable with the system's functionalities, such as managing payroll data and accessing administrative services |
| Module 7: Project management | |
| 1. | <ul style="list-style-type: none"> ○ Finding suitable funding agencies ○ Project preparation and implementation |
| 2. | <ul style="list-style-type: none"> ○ Start of zero balance account for project ○ Release of funds to comptroller account ○ Request AS, TS, and FS ○ Demanding and releasing fund to prime account ○ Fund flow system in DBT ○ Project records maintenance – consumables, equipment, issue register, stock register, miscellaneous etc. ○ Procedure related to project completion report, utilization certificate, asset transfer certificate etc. |
| Module 8: Socio-psychological domain | |
| 1. | <ul style="list-style-type: none"> ○ Personality development and Work-life balance ○ Activities like self-reflection exercises, personality assessments, and feedback sessions ○ Active listening, assertiveness, body language, and public speaking ○ Provide tools for setting boundaries, prioritizing tasks, and making time for self-care activities, such as hobbies, exercise, and social interactions. |
| 2. | <ul style="list-style-type: none"> ○ Stress management and Time management ○ Coping strategies, such as mindfulness, deep breathing exercises, and time management techniques ○ Techniques like the Eisenhower Matrix or the ABCD prioritization method ○ Encourage participants to set Specific, Measurable, Achievable, Relevant, and Time-bound (SMART) goals |

Table 72. Schedule of the training programme for scientists of KAU

| Day | Time | Schedule |
|-------------------------------|-------------------|--|
| First five days – Online mode | 01:00-01:15 PM | Registration and inauguration |
| | 01:15-01:45 PM | Pre-training evaluation test |
| | 01:45-02:00 PM | Ice breaking session/micro-lab exercise |
| | 02:00-05:00 PM | Session time |
| Next four days – Offline mode | 09:00-09:15 AM | Recap of the previous session from online mode |
| | 09:15-10:00 AM | Session time |
| | 10:00-10:15 AM | Tea break |
| | 10:15 AM-01:00 PM | Session time |
| | 01:00-02:00 PM | Lunch break |
| | 02:00-04:00 PM | Session time |
| | 04:00-04:15 PM | Tea break |
| | 04:15-05:00 PM | Session time |
| Last day – Offline mode | 09:00-09:15 AM | Recap of the previous day session |
| | 09:15-10:00 AM | Session time |
| | 10:00-10:15 AM | Tea break |
| | 10:15 AM-01:00 PM | Session time |
| | 01:00-02:00 PM | Lunch break |
| | 02:00-04:00 PM | Session time |
| | 04:00-04:15 PM | Tea break |
| | 04:15-04:30 PM | Session time |
| | 04:30-05:00 PM | Post-training evaluation test, feedback form |
| | 05:00-05:30 PM | Valedictory session |

4.5.2. Category 2 – Technical Officers

The following training modules were developed in response to the training needs that technical officer respondent category at KAU indicated was given below:

Title of the training programme: Competency enhancement programme for Technical Officers of KAU

Overall description of the training programme: The training program for farm officers of KAU was designed to equip technical officers with comprehensive knowledge and practical skills in modern agricultural practices. This intensive program covers a wide range of topics, including promote sustainable agriculture, and improve farm productivity and resource management. Technical officers will engage in hands-on trainings, field demonstrations, and interactive sessions led by experienced agricultural scientists and practitioners.

Execution modalities:

- i) Number of trainees:** 40 technical officers of KAU, will make up one batch of trainees.
- ii) Method of operation:** Offline mode. Central Training Institute, Mannuthy will serve as venue.
- iii) Duration:** The training course will last for 3 working days.
- iv) Evaluation technique:** A trainer or training coordinator may conduct formative and summative evaluations, often known as pre- and post-training assessments. Multiple-

choice questions are used for evaluation. Once each module is finished, the feedback form has to be completed.

Table 73. Modules and session details of the training programme for technical officers of KAU

| Sl. no. | Modules and sessions |
|---|--|
| Module 1: Agronomic practices | |
| 1. | ○ Different methods of farm waste recycling/utilisation |
| 2. | ○ Integrated farming methods ○ Weed-control procedure ○ Management of nurseries for required crops ○ Tillage preparation for crucial crops ○ Intercultural operations ○ Determining crop maturity indices and the appropriate harvest stage ○ Transplanting methods |
| Module 2: Input management | |
| 1. | ○ Recently released fertilizers ○ Improved crop varieties ○ New seed production methods |
| 2. | ○ Selection of appropriate varieties for the particular field scenario ○ Enhancing soil fertility using the right amount of manures and fertilisers ○ Preparing compost |
| Module 3: Soil and water management | |
| 1. | ○ Field water and its management techniques ○ Various soil types, their nutritional condition, and management techniques ○ Procedures for collecting soil samples |
| Module 4: Plant protection | |
| 1. | Pest detection and management techniques – diagnosis and solutions ○ Application method of pesticides in crops ○ Preparation of various concentrations of pesticides |
| 2. | ○ Plant protection equipment and maintenance ○ Integrated pest and disease management |
| 3. | Disease diagnosis and treatment methods - diagnosis and solutions ○ Application method of fungicides in crops ○ Preparation of various concentrations of fungicides |
| Module 5: Post-harvest technology | |
| 1. | ○ Various post-harvest technologies ○ Packaging of produce ○ Agricultural product harvesting technique ○ Post-harvest processing of by-product ○ Grading and sorting of the produce |
| Module 6: Socio-psychological domain | |
| 1 | Stress management and Time management ○ Coping strategies, such as mindfulness, deep breathing exercises, and time management techniques ○ Techniques like the Eisenhower Matrix or the ABCD prioritization method ○ Encourage participants to set Specific, Measurable, Achievable, Relevant, and Time-bound (SMART) goals |
| 2 | Personality development, customer-approach and Work-life balance ○ Activities like self-reflection exercises, personality assessments, and feedback sessions ○ Active listening, assertiveness, body language, and public speaking ○ Provide tools for setting boundaries, prioritizing tasks, and making time for self-care activities, such as hobbies, exercise, and social interactions ○ Customer-friendly approaches |
| Module 7: Organizational domain | |
| 1. | ○ Farm management software |

| | |
|----|--|
| 2. | <ul style="list-style-type: none"> ○ Digital data recording / e-filing ○ Handling various mandatory registers kept in office ○ RTI management |
|----|--|

Table 74. Schedule of the training programme for technical officers of KAU

| Day | Time | Schedule |
|------------|-------------------|--|
| First day | 08:30-09:00 AM | Registration and inauguration |
| | 09:00-09:30 AM | Pre-training evaluation test |
| | 09:30-10:00 AM | Ice breaking session/micro-lab exercise |
| | 10:00-10:15 AM | Tea break |
| | 10:15 AM-01:00 PM | Session time |
| | 01:00-02:00 PM | Lunch break |
| | 02:00-04:00 PM | Session time |
| | 04:00-04:15 PM | Tea break |
| | 04:15-05:00 PM | Session time |
| Second day | 09:00-09:15 AM | Recap of the previous day session |
| | 09:15-10:00 AM | Session time |
| | 10:00-10:15 AM | Tea break |
| | 10:15 AM-01:00 PM | Session time |
| | 01:00-02:00 PM | Lunch break |
| | 02:00-04:00 PM | Session time |
| | 04:00-04:15 PM | Tea break |
| | 04:15-05:00 PM | Session time |
| Last day | 09:00-09:15 AM | Recap of the previous day session |
| | 09:15-10:00 AM | Session time |
| | 10:00-10:15 AM | Tea break |
| | 10:15 AM-01:00 PM | Session time |
| | 01:00-02:00 PM | Lunch break |
| | 02:00-04:00 PM | Session time |
| | 04:00-04:15 PM | Tea break |
| | 04:15-04:30 PM | Session time |
| | 04:30-05:00 PM | Post-training evaluation test, feedback form |
| | 05:00-05:30 PM | Valedictory session |

4.5.3. Category 3 – Administrative Staff

The following training modules were developed in response to the training needs that administrative staff of KAU indicated was given below:

Title of the training programme: Competency enhancement programme for Administrative Staff of KAU

Overall description of the training programme: The training program for administrative staff at KAU aims to enhance their efficiency and effectiveness in managing university operations. This comprehensive program includes modules on modern office management, digital record-keeping, financial administration, human resource management, and customer service excellence. Administrative staff will engage in interactive sessions, case studies, and hands-on training sessions led by seasoned professionals. The program is designed to improve organizational skills, foster teamwork, and promote a culture of continuous improvement, ultimately contributing to the smooth and efficient functioning of KAU's administrative departments.

Execution modalities:

- i) **Number of trainees:** 150 administrative staff of KAU, will make up five batch of 30 trainees each.
- ii) **Method of operation:** Blended mode. Central Training Institute, Mannuthy will serve as venue during offline mode training
- iii) **Duration:** The training course will last for 6 working days i.e., 5 days as online and 1 day as offline mode.
- iv) **Evaluation technique:** A trainer or training coordinator may conduct formative and summative evaluations, often known as pre- and post-training assessments. Multiple-choice questions are used for evaluation. Once each module is finished, the feedback form has to be completed.

Table 75. Modules and session details of the training programme for administrative staff of KAU

| Sl. no. | Modules and sessions |
|---|---|
| Module 1: Office management and administration | |
| 1. | UniSPARK - University Service and Payroll Administrative Repository for Kerala <ul style="list-style-type: none"> o Effectively navigating the UniSPARK interface, including various features, submit requests, and retrieve reports Hands-on practice can help users become comfortable with the system's functionalities, such as managing payroll data and accessing administrative services |
| 2. | <ul style="list-style-type: none"> o Legal knowledge o Drafting, reviewing, and editing legal documents, such as contracts, agreements, and policies o RTI management o University rules |
| 3. | <ul style="list-style-type: none"> o Protocol for handling confidential or sensitive information o Upkeeping of audit documents in an office o Digital data recording / e-filing o Handling various mandatory registers to be maintained in office o Handling funds allotted for various purposes o Office procedures |
| 4. | UPAST - University Pension Administration SysTem <ul style="list-style-type: none"> o Accurate data entry, updating pension records, and managing beneficiary information to ensure precise and up-to-date records o Intricacies of pension calculations, including the application of relevant formulas, adjustments for various pension plans, and processing of retirement benefits o Generate detailed reports, ensure compliance with university policies, and address discrepancies in pension payments |
| 5. | UFAST - University Functional Accountability System <ul style="list-style-type: none"> o Understanding its interface o Accessing different modules (such as financial, human resources, and procurement) o Utilizing reporting features - Highlight data entry accuracy, Importance of maintaining confidentiality and security protocols o Release and mapping funds in UFAST |
| 6. | KAU Act and statute <ul style="list-style-type: none"> o Overview of the KAU Act and statutes o Compliance requirements related to the KAU Act and statutes |
| Module 2: Financial management | |
| 1. | GST filing |

| | |
|---|--|
| | <ul style="list-style-type: none"> ○ Fundamentals of Goods and Services Tax (GST) laws, including registration procedures, compliance requirements ○ Latest updates on GST regulations ○ Accurately interpret and apply GST rules to ensure that all transactions and filings are in accordance with the legal framework ○ Hands-on aspects of GST filing, including the preparation and submission of GST returns using various software tools ○ Step-by-step guidance on generating invoices, calculating GST liabilities, claiming input tax credits, and troubleshooting common issues encountered during the filing process |
| 2. | <p>Income tax filing</p> <ul style="list-style-type: none"> ○ Latest income tax laws, regulations, and compliance requirements ○ Different tax forms, filing deadlines, and the documentation needed for accurate and timely tax submissions ○ Hands-on sessions on using tax software and other digital tools for income tax filing ○ Process of preparing and submitting tax returns, including calculating deductions, credits, and understanding to optimize tax liabilities <p>Income tax return filing</p> <ul style="list-style-type: none"> ○ Hands-on training on filing income tax returns, including the use of tax preparation software ○ Step-by-step processes for entering data, calculating tax liabilities, and electronically submitting returns |
| 3. | <ul style="list-style-type: none"> ○ Financial regulations and tax laws ○ TA rules -KSSR |
| 4. | <ul style="list-style-type: none"> ○ Financial procedures and Budget management ○ Review and analyse financial reports ○ Manage financial transactions, including accounts payable and receivable, ensuring accuracy and timely processing |
| Module 3: Socio-psychological domain | |
| 1 | <p>Stress management and Time management</p> <ul style="list-style-type: none"> ○ Coping strategies, such as mindfulness, deep breathing exercises, and time management techniques ○ Techniques like the Eisenhower Matrix or the ABCD prioritization method ○ Encourage participants to set Specific, Measurable, Achievable, Relevant, and Time-bound (SMART) goals |
| 2 | <p>Personality development, customer-approach and Work-life balance</p> <ul style="list-style-type: none"> ○ Activities like self-reflection exercises, personality assessments, and feedback sessions ○ Active listening, assertiveness, body language, and public speaking ○ Provide tools for setting boundaries, prioritizing tasks, and making time for self-care activities, such as hobbies, exercise, and social interactions ○ Customer-friendly approaches |

Table 76. Schedule of the training programme for administrative staff of KAU

| Day | Time | Schedule |
|---------------------------------|-------------------|---|
| First day – Online mode | 01:00-01:15 PM | Registration and inauguration |
| | 01:15-01:45 PM | Pre-training evaluation test |
| | 01:45-02:00 PM | Ice breaking session/micro-lab exercise |
| | 02:00-05:00 PM | Session time |
| Next four days – Online mode | 02:00-02:15 PM | Recap of the previous day session |
| | 02:15-05:00 PM | Session time |
| Last day – Offline mode | 09:00-09:15 AM | Recap of the previous day session |
| | 09:15-10:00 AM | Session time |
| | 10:00-10:15 AM | Tea break |
| | 10:15 AM-01:00 PM | Session time |
| | 01:00-02:00 PM | Lunch break |
| | 02:00-04:00 PM | Session time |
| | 04:00-04:15 PM | Tea break |
| | 04:15-04:30 PM | Session time |

| | | |
|--|----------------|--|
| | 04:30-05:00 PM | Post-training evaluation test, feedback form |
| | 05:00-05:30 PM | Valedictory session |

4.5.4. Category 4 – Labourers

The following training modules were developed in response to the training needs that labourer of KAU indicated was given below:

Title of the training programme: Competency enhancement programme for Labourers of KAU

Overall description of the training programme: The training program for labourers at KAU focuses on enhancing their practical skills and knowledge in modern farming techniques and sustainable agriculture. Through a combination of classroom instruction and field exercises, the program aims to empower labourers with the tools and techniques needed to improve productivity, ensure safety, and contribute to sustainable farming practices.

Execution modalities:

- i) **Number of trainees:** 150 labourers of KAU, will make up five batches of 30 trainees each.
- ii) **Method of operation:** Offline mode. The respective station will serve as venue.
- iii) **Duration:** The training course will last for 3 working days.
- iv) **Evaluation technique:** A trainer or training coordinator may conduct formative and summative evaluations, often known as pre- and post-training assessments. Multiple-choice questions are used for evaluation. Once each module is finished, the feedback form has to be completed.

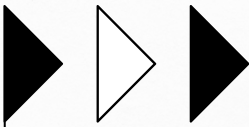
Table 77. Modules and session details of the training programme for labourers of KAU

| Sl. no. | Modules and sessions |
|---|--|
| Module 1: Field preparation | |
| 1. | <ul style="list-style-type: none"> ○ Agricultural machinery and equipment operation ○ Plant protection equipment and maintenance |
| | <ul style="list-style-type: none"> ○ Seed production and seed sowing techniques ○ Management of nurseries for required crops ○ Transplanting methods ○ Water management techniques |
| 2. | <ul style="list-style-type: none"> ○ Weed-control procedure ○ Application method of weedicides |
| 3. | <ul style="list-style-type: none"> ○ Farm safety protocols |
| Module 2: Intercultural operations | |
| 1. | <ul style="list-style-type: none"> ○ Disease diagnosis and treatment methods ○ Application method of fungicides in crops |
| 2. | <ul style="list-style-type: none"> ○ Pest detection and management techniques ○ Application method of pesticides in crops |
| Module 3: Plant protection | |
| 1. | <ul style="list-style-type: none"> ○ Enhancing soil fertility using the right amount of manures and fertilisers ○ Preparing compost and method of manuring crop |

| | |
|---|---|
| 2. | o Different methods of farm waste recycling/utilisation |
| Module 4: Post-harvest technology | |
| 1. | o Determining crop maturity indices and the appropriate harvest stage o Stage of harvesting a crop |
| 2. | o Post-harvest handling methods o Grading, sorting and packaging of produce |
| Module 5: Socio-psychological domain | |
| 1 | Stress management and Time management o Coping strategies, such as mindfulness, deep breathing exercises, and time management techniques o Techniques like the Eisenhower Matrix or the ABCD prioritization method o Encourage participants to set Specific, Measurable, Achievable, Relevant, and Time-bound (SMART) goals |
| 2 | Personality development and Work-life balance o Activities like self-reflection exercises, personality assessments, and feedback sessions o Active listening, assertiveness, body language, and public speaking o Provide tools for setting boundaries, prioritizing tasks, and making time for self-care activities, such as hobbies, exercise, and social interactions |

Table 78. Schedule of the training programme for labourers of KAU

| Day | Time | Schedule |
|------------|-------------------|--|
| First day | 08:30-09:00 AM | Registration and inauguration |
| | 09:00-09:30 AM | Pre-training evaluation test |
| | 09:30-10:00 AM | Ice breaking session/micro-lab exercise |
| | 10:00-10:15 AM | Tea break |
| | 10:15 AM-12:30 PM | Session time |
| | 12:30-01:30 PM | Lunch break |
| | 01:30-02:30 PM | Session time |
| | 02:30-04:45 PM | Practical Session time |
| | 04:45-05:00 PM | Tea break |
| Second day | 09:00-09:15 AM | Recap of the previous day session |
| | 09:15-10:00 AM | Session time |
| | 10:00-10:15 AM | Tea break |
| | 10:15 AM-12:30 PM | Practical Session time |
| | 12:30-01:30 PM | Lunch break |
| | 01:30-02:30 PM | Session time |
| | 02:30-04:45 PM | Practical Session time |
| | 04:45-05:00 PM | Tea break |
| Last day | 09:00-09:15 AM | Recap of the previous day session |
| | 09:15-10:00 AM | Session time |
| | 10:00-10:15 AM | Tea break |
| | 10:15 AM-12:30 PM | Practical Session time |
| | 12:30-01:30 PM | Lunch break |
| | 01:30-02:30 PM | Session time |
| | 02:30-04:30 PM | Practical Session time |
| | 04:30-04:45 PM | Tea break |
| | 04:45-05:00 PM | Post-training evaluation test, feedback form |
| | 05:00-05:30 PM | Valedictory session |



Summary and
conclusion



V. SUMMARY AND CONCLUSION

Kerala Agricultural University is a leading higher educational institution committed to agricultural education, research, and extension activities in Kerala, India. The university provides skilled human resources and technologies required for the sustainable development of agricultural sector encompassing the overall socio-economic development of the state. The employees of KAU comprising faculty members, technical officers, administrative staff, and labourers, work together to foster innovation and support sustainable farming practices. Their combined expertise and commitment are vital in achieving the university's objectives. Competency mapping provides organizations a clear insight into the strengths and areas for improvement within the workforce, helping them to enhance the competency of employees in turn to achieve organizational objectives. By identifying key competencies, organizations can boost productivity, refine talent management system, and create focused training and development initiatives. Competency mapping is important in Kerala Agricultural University that all categories of employees have the required expertise to address the changing demands in agricultural research, education, and extension activities. This process facilitates to maximize workforce potential and supports the overall growth and success of the institution. With this background, the current study entitled '*Competency mapping among employees of Kerala Agricultural University*' was undertaken with the following specific objectives:

- ❖ To understand the gap between existing and required level of competency among KAU employees.
- ❖ To identify the training needs of employees of KAU.
- ❖ To evaluate the factors affecting performance of employees.
- ❖ To formulate training design for enhancing the competency of each category of the employees of KAU.

The employees of Kerala Agricultural University were categorized into four groups viz; scientists, technical officers, administrative staff and labourers. With the help of simple random sampling technique, a representative sample of 70 scientists, administrative staff and labourers each and the entire population of 40 technical officers were selected. Thus, constituting 250 employees from various campuses and research stations of KAU were selected for the study. Personal interview method was used to collect data from the selected respondents.

5.1. PROFILE CHARACTERISTICS OF KAU EMPLOYEES

5.1.1. Category 1 – Scientists

The distribution of scientists based on their profile characteristics reveals that more than half (52.86%) of the respondents were middle-aged category, while 28.57% were seniors and 18.57% were young. Regarding educational qualifications, the majority held doctorates (61.43%), followed by 35.71% with postgraduate degrees and 2.86% with post-doctoral degrees. Gender representation showed that 68.57% of the scientists were female, compared to 31.43% male. More than three-fourth of the scientists had a medium level of work experience (81.43%), while 17.14% had high work experience and 1.43% had low level of work experience. In terms of training exposure, almost three-fourth of the scientists (71.43%) possessed medium training exposure while, 22.86% of them had high level and 5.71% a low level of training exposure.

Nearly half (48.57%) of the scientists reported that they held low number of additional charges, while 44.29% of them experienced medium number, and 7.14% handled a high number of additional charges. Regarding number of transfers, 45.71% of scientists experienced a medium level of transfers, while 41.43% experienced low level of transfers and 12.86% of them underwent high level of transfers.

More than four-fifth of the scientists (84.29%) had medium number of publications, while 11.42% possessed high and 4.29% had low number of publications. Half of the scientists (50%) handled low number of research projects, followed by 28.57% with a medium number and 21.43% with a high number of research projects. Participation of scientists in seminars, conferences, and symposia was moderate, with 60% of respondents reporting medium participation, followed by 25.71% with low and 14.29% with high participation levels. In terms of awards and recognitions, 50% of the scientists reported that they received little or no awards, while 41.43% received medium and 8.57% of them received maximum number of awards. Global exposure was limited, with 95.71% of respondents indicating a low level of international trips, while only 4.29% reported a high level of global exposure.

Self-confidence level among scientists showed that 68.57% had medium level of self-confidence, followed by 17.14% with high confidence level and 14.29% with low level of confidence. Medium level of achievement motivation was reported by 70% of the scientists, 15.71% with high level of achievement motivation, and 14.29% low level of achievement motivation. Regarding perceived workload, 62.86% of the scientists reported a medium level, while 18.57% indicated high and low levels each. The availability of

infrastructural facilities showed that 72.86% of the respondents experienced medium availability, followed by 18.57% with low and 8.57% with high availability of infrastructure. Three-fourth of the scientists perceived (72.86%) medium level of organizational climate, followed by 14.29% perceived low and 12.86% perceived high level of organizational climate. nearly two-third of the scientists (64.29%) reported to have medium level of job involvement, while 22.86% had high job involvement and 12.86% have low job involvement.

Almost three-fourth of the scientists (74.29%) reported to have medium level of job satisfaction, followed by 15.71% low and 10% high job satisfaction. More than two-third (68.57%) of scientists showed a medium level of job commitment, while 18.57% exhibited high commitment and 12.86% had low job commitment. More than two-third of the scientists (67.14%) indicated that they experienced medium level of job stress, followed by 18.57% with low and 14.29% with high level of job stress.

5.1.2. Category 2 – Technical Officers

The distribution of technical officers based on profile characteristics revealed that more than half of the respondents (55.00%) were in the middle-aged category, nearly half of them (45.00%) were classified as seniors, and none of them belonged to the young age group. The majority of respondents (57.50%) held a graduate degree, followed by 22.50% with postgraduate degrees and 20.00% with diploma qualifications. In terms of gender, 57.50% of the respondents were males, while 42.50% were females. Four-fifth of technical officers (80.00%) had medium work experience, with 20.00% having high experience, and none reported to had low level of work experience. Approximately half of the respondents (50.00%) had received a medium level of training, while 37.50% received low-level training and 12.50% high-level training.

Three-fifth of technical officers (60.00%) received medium number of transfers, with 22.50% reported high number and 17.50% low number of transfers. Self-confidence levels indicated that nearly three-fourth (72.50%) of technical officers had medium level, followed by 17.50% with high self-confidence and 10.00% with low self-confidence. Three-fourth (75.00%) of technical officers reported that they had medium achievement motivation, 15.00% low motivation, and 10.00% with high achievement motivation. Two-third of technical officers (67.50%) reported that they perceived medium level of workload, while 20.00% indicated high and 12.50% low level of perceived workload. More than three-fourth (77.50%) of the respondents experienced medium availability of infrastructure

facilities, followed by 12.50% with low availability and 10.00% with high availability of infrastructural facilities.

Organizational climate was perceived as medium by 67.50% of respondents, with 17.50% rating it high and 15.00% low organizational climate. Three-fourth of the technical officers (72.50%) reported that they had medium level of job involvement, while 20.00% indicated low involvement and 7.50% high job involvement. Nearly three-fourth of the technical officer (70.00%) had medium job satisfaction, followed by 17.50% with high satisfaction and 12.50% with low job satisfaction. More than two-third of the technical officers (67.50%) exhibited a medium degree of job commitment, while 17.50% exhibited high commitment and 15.00% low job commitment. Three-fourth of the technical officers (75.00%) showed that they experienced medium job stress, with 15.00% reporting high stress and 10.00% low job stress.

5.1.3. Category 3 – Administrative Staff

The distribution of administrative staff based on their profile features showed that nearly half of the respondents (44.29%) were middle-aged, with seniors accounting for 30.00% and young adults accounted for 25.71%. More than two-third of the administrative staff (67.14%) had graduate degrees, with 32.86% holding postgraduate degrees. In terms of gender, 52.86% of respondents were women and 47.14% were men. Almost three-fourth (70.00%) of the administrative staff indicated medium work experience, 15.71% had low experience, and 14.29% had high work experience. Three-fourth of the administrative staff (74.29%) received medium level of training, 17.14% received low exposure on training, and 8.57% received high training. Nearly three-fourth of the administrative staff (72.86%) reported that experienced medium number of transfers, 15.71% encountered high number of transfers, and 11.43% faced less number of transfers.

Two-third of the administrative staff (62.86%) had medium level of self-confidence, followed by high level (20.00%) and 17.14% as low level of self-confidence. More than two-third (68.57%) of administrative staff reported a medium degree of achievement motivation, followed by 18.57% as low and 12.86% as high degree of achievement motivation. More than two-third (70.00%) of the administrative staff had medium degree of perceived workload, followed by 18.57% low and 11.43% high degree of perceived workload. More than two-third of the administrative staff (67.14%) graded medium infrastructure availability, followed by high (22.86%), and low (10.00%) availability of infrastructure facility. Two-third (65.71%) of administrative staff rated organizational climate as medium level, followed by high (18.57%), and low (15.71%) level of

organizational climate. Two-third of the administrative staff (65.71%) had medium level of job involvement, followed by low and high degree of job involvement as 17.14 per cent, respectively. Three-fifth of the respondents (60.00%) reported a medium level, followed by 21.43 per cent and 18.57 per cent had high and low level of job satisfaction respectively. Two-third of the administrative staff (65.71%) had a medium level of job commitment, followed by 18.57 per cent and 15.71 per cent who had high and low levels of job commitment, respectively. More than three-fifth of the respondents (61.43%) had a medium degree of job stress, followed by high (21.43%) and low (17.14%) levels of job stress.

5.1.4. Category 4 – Labourers

The distribution of labourers based on their profile characteristics revealed that the more than two-third of labourers (71.43%) belonged to the middle-aged category, followed by seniors as 21.43% and 7.14% belonged to young. More than half of the labourers (55.71%) had completed high school, while 20.00% had higher secondary education, 17.14% had middle school education, 4.29% were illiterate, and 1.43% had either primary or graduate qualifications. More than half (57.14%) of the labourers were females, whereas the remaining (42.86%) were males. Three-fourth (74.29%) of the labourers had medium work experience, followed by 14.29 per cent having low work experience and 11.42 per cent had high work experience. 40.00% of respondents received a medium level of training, while 37.14% and 22.86% received low and high levels of training, respectively. Most of the labourers (87.14%) had medium degree of self-confidence, and 7.14 per cent and 5.71 per cent had high and low degree of self-confidence, respectively.

More than two-third of the labourers (68.57%) had medium degree of achievement motivation, followed by 21.43 per cent with high level and 10.00 per cent with low level of achievement motivation. Two-third of the labourers (64.29%) had medium degree of perceived workload, whereas 20.00 per cent reported as low and 15.71 per cent as high degree of perceived workload. More than half of the labourers (52.86%) had medium level infrastructure facility availability, followed by 25.71 per cent with low degree availability and 21.43 per cent with high degree availability of infrastructure facilities. More than four-fifth of the labourers (81.43%) had a medium level, followed by 10.00 per cent had high and 8.57 per cent had low level of organizational climate.

Nearly three-fourth of the labourers (72.86%) had medium level of job involvement, followed by high and low degree of job involvement as 14.28 per cent and 12.86 per cent, respectively. Nearly three-fourth of the labourers (71.43%) reported a medium level of job

satisfaction, followed by 15.71 per cent and 12.86 per cent with low and high level of job satisfaction. More than three-fifth of the labourers (61.42%) had a medium degree of job commitment, followed by 24.29 per cent and 14.29 per cent who had high and low levels of job commitment, respectively. More than half of the labourers (52.86%) had a medium degree of job stress, followed by low and high levels as 25.71 per cent and 21.43 per cent, respectively.

5.2. GAP ANALYSIS BETWEEN EXISTING AND REQUIRED LEVEL OF COMPETENCY AMONG KAU EMPLOYEES

5.2.1. Category 1 – Scientists

According to the TAASK-based competency model adopted for assessing the competency gap among scientists, neuroticism was observed as the widest gap under the component of trait, with a gap index of 41.73, while the narrow gap was in agreeableness, with a gap index of 26.90. The scientists showed highest gap in crisis management, showing a gap index of 46.35, and the lowest in accountability, with a gap index of 40.24 under the component of ability. Scientists exhibited a higher competency gap index for not accepting support from colleagues to complete the task within limited time frame (index value of 62.86). Scientists displayed a significant gap in extension skills among the listed skills, with a gap index of 48.00, whereas scientists had the smallest gap in functional skills with a gap index of 40.95. Scientists showed a greater competency gap index for current affairs related to agriculture (56.98) and lower competency gap index for knowledge related to KAU (48.22).

In terms of overall core competencies, scientists had the highest gap index of 56.80 for knowledge, while the lowest gap index of 34.84 for attitude.

5.2.2. Category 2 – Technical Officers

According to the hexagonal competency model used for technical officers, the highest competency gap was found in knowledge, with a gap index of 70.42, while professional ethics exhibited the smallest gap, with a gap index of 24.60.

5.2.3. Category 3 – Administrative Staff

According to the Lancaster competency model adopted, administrative staff exhibited the largest competency gap index of 44.57 for problem-solving skills, while the smallest gap index of 37.20 for analytical skills under the components of skills. Among the overall core competencies, administrative staff showed wide gap with a competency gap index of 56.27 for creativity, whereas the least gap index of 26.25 for professional ethics.

5.2.4. Category 4 – Labourers

According to the Pyramid competency model, labourers showed the highest gap index of 65.39 for knowledge, while lowest gap index of 28.07 for communication.

5.3. FACTORS AFFECTING PERFORMANCE OF KAU EMPLOYEES

5.3.1. Category 1 – Scientists

Three-fifth of the scientists (60%) exhibited medium level of job performance. To identify the sampling adequacy and scope for factor analysis within a set of potential factors, the Kaiser-Meyer-Olkin factor adequacy (KMO score) was calculated for each variable and found to be 0.63.

Career progression and learning (age, total work experience and training exposure), workload, job stress, research productivity (number of publications and number of research projects handled), personal efficacy (self-confidence and achievement motivation), work environment (organizational climate and infrastructural facility) and job engagement (job involvement, job satisfaction and job commitment) were identified as seven factors affecting the performance of scientists.

Job stress showed a positive and significant relationship with job performance at the 0.1% level of significance. Age, total work experience, and job involvement also exhibited positive significance, while perceived workload showed a negative significance with job performance at the 1% level. Training exposure, number of research projects handled, self-confidence, achievement motivation, job satisfaction, and job commitment demonstrated positive and significant relationship with job performance at the 5% significance level.

5.3.2. Category 2 – Technical Officers

Nearly three-fourth of the technical officers (72.5%) exhibited medium job performance. To identify the sampling adequacy and scope for factor analysis within a set of potential factors, the Kaiser-Meyer-Olkin factor adequacy (KMO score) was calculated for each variable and found to be 0.60.

The six factors affecting performance of technical officers were identified and named as job engagement (job satisfaction and job commitment), workplace resources and job mobility (number of transfers and infrastructural facility), personal efficacy (self-confidence and job involvement), achievement motivation, career progression (age and total work experience) and occupational pressure (perceived workload and job stress).

Age and job stress had a positive association with job performance at the 5% level of significance, whereas total work experience and achievement motivation had a positive significance at the 1% level.

5.3.3. Category 3 – Administrative Staff

More than two-third of the administrative staff (67.14%) exhibited medium job performance. To identify the sampling adequacy and scope for factor analysis within a set of potential factors, the Kaiser-Meyer-Olkin factor adequacy (KMO score) was calculated for each variable and found to be 0.63.

Five factors affecting performance of administrative staff were identified and named as career progression and job mobility (age, total work experience and number of transfer), job engagement (achievement motivation, job involvement and job commitment), infrastructural facility, personal efficacy (self-confidence and job satisfaction), and occupational pressure (perceived workload and job stress).

Total work experience, job satisfaction, and job commitment exhibit positive relationship with job performance at the 1% level of significance, whereas age showed positive significance with job performance at 5% level.

5.3.4. Category 4 – Labourers

More than three-fourth of the labourers (77.14%) exhibited medium job performance. To identify the sampling adequacy and factorability within a set of potential factors, the Kaiser-Meyer-Olkin factor adequacy (KMO score) was calculated for each factor within a set of potential factors and found to be 0.60.

Seven factors affecting performance of labourers were identified as age, personal efficacy (self-confidence and job involvement), infrastructural facility, organizational climate, achievement motivation, occupational pressure (perceived workload and job stress) and job engagement (job satisfaction and job commitment) through exploratory factor analysis.

Total work experience and job commitment exhibited positive relationship with job performance at the 1% level of significance, whereas age and perceived workload showed negative significance with job performance at 5% level.

5.4. TRAINING NEEDS OF KAU EMPLOYEES

5.4.1. Category 1 – Scientists

The training needs of scientists were classified into the technical, organizational, and socio-psychological domains. It is evident that the most critical training needs of scientists

were within the technical domain, which had a training need index of 50.16. This was followed by socio-psychological domain with an index of 42.50, while organizational domain was the least training need index of 39.70. Consequently, the overall Training Need Index (TNI) of scientists at KAU was 44.12. Within the technical domain, specific training needs of scientists included research aptitude (57.24), extension activities (44.86), teaching aptitude (50.54), and subject matter expertise (50.36). Training need indices of scientists under organizational domain were financial management (41.67), office management and administration (40.00), and project management (38.90).

5.4.2. Category 2 – Technical Officers

The training needs of technical officers comprised technical, organisational, and socio-psychological domains. It was obvious that the most pressing training needs of technical officers were in technical domain with a training need index of 30.25, followed by socio-psychological domain with a training need index of 23.75, and the least training need on organisational domain with index of 19.38. The overall TNI of technical officers at KAU was 24.46. Training need index of technical officers under technical domain were input management (34.79), agronomic practises (28.28), soil and water management (28.75), plant protection (38.13), post-harvest technologies (24.25), and field extension activities (18.13).

5.4.3. Category 3 – Administrative Staff

Administrative staff required training in the technical, organisational, and socio-psychological domains. It was clear that the most pressing training needs for administrative personnel were in technical domain with an index of 38.57, followed by organisational domain with an index of 30.83, and the least training need on socio-psychological domain with an index of 19.57. As a result, the overall TNI for administrative staff at KAU was 29.66. Administrative staff needed training in office management and administration with an index of 40.71 and financial management with an index of 36.67 under the technical domain.

5.4.4. Category 4 – Labourers

Labourers required training in the technical, and socio-psychological domains. It was observed that the most pressing training needs of labourers were in technical domain with an index of 31.99, followed by socio-psychological domain with an index of 24.29. The overall TNI of labourers at KAU was 28.14. The training need index of labourers were on field preparation (36.79), inter-cultural operation (28.43), plant protection (44.29) and post-harvest technology (26.55) under the technical domain.

5.5. TRAINING DESIGN FOR ENHANCING THE COMPETENCY KAU EMPLOYEES

5.5.1. Category 1 – Scientists

The training modules were created to address the specific training needs of scientists of KAU. To enhance their competency, a training program will be conducted for 150 scientists in five batches. This program will follow a blended learning approach lasting for 10 working days, which includes 5 days of online sessions and 5 days of in-person sessions, accompanied by pre- and post-training evaluations and feedback forms. The training program for the scientists of KAU comprises eight modules, with each module featuring comprehensive training sessions.

5.5.2. Category 2 – Technical Officers

The training modules were created to meet the training demands of KAU's technical officers. For the purpose of conducting a competency-enhancing training programme, 40 technical officers will form a batch of trainees who will be trained as offline mode for three working days and will be evaluated before and after the training. The training curriculum for technical officers of KAU consists of seven modules, with extensive training sessions.

5.5.3. Category 3 – Administrative Staff

The training modules were designed to address the specific training needs of administrative staff of KAU. To enhance their competencies, a training program will be conducted for 150 administrative staff in five batches. This program will utilize a blended learning approach lasting for 6 working days, including 5 days of online instruction and 1 day of offline training, along with pre- and post-training evaluations and feedback forms. For the administrative staff of KAU, the training program included three modules, with each module offering detailed training sessions.

5.5.4. Category 4 – Labourers

The training modules were designed to address the specific training needs of labourers of KAU. To enhance their competencies, a training program will be conducted for 150 labourers in five batches. This program will utilize an offline learning approach lasting for 3 working days with pre- and post-training evaluations and feedback forms. The training program for the labourers of KAU included five modules, with each module offering detailed training sessions.

5.6. IMPLICATIONS OF THE STUDY

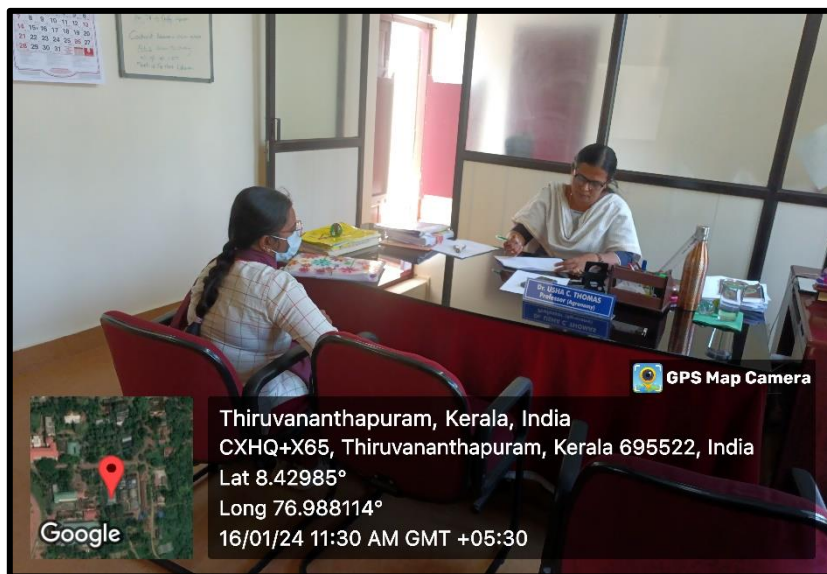
Based on the findings of the study, the following implications are recommended:

- Develop a competency management software for university to visualize performance gaps for individual employee and map training requirements at regular intervals. The development of the software can be entrusted to IT wing or outsourced to complete it within a year.
- To bridge the knowledge gap among scientists, encourage cross-departmental projects and collaborations, allowing employees to gain diverse experiences and broaden their skill sets. The existing collaborative projects may be reviewed and further strengthening can be done by Director of Research (DoR), KAU.
- HRD cell may be organized in each institution for fostering an environment that encourages continuous learning and professional development throughout the entire employment journey. Funds required for organizing HRD programmes are to be earmarked in the budget and ensure that the programmes are conducted at regular intervals for each category of employees.
- To reduce stress or pressure from workplace, always encourage workplace wellness, fitness programmes, stress busters and access to counselling services. Working of 24x7 counselling services (on-call) should be ensured to all employee categories of KAU
- Each of the four employee categories should get training on the latest trends related to their work situation once in every three years. Organize hands-on trainings rather than theoretical, for all categories of employees.
- Induction training should be mandatory for all categories of employees.
- Update KAU's transfer norms and policy for scientists, technical officers and administrative staff.
- To reduce the workload, vacant positions needed to be filled as quickly as possible. For immediate relief from work pressure due to employee shortage, university can appointment temporary or contract staff.
- The university needs to implement e-office as soon as possible in all stations with required infrastructure. This helps the employees to accomplish paper-less task.
- The university should set up an online suggestion box so that any employee can easily access it from anywhere at any time. Employees can voice their opinion for the purpose of registering complaints and suggesting new ideas for improvement.

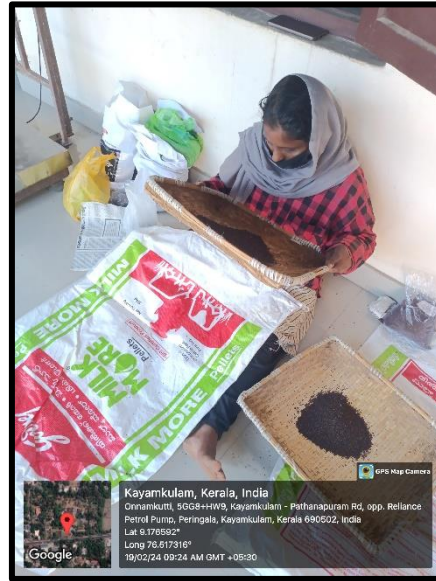
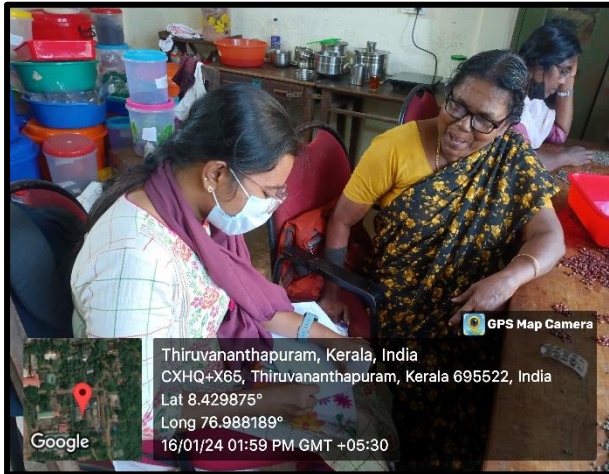
- Appreciate or showcase the creative accomplishment of employees through KAU newsletter, social media platforms or in recognition events conducted by university.
- Conduct performance reviews on a regular basis to evaluate the effectiveness and caliber of work completed by employees of KAU. Academic audit (for scientists) and G-score (for administrative staff) may be encouraged.
- To precisely record the hours worked by each labourer, use computerized attendance monitoring system to avoid the time theft and ensure that labourers can fairly utilize the time.
- Introduce innovation awards for employees who bring creative solutions or new ideas to the university.
- Feature in-depth stories of employee creative accomplishments on social media, showing how their outstanding performance made significant impact and quality improvement in the university or the entire society.
- Incorporate 360-degree feedback into performance evaluation, where employees receive input from peers, supervisors, and even students or external stakeholders. This provides a comprehensive view of their performance.
- Implement competency-based talent management system which enable university to assess employees' current competency and talents at regular interval to meet future demands.

5.7. FUTURE LINE OF STUDY

- ✦ Exploring the use of artificial intelligence and machine learning in predicting skill gaps for employees of universities
- ✦ Identifying competencies for dealing with emerging challenges like climate change, digital transformation, and data-driven decision-making in universities
- ✦ Integrating Emotional Intelligence into competency mapping for enhancing employee performance in universities
- ✦ Mapping digital and analytical competencies of employees in universities: Implications for institutional growth and innovation



Glimpse from the survey – Collecting responses from Scientists



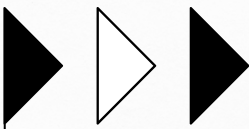
Glimpse from the survey – Collecting responses from Labourers



Glimpse from the survey – Collecting responses from Technical Officer



Glimpse from the survey – Collecting responses from Administrative Staff



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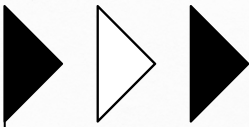
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Appendix





APPENDIX - I

KERALA AGRICULTURAL UNIVERSITY COLLEGE OF AGRICULTURE, VELLANIKKARA Department Of Agricultural Extension

TITLE: Competency mapping among employees of Kerala Agricultural University

JUDGES RATING FOR INDEPENDENT VARIABLES

Name of the researcher: Aaysha Kamar (2019-21-048)

Objective of the study:

- ✓ To understand the gap between existing and required level of competency among KAU employees
- ✓ To identify the training needs of the employees
- ✓ To evaluate the factors effecting performance of the employees
- ✓ To formulate training design for enhancing the competency of each category of the employees of KAU

Category of employees:

1. Scientists
2. Technical officers
3. Administrative staff
4. Labourers

Kindly tick mark [✓] against the following variables based on their relevancy in this study: [MOR – Most Relevant; MR – More Relevant; R– Relevant; LR – Less Relevant; NR – Not Relevant]

| Sl. No. | Independent variables | Definition | MOR | MR | R | LR | NR |
|---------|---------------------------|--|-----|----|---|----|----|
| 1 | Age | It is the chronological years of the employee since birth in completed years on the day of data collection. | | | | | |
| 2 | Educational qualification | It is the formal education attained by an employee individually. | | | | | |
| 3 | Gender | It refers to social/cultural distinction associated with being male/female. | | | | | |
| 4 | Marital status | It is the civil status of an employee in relation to the marriage. | | | | | |
| 5 | Annual income | It is the total amount of income earned by the employee during a year. | | | | | |
| 6 | Total work experience | It is the total number of years undertaken by an employee on the basis of their professional experience till the day of data collection. | | | | | |
| 7 | Designation | It is the post/position held by the employee in the university hierarchy. | | | | | |
| 8 | Organisational department | It is the division of an organisation in which the employee is working. | | | | | |

| | | | | | | | |
|----|---------------------------|---|--|--|--|--|--|
| 9 | Training exposure | It is the degree of various in-service training taken by the scientist to upgrade the knowledge and skill for improving their job performance. | | | | | |
| 10 | Career aspiration | It refers to a long-term career goal, plan, or dream that is far away in the future of the employee. | | | | | |
| 11 | Organisational climate | It is the degree of perception of an employee about work place, facilities and co-workers. | | | | | |
| 12 | Administrative support | It refers to the extent of support an employee receives for various clerical and administrative tasks, usually including routine paper-work and communications. | | | | | |
| 13 | Infrastructure facilities | It refers to the resources provided to the employee for effective functioning of their work. | | | | | |
| 14 | Self-confidence | It is the degree of self-reliance of an employee about his/her own abilities, talent and capacity to accomplish the desired outcome. | | | | | |
| 15 | Mass media exposure | It refers to frequency by which an employee exposed to mass media communications to become aware about latest technical and scientific information. | | | | | |
| 16 | Risk orientation | It is the degree to which an employee is assisted with control-oriented approach as a way to manage perceived risks. | | | | | |
| 17 | Achievement motivation | It refers to the extent of orientation of an employee towards achieving their pre-described goals. | | | | | |
| 18 | Extrinsic motivation | It refers to behaviour of an employee that is driven by external factors, such as a reward or avoidance of negative outcomes. | | | | | |
| 19 | Economic incentives | Economic incentives are the things that motivate you to engage in certain behaviour towards earning monetary benefits. | | | | | |
| 20 | Political interference | It is the degree to which an employee attempts to gain partisan advantage by shaping the workplace against the | | | | | |

| | | | | | | | |
|----|------------------------------------|--|--|--|--|--|--|
| | | judgment of a non-partisan or apolitical agent. | | | | | |
| 21 | Perceived workload | It is the quantum of work an employee is expected to accomplish in a given frame of time. | | | | | |
| 22 | Job involvement | It refers to the psychological and emotional extent to which an employee got involved in their job. | | | | | |
| 23 | Job satisfaction | It is defined as the level of contentment an employee feels towards their job. | | | | | |
| 24 | Job commitment | It is the feeling of responsibility that an employee has towards the given job. | | | | | |
| 25 | Frequency of transfer | It refers to the number of transfers given to the employee within their service period. | | | | | |
| 26 | Social participation | It is the degree to which the employee associated with different social organisation. | | | | | |
| 27 | Job stress | It is the degree of psychological and physical stress or pressure felt by the employee in their job. | | | | | |
| 28 | Frequency of contact with superior | It refers to the number of times an employee in the organisation meets his/her superior officer. | | | | | |
| 29 | Please mention any other | | | | | | |

Independent variables for scientists alone

| Sl. No. | Independent variables | Definition | MOR | MR | R | LR | NR |
|---------|-------------------------------------|---|-----|----|---|----|----|
| 1 | Number of publications | It is the number of works published by a scientist in national and international publications throughout their career | | | | | |
| 2 | Number of research projects handled | It is the number of research projects handled by a scientist as assignments both from state and national level. | | | | | |
| 3 | Additional charge | It is the number of extra charge given/allotted to the scientist. | | | | | |
| 4 | Subject of specialisation | It refers to the field/subject in which a scientist is specialised. | | | | | |

| | | | | | | | |
|---|---------------------------------------|--|--|--|--|--|--|
| 5 | Participation in seminars/conferences | It is the degree of participation of a scientist in seminar/conference at both national and international level. | | | | | |
| 6 | Innovativeness | It is the degree of implementation of novel ideas by a scientist. | | | | | |
| 7 | Global exposure | It is the degree of exposure to international institutions visited by a scientist with respect to scientific purposes. | | | | | |
| 8 | Membership to periodicals | The state of being a member to periodicals like magazines and journals. | | | | | |
| 9 | Please mention any other | | | | | | |

Appendix-II

Variables with their relevancy percentage

| Sl. No. | Independent variables | Scientists | Technical officers | Administrative staff | Labourers |
|---------|---------------------------|------------|--------------------|----------------------|-----------|
| 1 | Age | 85.00 | 86.77 | 91.24 | 96.85 |
| 2 | Educational qualification | 88.33 | 86.00 | 84.67 | 82.1 |
| 3 | Gender | 79.44 | 73.44 | 73.48 | 79.29 |
| 4 | Marital status | 66.11 | 58.42 | 61.84 | 37.44 |
| 5 | Annual income | 66.67 | 62.61 | 74.95 | 69.37 |
| 6 | Total work experience | 91.67 | 97.83 | 88.55 | 94.61 |
| 7 | Designation | 70.56 | 63.99 | 64.76 | 72.94 |
| 8 | Organisational department | 76.11 | 74.68 | 62.88 | 69.34 |
| 9 | Training exposure | 91.67 | 95.77 | 98.66 | 97.94 |
| 10 | Career aspiration | 70.56 | 64.11 | 57.13 | 49.29 |
| 11 | Organisational climate | 92.22 | 96.57 | 91.09 | 82.73 |
| 12 | Administrative support | 68.89 | 71.82 | 62.59 | 53.40 |
| 13 | Infrastructure facilities | 84.44 | 84.67 | 89.80 | 82.32 |
| 14 | Self-confidence | 92.22 | 90.50 | 86.64 | 84.83 |
| 15 | Mass media exposure | 72.22 | 68.32 | 79.61 | 64.16 |
| 16 | Risk orientation | 70.00 | 53.29 | 69.24 | 76.58 |
| 17 | Achievement motivation | 89.44 | 84.22 | 80.71 | 89.35 |
| 18 | Extrinsic motivation | 76.67 | 68.35 | 59.72 | 32.61 |
| 19 | Economic incentives | 72.78 | 76.56 | 42.91 | 49.57 |
| 20 | Political interference | 68.33 | 72.81 | 62.49 | 64.83 |
| 21 | Perceived workload | 87.22 | 90.02 | 86.40 | 89.91 |
| 22 | Job involvement | 94.44 | 92.19 | 90.66 | 93.72 |
| 23 | Job satisfaction | 95.56 | 94.89 | 91.30 | 90.38 |
| 24 | Job commitment | 92.78 | 89.61 | 94.27 | 88.62 |
| 25 | Frequency of transfer | 82.22 | 86.19 | 88.67 | 81.00 |
| 26 | Social participation | 69.44 | 76.58 | 57.99 | 67.84 |
| 27 | Job stress | 86.67 | 84.20 | 88.33 | 80.91 |

| | | | | | |
|----|---------------------------------------|-------|-------|-------|-------|
| 28 | Frequency of contact with superior | 75.00 | 68.26 | 71.97 | 65.09 |
| 29 | Number of publications | 83.89 | - | - | - |
| 30 | Number of research projects handled | 88.89 | - | - | - |
| 31 | Additional charge | 81.67 | - | - | - |
| 32 | Subject of specialisation | 72.22 | - | - | - |
| 33 | Participation in seminars/conferences | 87.22 | - | - | - |
| 34 | Innovativeness | 88.89 | - | - | - |
| 35 | Global exposure | 81.10 | - | - | - |
| 36 | Membership to periodicals | 85.56 | - | - | - |

Appendix-III

The value of difficulty index, discrimination index and point biserial correlation for items used for knowledge test in scientists:

| ITEM | ITEM DIFFICULTY INDEX | ITEM DISCRIMINATION INDEX | POINT BISERIAL CORRELATION |
|------|-----------------------|---------------------------|----------------------------|
| S1 | 86.67 | 0.20 | 0.095 |
| S2 | 70.00 | -0.1 | 0.085 |
| S3 | 73.33 | 0.1 | 0.296 |
| S4 | 66.67 | -0.6 | -0.169 |
| S5 | 86.67 | -0.1 | 0.072 |
| S6 | 80.00 | 0.5 | 0.486** |
| S7 | 26.67 | -0.2 | -0.315 |
| S8 | 86.67 | 0.2 | 0.122 |
| S9 | 93.33 | 0.2 | 0.256 |
| S10 | 63.33 | 0.5 | 0.651** |
| S11 | 33.33 | 0.3 | 0.439* |
| S12 | 70.00 | 0 | -0.047 |
| S13 | 40.00 | -0.1 | 0.216 |
| S14 | 40.00 | 0 | 0.015 |
| S15 | 63.33 | 0 | -0.076 |
| S16 | 83.33 | 0.5 | 0.638** |
| S17 | 33.33 | 0.1 | 0.135 |
| S18 | 36.67 | 0.2 | 0.468** |
| S19 | 76.67 | -0.1 | 0.136 |
| S20 | 66.67 | 0.5 | 0.651** |
| S21 | 76.67 | 0.3 | 0.512** |
| S22 | 53.33 | -0.3 | 0.277 |
| S23 | 46.67 | 1 | 0.845** |
| S24 | 46.67 | 1 | 0.845** |
| S25 | 56.67 | 0.9 | 0.606** |
| S26 | 36.67 | 0.4 | 0.371* |
| S27 | 70.00 | 0.4 | 0.424* |
| S28 | 30.00 | 0.7 | 0.704** |
| S29 | 40.00 | 0.4 | 0.756** |
| S30 | 33.33 | -0.1 | -0.2 |
| S31 | 70.00 | 0.2 | 0.403* |
| S32 | 70.00 | -0.1 | -0.135 |
| S33 | 70.00 | 0.9 | 0.706** |
| S34 | 43.33 | 0.5 | 0.536** |
| S35 | 40.00 | 0.8 | 0.495** |

| | | | |
|-----|-------|------|---------|
| S36 | 53.33 | 0.3 | 0.443* |
| S37 | 46.67 | 0.9 | 0.704** |
| S38 | 50.00 | 0.2 | 0.430* |
| S39 | 63.33 | -0.1 | 0.171 |
| S40 | 60.00 | 0.7 | 0.575** |
| S41 | 56.67 | -0.8 | 0.232 |
| S42 | 80.00 | 0.4 | 0.2 |
| S43 | 80.00 | 0 | 0.099 |
| S44 | 56.67 | 0.5 | 0.434* |
| S45 | 73.33 | 0 | 0.045 |
| S46 | 26.67 | -0.2 | -0.139 |
| S47 | 80.00 | 0 | -0.099 |
| S48 | 40.00 | 0.8 | 0.710** |
| S49 | 66.67 | 0.2 | 0.297 |
| S50 | 40.00 | 0.3 | 0.440* |
| S51 | 56.67 | 0.9 | 0.606** |
| S52 | 66.67 | -0.1 | -0.135 |
| S53 | 53.33 | 0.4 | 0.294 |
| S54 | 60.00 | 0.3 | 0.530** |
| S55 | 33.33 | 0.4 | 0.584** |
| S56 | 46.67 | -0.4 | -0.094 |
| S57 | 63.33 | 0.5 | 0.651** |
| S58 | 50.00 | 0.5 | 0.567** |
| S59 | 30.00 | 0.3 | 0.273 |
| S60 | 43.33 | 0.5 | 0.421* |

Appendix-IV

The value of difficulty index, discrimination index and point biserial correlation for items used for knowledge test in technical officers:

| ITEM | ITEM DIFFICULTY INDEX | ITEM DISCRIMINATION INDEX | POINT BISERIAL CORRELATION |
|------|-----------------------|---------------------------|----------------------------|
| S1 | 40.00 | 0.5 | 0.550** |
| S2 | 93.33 | 0.2 | 0.086 |
| S3 | 70.00 | 0.4 | 0.473** |
| S4 | 20.00 | -0.3 | -0.14 |
| S5 | 10.00 | 0.3 | 0.291 |
| S6 | 30.00 | 0.3 | 0.532** |
| S7 | 60.00 | 0.4 | 0.484** |
| S8 | 10.00 | -0.3 | -0.322 |
| S9 | 90.00 | 0.3 | 0.322 |
| S10 | 60.00 | 0.1 | 0.095 |
| S11 | 50.00 | 0.7 | 0.667** |
| S12 | 50.00 | 0.2 | 0.764** |
| S13 | 100.00 | 0 | 0 |
| S14 | 20.00 | 0 | -0.214 |
| S15 | 60.00 | 0 | 0.229 |
| S16 | 93.33 | 0 | 0.067 |
| S17 | 80.00 | 0 | 0.021 |
| S18 | 80.00 | 0 | -0.128 |
| S19 | 60.00 | -0.2 | -0.148 |
| S20 | 60.00 | 0.9 | 0.203 |
| S21 | 90.00 | 0 | 0.024 |
| S22 | 90.00 | 0.2 | 0.143 |
| S23 | 90.00 | 0.1 | -0.056 |

| | | | |
|-----|-------|------|---------|
| S24 | 60.00 | -0.4 | -0.002 |
| S25 | 50.00 | -0.1 | -0.012 |
| S26 | 50.00 | 0.3 | 0.381* |
| S27 | 70.00 | 0.3 | 0.560** |
| S28 | 70.00 | 0.6 | 0.476** |
| S29 | 80.00 | 0 | 0.214 |
| S30 | 70.00 | 0 | 0.008 |
| S31 | 50.00 | 0.1 | 0.048 |
| S32 | 10.00 | -0.1 | 0.056 |
| S33 | 90.00 | 0.3 | 0.177 |
| S34 | 40.00 | 0.9 | 0.262 |
| S35 | 40.00 | 0.7 | 0.428* |
| S36 | 10.00 | 0.3 | 0.234 |
| S37 | 50.00 | 0.4 | 0.683** |
| S38 | 60.00 | 0.3 | 0.414* |
| S39 | 10.00 | -0.1 | -0.103 |
| S40 | 50.00 | 0.5 | 0.620** |
| S41 | 50.00 | 0 | -0.024 |
| S42 | 30.00 | 0.7 | 0.369* |
| S43 | 20.00 | 0.2 | 0.417* |
| S44 | 30.00 | 0.3 | 0.622** |
| S45 | 30.00 | 0.2 | 0.439* |
| S46 | 93.33 | 0.1 | 0.186 |
| S47 | 10.00 | 0 | 0.095 |
| S48 | 30.00 | 0 | -0.125 |
| S49 | 30.00 | 0.4 | 0.512** |
| S50 | 20.00 | 0.1 | 0.158 |
| S51 | 30.00 | 0.5 | 0.538** |
| S52 | 40.00 | 0 | -0.083 |
| S53 | 70.00 | 0 | -0.044 |
| S54 | 20.00 | 0.3 | 0.362* |
| S55 | 20.00 | 0.6 | 0.560** |
| S56 | 20.00 | 0.2 | 0.441* |
| S57 | 50.00 | 0.3 | 0.369* |
| S58 | 10.00 | 0 | 0.016 |
| S59 | 30.00 | 0.5 | 0.538** |
| S60 | 40.00 | -0.1 | 0.136 |

Appendix-V

The value of difficulty index, discrimination index and point biserial correlation for items used for knowledge test in administrative staff:

| ITEM | ITEM DIFFICULTY INDEX | ITEM DISCRIMINATION INDEX | POINT BISERIAL CORRELATION |
|------|-----------------------|---------------------------|----------------------------|
| S1 | 96.67 | -0.10 | -0.218 |
| S2 | 80.00 | -0.20 | 0.000 |
| S3 | 96.67 | 0.00 | -0.052 |
| S4 | 26.67 | 0.5 | 0.26 |
| S5 | 20.00 | 0.4 | 0.448* |
| S6 | 76.67 | 0.2 | 0.669** |
| S7 | 60.00 | 0.1 | -0.010 |
| S8 | 96.67 | 0.1 | 0.081 |
| S9 | 73.33 | 0.2 | 0.593** |
| S10 | 73.33 | 0.5 | 0.625** |

| | | | |
|-----|-------|------|---------|
| S11 | 63.33 | 0.5 | 0.435* |
| S12 | 63.33 | 0.3 | 0.45* |
| S13 | 46.67 | 0.5 | 0.464** |
| S14 | 10.00 | 0.1 | 0.113 |
| S15 | 3.33 | 0.1 | 0.218 |
| S16 | 40.00 | 0.4 | 0.459* |
| S17 | 63.33 | 0.6 | 0.516** |
| S18 | 20.00 | -0.1 | -0.202 |
| S19 | 46.67 | 0.4 | 0.474** |
| S20 | 16.67 | 0 | 0.000 |
| S21 | 30.00 | 0.1 | 0.144 |
| S22 | 16.67 | 0.1 | 0.000 |
| S23 | 66.67 | 0.2 | 0.42* |
| S24 | 13.33 | -0.1 | -0.100 |
| S25 | 16.67 | 0 | -0.820 |
| S26 | 26.67 | 0 | 0.048 |
| S27 | 3.33 | 0.1 | 0.218 |
| S28 | 40.00 | 0.6 | 0.568** |
| S29 | 20.00 | -0.1 | 0.000 |
| S30 | 73.33 | 0.7 | 0.639** |
| S31 | 16.67 | 0.2 | 0.157 |
| S32 | 6.67 | -0.2 | -0.331 |
| S33 | 16.67 | -0.2 | 0.000 |
| S34 | 80.00 | 0.2 | 0.422* |
| S35 | 50.00 | 0.4 | 0.43* |
| S36 | 76.67 | 0 | 0.099 |
| S37 | 66.67 | 0.3 | 0.435* |
| S38 | 26.67 | 0.3 | 0.509** |
| S39 | 70.00 | 0.3 | 0.471* |
| S40 | 76.67 | 0.1 | 0.043 |
| S41 | 76.67 | 0.2 | 0.497* |
| S42 | 76.67 | 0.4 | 0.308 |
| S43 | 53.33 | 0.2 | 0.472* |
| S44 | 53.33 | 0.2 | 0.427* |
| S45 | 43.33 | 0.4 | 0.469* |
| S46 | 46.67 | 0.8 | 0.691** |
| S47 | 80.00 | 0.5 | 0.619** |
| S48 | 30.00 | 0.2 | 0.396* |
| S49 | 73.33 | 0.3 | 0.397* |
| S50 | 90.00 | 0.1 | 0.125 |
| S51 | 50.00 | 0.1 | 0.101 |
| S52 | 56.67 | 0.1 | 0.212 |
| S53 | 63.33 | 0.2 | 0.519* |
| S54 | 40.00 | 0.4 | 0.496** |
| S55 | 53.33 | 0 | 0.132 |
| S56 | 76.67 | 0.3 | 0.394* |
| S57 | 33.33 | 0.5 | 0.438* |
| S58 | 16.67 | 0.2 | 0.000 |
| S59 | 50.00 | 0.5 | 0.273 |

Appendix-VI

The value of difficulty index, discrimination index and point biserial correlation for items used for knowledge test in labourers:

| ITEMS | ITEM DIFFICULTY INDEX | ITEM DISCRIMINATION INDEX | POINT BISERIAL CORRELATION |
|-------|-----------------------|---------------------------|----------------------------|
| S1 | 90.00 | 0.3 | 0.264 |
| S2 | 76.67 | -0.1 | 0.194 |
| S3 | 13.33 | 0.2 | 0.294 |
| S4 | 100.00 | 0 | 0 |
| S5 | 46.67 | -0.2 | 0.141 |
| S6 | 80.00 | 0.4 | 0.570** |
| S7 | 13.33 | 0.1 | 0.337 |
| S8 | 70.00 | 0.6 | 0.455* |
| S9 | 50.00 | 0.5 | -0.559* |
| S10 | 70.00 | 0.4 | 0.461* |
| S11 | 80.00 | -0.1 | 0.103 |
| S12 | 100.00 | 0 | 0 |
| S13 | 100.00 | 0 | 0 |
| S14 | 40.00 | 0.5 | 0.461* |
| S15 | 100.00 | 0 | 0 |
| S16 | 40.00 | 0.3 | 0.431* |
| S17 | 70.00 | 0.4 | 0.466* |
| S18 | 83.33 | 0.3 | 0.276 |
| S19 | 40.00 | 0.5 | 0.431* |
| S20 | 30.00 | 0.4 | 0.570** |
| S21 | 20.00 | 0.3 | 0.474** |
| S22 | 50.00 | 0.4 | 0.452* |
| S23 | 40.00 | 0.3 | 0.431* |
| S24 | 56.67 | 0.3 | 0.478* |
| S25 | 60.00 | -0.4 | 0.295 |
| S26 | 20.00 | 0.6 | 0.741** |
| S27 | 20.00 | 0.3 | 0.481* |
| S28 | 10.00 | 0.3 | 0.176 |
| S29 | 70.00 | 0.3 | 0.414* |
| S30 | 53.33 | -0.3 | -0.082 |
| S31 | 40.00 | -0.3 | -0.288 |
| S32 | 50.00 | 0.3 | 0.435* |
| S33 | 16.67 | 0.2 | 0.079 |
| S34 | 80.00 | 0.3 | 0.503* |



APPENDIX - VII

KERALA AGRICULTURAL UNIVERSITY
COLLEGE OF AGRICULTURE, VELLANIKKARA
Department Of Agricultural Extension

TITLE: Competency mapping among employees of Kerala Agricultural University

INTERVIEW SCHEDULE FOR SCIENTISTS

PART I

General Information

- 1) Name: 2) Age:years
3) Designation: 4) Gender: Male/Female
5) Subject of specialization:
6) Educational qualification:

PART II

7) **Total work experience:**

Please state your total work experience below

| Sl. No. | Designation of the post held | Duration (No:of years or months) | Office |
|---------|------------------------------|----------------------------------|--------|
| 1 | | | |
| 2 | | | |
| 3 | | | |

8) **Training exposure:**

Have you undergone any in-service training? YES/NO

If yes, please mention the number of trainings undergone till date.....

9) **Do you hold any additional charge? YES/NO**

If yes, please mention the number of charges

Name of the post you hold charge

10) **Frequency of transfer:**

Number of transfers you have received during your service period till date

11) **Number of publications:**

Please indicate the type of work published in the table given below

| Sl. No. | Publications | Numbers |
|---------|---------------------------------|---------|
| 1 | Research papers (International) | |
| 2 | Abstract (International) | |
| 3 | Research paper (National) | |
| 4 | Abstract (National) | |
| 5 | Popular article | |
| 6 | Books | |
| 7 | Book chapters | |
| 8 | Leaflet/folders/bulletin | |

12) **Number of research projects handled:**

Please indicate about the details of research projects handled by you in the table given below:

| Sl. No. | Name of research project | Outlay (in Rs.) |
|---------|--------------------------|-----------------|
| 1 | | |
| 2 | | |
| 3 | | |

15) **Participation in seminar/conferences/symposium:**

Please indicate seminar/conferences attended at national or international level during the last 5 years in the table given below

| Sl. No. | Seminar/conferences at national or international level | Place | Duration (No:of days) |
|---------|--|-------|-----------------------|
| 1 | | | |
| 2 | | | |
| 3 | | | |

16) **Awards/recognitions/Fellowships:**

Please indicate seminar/conferences attended at national or international level during the last 5 years in the table given below

| Sl. No. | Level | First | Second |
|---------|----------------|-------|--------|
| 1 | International | | |
| 2 | National | | |
| 3 | State | | |
| 4 | University | | |
| 5 | College | | |
| 6 | Others, if any | | |

17) **Global exposure:**

Please indicate your global exposure or abroad visits related to job in the last 5 years in the table given below:

| Sl. No. | Purpose | Country | Duration (weeks/months) |
|---------|---------|---------|-------------------------|
| 1 | | | |
| 2 | | | |
| 3 | | | |

18) **Self-confidence:**

Please read carefully each statement and put a (✓) mark against each of the following statement for your opinion [NAA=Not At All, ALB=A Little Bit, SW=Some What, VM=Very Much, EX=Extremely]

| Sl. No. | Statements | NAA | ALB | SW | VM | EX |
|---------|---|-----|-----|----|----|----|
| 1 | I feel confident about my abilities | | | | | |
| 2 | I am worried about whether I am regarded as a successful or a failure | | | | | |
| 3 | I feel satisfied with the way my personality looks right now | | | | | |
| 4 | I feel that I am having trouble in understanding things | | | | | |
| 5 | I feel that others respect and admire me | | | | | |
| 6 | I get nervous in the time of difficulties | | | | | |
| 7 | I can keep myself calm and quite in adverse situation | | | | | |
| 8 | I feel myself as smart as others | | | | | |
| 9 | I am worried about what other people think of me | | | | | |
| 10 | I feel confident that I understand things | | | | | |
| 11 | I feel concerned about the impression I am making | | | | | |
| 12 | I feel that I have less scholastic ability than others | | | | | |

19) **Achievement motivation:**

Please put a (✓) mark in any one of the five alternatives provided against each statement to indicate your degree of agreement or disagreement to each statement. [Strongly Agree (SA), Agree (A), Undecided (UD), Disagree (D), Strongly Disagree (SD)]

| Sl. No. | Statements | SA | A | UD | D | SD |
|---------|---|----|---|----|---|----|
| 1 | I should enjoy my work as much as play | | | | | |
| 2 | I should work like a slave at everything I undertake until I am satisfied with the result | | | | | |
| 3 | I should succeed in my occupation even if I am neglectful of my family | | | | | |
| 4 | I should have determination and driving ambition to achieve certain things in life even if my qualities make me unpopular | | | | | |
| 5 | Work should come first even if I don't get rest | | | | | |
| 6 | Even when my own interest is in danger, I should concentrate on my job and forget my obligation to others | | | | | |
| 7 | I should get difficult goal for myself and try to reach them | | | | | |

20) **Perceived workload:**

Please indicate your feeling about these following statements by marking (✓) against any one of the five alternatives. [Strongly Agree (SA), Agree (A), Undecided (UD), Disagree (D), Strongly Disagree (SD)]

| Sl. No. | Statements | SA | A | UD | D | SD |
|---------|--|----|---|----|---|----|
| 1 | I feel busy or rushed until I finish the target | | | | | |
| 2 | I feel pressured while performing my work | | | | | |
| 3 | I feel the amount of work I did was interfaced with how well it got done | | | | | |

21) **Infrastructure facilities:**

How many of the following facilities are available to you and to what extend these are made available to you for undertaking job related activities? Please put a (✓) mark in the appropriate column against each facility.

| Sl. No. | Items | Easily available | Available with difficulty | Not at all available |
|---------|---|------------------|---------------------------|----------------------|
| 1 | Telephone/Internet facilities/Computer system | | | |
| 2 | Analytical softwares | | | |
| 3 | Electricity facilities | | | |
| 4 | Stationery | | | |
| 5 | Demonstration/ Field equipments | | | |
| 6 | Overhead projector/slide projector | | | |
| 7 | Slides | | | |
| 8 | Physical facility | | | |
| 9 | Residential facilities | | | |
| 10 | Transportation facilities | | | |
| 11 | Lecture/training hall | | | |
| 12 | Lab equipments | | | |

22) **Organizational climate:**

Please indicate your degree of agreement/disagreement by giving a (✓) in the appropriate column for any one of the five alternatives against each statements given below [Strongly Agree (SA), Agree (A), Undecided (UD), Disagree (D), Strongly Disagree (SD)]:

| Sl. No. | Statements | SA | A | UD | D | SD |
|---------|---|----|---|----|---|----|
| 1 | In the university, there are many rules, policies, procedures and practices to which I have to support | | | | | |
| 2 | I can make decisions and solve problems without consulting with superiors at each step | | | | | |
| 3 | The university sets challenging goals for itself and communicates its goal commitment to the employees | | | | | |
| 4 | The university recognizes and rewards good work of employees rather than ignoring, criticizing or punishing when something goes wrong | | | | | |

| | | | | | | |
|---|---|--|--|--|--|--|
| 5 | Things are well organized and goals are clearly defined in the university | | | | | |
| 6 | Friendliness, interpersonal trust and mutual support are very much prevalent in the university | | | | | |
| 7 | As need for leadership arise, employees feel free to take leadership roles and are rewarded for successful leadership | | | | | |

23) **Job involvement:**

Given below are some statements related to your entanglement in the job. Please indicate your degree of agreement or disagreement to them based on your experience by putting a (✓) mark in any one of the five alternatives provided against each statement. [Strongly Agree (SA), Agree (A), Undecided (UD), Disagree (D), Strongly Disagree (SD)]

| Sl. No. | Statements | SA | A | UD | D | SD |
|---------|---|----|---|----|---|----|
| 1 | I shall stay overtime to finish a job, even if I am not paid for it | | | | | |
| 2 | The major satisfaction in my life comes from my job | | | | | |
| 3 | I usually go for work a little early to get the things ready | | | | | |
| 4 | The most important things that happens to me is to involve in my work | | | | | |
| 5 | Sometime I keep myself awake at night thinking ahead to next day's work | | | | | |
| 6 | I am really a perfectionist about my work | | | | | |
| 7 | I felt depressed when I fail at something connected with my job | | | | | |
| 8 | I have other activities more important than my work | | | | | |
| 9 | Quite often I feel like staying at home instead of going for work | | | | | |
| 10 | To me, my work is only a small part of my life | | | | | |
| 11 | I am very much involved personally in my work | | | | | |
| 12 | I avoid taking on extra duties and responsibilities in my work | | | | | |
| 13 | Most things in my life are more important than work | | | | | |

24) **Job satisfaction:**

How satisfied are you with following aspects of your job? Please indicate your level of satisfaction by putting a (✓) mark in the appropriate column for any one of the five alternatives against each statement. [NAS=Not At All satisfied, NS=Not Satisfied, NO=No Opinion, S=Satisfied, VMS=Very Much Satisfied]

| Sl. No. | Statements | NSA | NS | NO | S | VMS |
|---------|--|-----|----|----|---|-----|
| 1 | My present salary | | | | | |
| 2 | Job security | | | | | |
| 3 | Praise and recognition for good work by the university | | | | | |
| 4 | Opportunity to work with team spirit | | | | | |
| 5 | Help, guidance and encouragement from superiors and relationship with them | | | | | |
| 6 | Opportunity for self-development | | | | | |
| 7 | Promotion policy of the university | | | | | |
| 8 | Freedom to pursue original ideas | | | | | |
| 9 | Freedom for flexibility in work | | | | | |
| 10 | Status and prestige as a person in the university | | | | | |
| 11 | Type of work done by me | | | | | |
| 12 | Scope to prove you: merit and excellence | | | | | |

25) **Job commitment:**

Please indicate your degree of agreement or disagreement by giving a (✓) mark in any one of the five alternatives in the appropriate column for following statements. [Strongly Agree (SA), Agree (A), Undecided (UD), Disagree (D), Strongly Disagree (SD)]

| Sl. No. | Statements | SA | A | UD | D | SD |
|---------|---|----|---|----|---|----|
| 1 | If one has real desire to his/her fellowmen, the best job is to be an employee in the university | | | | | |
| 2 | If I could get a similar salary, there are many other jobs I would rather have than that of an employee in the university | | | | | |
| 3 | There are other jobs for which I believe I am trained that would rather give greater personal satisfaction than being an employee to the university | | | | | |
| 4 | If I am honest with myself, I am dissatisfied with my job as an employee in the university | | | | | |
| 5 | Being an employee in the university gives me a lot freedom that I would not have, if I were to be an employee in another departments/sector | | | | | |
| 6 | When I look at the alternative jobs for which I think I am trained, I am glad that I am working as an employee to this university | | | | | |
| 7 | Unless a person has a real desire to serve his fellowmen, he/she should not try to become an employee in this university | | | | | |

26) **Job stress:**

Based on the level of stress in the job you are experiencing, please indicate your response in the appropriate column. [Strongly Agree (SA), Agree (A), Undecided (UD), Disagree (D), Strongly Disagree (SD)]

| Sl. No. | Statements | SA | A | UD | D | SD |
|---------|--|----|---|----|---|----|
| 1 | I have a lot of work and fear that very little time to do it | | | | | |
| 2 | I feel so burdened that even a day without work seems bad | | | | | |
| 3 | I feel that I never take a leave | | | | | |
| 4 | My job makes me nervous | | | | | |
| 5 | The effect of my job on me is too high | | | | | |
| 6 | Many a times, my job becomes a big burden | | | | | |
| 7 | Sometimes when I think about my job, I get a tight feeling in my chest | | | | | |
| 8 | I feel bad when I take a leave | | | | | |

PART III

1) **Job performance**

Please put a (✓) mark in any one of the five alternatives provided against each statement to indicate your degree of agreement or disagreement to each statement. [Strongly Agree (SA), Agree (A), Neutral (N), Disagree (D), Strongly Disagree (SD)]

| Sl. No. | Items | SA | A | N | D | SD |
|-----------------------------------|--|----|---|---|---|----|
| I. Task performance | | | | | | |
| 1 | I have the competencies that my job requires | | | | | |
| 2 | I work effectively and efficiently | | | | | |
| 3 | I understand and carry out work-related procedures | | | | | |
| 4 | I work in a planned and organized manner to conclude the task defined to me | | | | | |
| 5 | I am eager to acquire new skills related to my job | | | | | |
| II. Contextual performance | | | | | | |
| 1 | I take extra care and responsibilities while doing my duty | | | | | |
| 2 | I contribute to the creation of a positive working environment in my university | | | | | |
| 3 | If I encounter a situation that prevents the task from being done, I try to fix it | | | | | |

| | | | | | | |
|---|---|--|--|--|--|--|
| 4 | I help and encourage my colleagues to complete their work | | | | | |
| 5 | Even if there are criticisms inside or outside the university, I defend my university | | | | | |
| 6 | I am proud to be a part of this university | | | | | |

PART IV

In this part, please put a (✓) mark in the appropriate column against each statement to indicate your level of competency ranging from 1 to 5, as 1: Very Low Competency, 2: Low Competency, 3: Medium Competency, 4: High Competency and 5: Very High Competency.

1) Trait

| Sl. No | Statements | Level of competency | | | | |
|-----------------------------|---|---------------------|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 |
| 1. Openness | | | | | | |
| 1 | I can interact with the scientific community and to the public in order to exchange information | | | | | |
| 2 | I am always open to cooperate with others | | | | | |
| 3 | I take part in fair and friendly debates | | | | | |
| 4 | I accept helpful feedback for constant progress and refinement of self-knowledge | | | | | |
| 5 | I am eager to teach and train the future generation of research scholars | | | | | |
| 6 | I recognize and support honest feedback from students | | | | | |
| 7 | I am open to explore with different teaching strategies and approaches to adapt various style of learning | | | | | |
| 8 | I encourage students to contact me with queries, issues, or suggestions by fostering a warm and accepting environment | | | | | |
| 2. Conscientiousness | | | | | | |
| 1 | I systematically gather and document data, guaranteeing correctness and reliability | | | | | |
| 2 | I effectively coordinate numerous tasks and deadlines without sacrificing my job quality | | | | | |
| 3 | I always uphold a well-organized curriculum and sticks to the established course timetable | | | | | |
| 4 | I respect the intellectual sincerity, academic truthfulness and values | | | | | |
| 5 | I represent a sincere involvement in the academic development and growth of my students | | | | | |
| 6 | I always do follow-up with the students and farmers | | | | | |
| 3. Extraversion | | | | | | |
| 1 | I have effective interpersonal skills in developing a supportive and diverse scientific community by forming collaborative ties | | | | | |
| 2 | I am actively involved in faculty meetings and contributes to departmental decisions and efforts | | | | | |
| 3 | I find time to join in extracurricular endeavor and groups, and serve as an advisor or mentor | | | | | |
| 4 | I enjoy in social circumstances, mingling with other researchers, and developing professional relationships | | | | | |
| 4. Agreeableness | | | | | | |
| 1 | I show kindness and compassion, when dealing with others | | | | | |
| 2 | I am always ready to take new perspective and concepts | | | | | |
| 3 | I create an inviting and diverse atmosphere for learning | | | | | |
| 4 | I always extend helping hand to others | | | | | |
| 5 | I handle all learners with fairness and impartiality | | | | | |
| 6 | I find time and calmly hear opinions, sentiments and desires of students and farmers | | | | | |
| 5. Neuroticism | | | | | | |
| 1 | I don't feel anxious and concerned about the research and its implications | | | | | |
| 2 | I can handle stress management | | | | | |
| 3 | I manage work-life balance | | | | | |

| | | | | | | |
|-------------------------------|---|--|--|--|--|--|
| 4 | I make timely decisions | | | | | |
| 5 | I can assure completeness and correctness in research projects | | | | | |
| 6 | The "what if" thought is quite frequent in my mind | | | | | |
| 7 | Due to the emotional stability, I can make and maintain relationships | | | | | |
| 8 | I am eager in accepting risk or doing something new | | | | | |
| 6. Professional ethics | | | | | | |
| 1 | I always try to be punctual | | | | | |
| 2 | I act based on the severity of the situation | | | | | |
| 3 | I manage to interact with people in an ethical and fair manner | | | | | |
| 4 | I am dedicated to my profession | | | | | |
| 5 | I establish moral and social beliefs | | | | | |
| 6 | I take pleasure in doing my work | | | | | |
| 7 | I am unbiased in making decisions | | | | | |
| 8 | I can assist anybody in the institution and assume duty | | | | | |
| 9 | I can correctly cite and acknowledge the work of others, respect their intellectual property rights and give them credit for their thoughts, innovations, and discoveries | | | | | |
| 10 | I can avoid and report if noticed of any scientific misconduct including plagiarism, data manipulation or falsification, and unethical experiments | | | | | |
| 11 | I maintain high ethical standards | | | | | |
| 12 | I always keep up to date on important moral principles, rules, and policies, and follow institutional and government constraints relating to the study | | | | | |

2) Ability

| Sl. No. | Statements | Level of competency | | | | |
|-----------------------------|--|---------------------|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 |
| 1. Creativity | | | | | | |
| 1 | I can improvise alternatives to challenges, if the scheduled settings don't work out | | | | | |
| 2 | I create innovative strategies to raise the standard of education, research, and extension | | | | | |
| 3 | I always consider novel approaches to solve issues and raise the standard | | | | | |
| 4 | I leverage novel technology and techniques to better foster innovation | | | | | |
| 2. Accountability | | | | | | |
| 1 | I am productive at work and time management | | | | | |
| 2 | If the answer is not immediately available, I find time to address the queries made to me | | | | | |
| 3 | I seek to understand farmers needs and develop strategies to satisfy them | | | | | |
| 4 | I have strong dedication to uphold responsibly in scientific research and experimentation | | | | | |
| 5 | I constantly persuade attention over time | | | | | |
| 3. Crisis management | | | | | | |
| 1 | To effectively coordinate critical situations, I form a team comprised of important experts and specialists from relevant domains | | | | | |
| 2 | I create a detailed contingency strategy | | | | | |
| 3 | I advocate for funds and grants to support continuing contingency for the development of novel solutions to avert future disasters | | | | | |
| 4 | I keep a recording system to track occurrences, reactions, and results to analyse and improve contingency tactics over time | | | | | |
| 4. Teamwork | | | | | | |
| 1 | I maintain a strong work relationship among members | | | | | |
| 2 | I allocate duties and resources among team members for quick, effective completion of tasks | | | | | |
| 3 | I always assign tasks and responsibilities equally among everyone in a fair manner | | | | | |

| | | | | | | |
|---|---|--|--|--|--|--|
| 4 | I organize group meetings whenever necessary | | | | | |
| 5 | I encourage close listening and open discussion to ensure efficient team communication | | | | | |
| 6 | I enhance trust, cooperation, and unity among team members by facilitating group activities and tasks | | | | | |
| 7 | I always praise individual efforts while appreciating the team's overall accomplishments and efforts | | | | | |
| 8 | I always make sure everyone has a fair chance to participate and flourish | | | | | |
| 9 | I can manage team disputes | | | | | |

3) Skill

| Sl. No | Statements | Level of competency | | | | |
|----------------------------|---|---------------------|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 |
| 1. Functional skill | | | | | | |
| 1 | I can adapt to a new work environment | | | | | |
| 2 | I constantly ensure that operations are implemented in line with the plan | | | | | |
| 3 | I always consider alternate remedies for the problems encountered | | | | | |
| 4 | I have requisite skill to execute out tasks | | | | | |
| 2. Teaching skill | | | | | | |
| 1 | I understand key ideas to advise for the creation of a high-quality curriculum based on students' needs | | | | | |
| 2 | I explore more effective techniques for making the class participatory | | | | | |
| 3 | I create course-specific teaching materials and manuals that follow the syllabus | | | | | |
| 4 | I regularly supervise and monitor learners for the work progress | | | | | |
| 5 | I encourage students to catch-up with the work when lagging behind | | | | | |
| 6 | I always boost the academic achievement of students | | | | | |
| 7 | I encourage learners to voice their opinions | | | | | |
| 8 | I am keen to understand about subject matter connected with work | | | | | |
| 9 | I develop expertise with the subject being discussed | | | | | |
| 10 | I always understand the goals and priorities of teaching | | | | | |
| 11 | I promote open educational resources, which make educational content freely available to students, instructors, and learners all across the world | | | | | |
| 12 | I try to familiarise with new educational technology such as instructional systems, virtual classrooms, and digital resources | | | | | |
| 13 | I can handle student questions or issues in a timely way | | | | | |
| 14 | I am passionate in teaching | | | | | |
| 3. Research skill | | | | | | |
| 1 | I have the capacity for writing precise and short research questions | | | | | |
| 2 | I have expertise in developing and conducting robust experimental techniques | | | | | |
| 3 | I have the skill on how to pick the best methodologies and steps | | | | | |
| 4 | I possess requisite understanding on data gathering, assessment, and evaluation skills | | | | | |
| 5 | I have expertise in using analytical software, statistical techniques and research-related laboratory equipment | | | | | |
| 6 | I know how to use literature search tools and scientific databases | | | | | |
| 7 | I have ability to write scientifically and publish in peer-reviewed publications and | | | | | |
| 8 | I know to get research funds through drafting grant proposals and managing research projects | | | | | |
| 9 | I always comprehend novel ways to raise the standard | | | | | |
| 10 | I like to assist and guide junior scientist, research scholars and students | | | | | |
| 11 | I have expertise in modern research techniques | | | | | |
| 12 | I deposit research data in openly accessible repositories to ensure its long-term security and to encourage data sharing and cooperation | | | | | |

| | | | | | | |
|-------------------------------|---|--|--|--|--|--|
| 13 | I develop innovation, novel thoughts, new hypotheses, and paradigm changes | | | | | |
| 14 | I have significant level of credibility, by preventing the copyright infringement, fraud, and any other type of research misconduct | | | | | |
| 15 | I am excellent discussing research collaborations | | | | | |
| 4. Extension skill | | | | | | |
| 1 | I record field observations and create detailed field reports | | | | | |
| 2 | I always motivate farmers to take part in extension programmes | | | | | |
| 3 | I assess the extension programme and analyse outcome | | | | | |
| 4 | I can solve the field/extension issue successfully | | | | | |
| 5 | I organize field visits | | | | | |
| 6 | I always influence farmers to adopt innovative technologies | | | | | |
| 7 | I organize farmers trainings, melas/exhibitions | | | | | |
| 8 | I conduct workshops / demonstrations / seminars / conferences / webinars / online trainings / online classes | | | | | |
| 5. Communication skill | | | | | | |
| 1 | I communicate clearly and effectively with fellow scientists, farmers, students and subordinates | | | | | |
| 2 | I use visual aids to convey information | | | | | |
| 3 | I use the most efficient way to communicate with learners | | | | | |
| 4 | I have proficiency in the local language | | | | | |
| 5 | I frequently read books, professional interested publications like periodicals and journals | | | | | |
| 6 | I choose appropriate channel to transmit extension message | | | | | |
| 7 | I use pertinent examples and experiences, making easier for others to comprehend | | | | | |
| 8 | I am good at public speaking, including voice brevity, confident facial expressions, and efficient voice modulation for successful interaction during presentations and classes | | | | | |
| 6. Leadership skill | | | | | | |
| 1 | I take the initiative for programme organization and implementation | | | | | |
| 2 | I recognize workplace dynamics, group dynamics and methods for fostering teams | | | | | |
| 3 | I regularly supervise and monitor subordinate activities till the task is completed | | | | | |
| 4 | I take necessary steps as and when required | | | | | |
| 5 | I am willing to take up responsibilities | | | | | |
| 6 | I can identify potential risks, plan for them, and reduce any negative results | | | | | |
| 7 | I can plan projects, and do evaluations for better organizational success | | | | | |
| 8 | I can orient new employees | | | | | |

4) Please list out the subject expertise you have, which can be shared with other scientist/faculty members:

- a)
b)

5) i) Do you have any research achievement? Yes/No

ii) If no, what are the reasons?

iii) If yes, please mention the achievement and the year in the table given below:

| Sl. No | Varieties | Technologies | Softwares | Methods/Methodologies |
|--------|-----------|--------------|-----------|-----------------------|
| 1 | | | | |
| 2 | | | | |
| | | | | |

PART V

6) Attitude

Please put a (✓) mark in any one of the five alternatives provided against each statement to indicate your degree of agreement or disagreement to each statement. [Strongly Agree (SA), Agree (A), Neutral (N), Disagree (D), Strongly Disagree (SD)]

| Sl. No. | Statements | SA | A | N | D | SD |
|---------|--|----|---|---|---|----|
| 1 | I am enthusiastic in updating the subject matter | | | | | |
| 2 | I inspire students and arouse interest among them | | | | | |
| 3 | I have unfriendly and unapproachable behaviour | | | | | |
| 4 | I always appreciate the efforts of fellow workers | | | | | |
| 5 | I help students outside class hours | | | | | |
| 6 | I encourage teamwork | | | | | |
| 7 | I address problems with secrecy and avoidance | | | | | |
| 8 | I display impatience and lack of determination in doing research | | | | | |
| 9 | I take risk in performing my duties | | | | | |
| 10 | I devote and dedicate to my research | | | | | |
| 11 | When it becomes apparent that the task won't be finished on time, I refuse to ask for help when needed | | | | | |
| 12 | I accept and encourage creativity and innovation | | | | | |
| 13 | I retain an optimistic mindset by building resilience | | | | | |
| 14 | I avoid collaborations with local schools and colleges to improve agricultural education | | | | | |
| 15 | I am flexible and open to new experiences | | | | | |
| 16 | During working hours, I exclusively perform work-related tasks | | | | | |
| 17 | I don't modify methods of working when the initial strategy turns out to be time-consuming | | | | | |
| 18 | I maintain a "to do" list with priority and deadlines indicated as needed | | | | | |
| 19 | I keep track of all assignments/responsibilities | | | | | |
| 20 | I have strong interpersonal skills with farmers and agricultural professionals | | | | | |
| 21 | I am not interested in doing extension activities | | | | | |
| 22 | I encourage and empower the future generation of farmers | | | | | |
| 23 | I often give trainings, workshops and classes to farmers | | | | | |
| 24 | I discourage farmers from using digital technologies in the field | | | | | |
| 25 | I prioritize scientific truth over grants and financing, leading to fair studies and integrity | | | | | |
| 26 | I am not always ready to partake in in-service trainings | | | | | |

PART VI

7) Knowledge

Please choose the correct answer from the multiple choices given below against each question.

| | |
|---|--|
| 1 | "T" in NITI Ayog stands for a) Technology b) Transforming c) Transferring d) Transmission |
| 2 | e-commerce company launched an online platform for organic farming products is a) Amazon b) Flipkart c) Alibaba d) eBay |
| 3 | Which crop faced significant yield losses due to an outbreak of a new strain of fungal disease in 2023 a) Rice b) Maize c) Wheat d) Soyabean |
| 4 | Country recently launched the world's first-ever "Vegan Silk" from proteins of apples and bananas a) India b) USA c) China d) Brazil |
| 5 | Regulated market ensures a) Procurement price b) Support price c) Remunerative price d) Fair price |
| 6 | Forest Research Institute is situated at |

| | | | | |
|----|---|---------------------------|------------------------------------|----------------------------|
| | a) New Delhi | b) Goa | c) Dehradun | d) Mumbai |
| 7 | Blanket flower is | | | |
| | a) Cock's comb | b) Gaillardia | c) Ice plant | d) Sweet sultan |
| 8 | Name of new regulatory body to replace UGC under consideration by Government of India | | | |
| | a) NKC | b) NEP | c) HECI | d) None of these |
| 9 | Age limit for candidate to apply for UGC-NET Assistant Professor | | | |
| | a) No limit | b) 31 years | c) 32 years | d) 33 years |
| 10 | National Educational Policy 2020 is an educational policy released after Years | | | |
| | a) 24 years | b) 34 years | c) 44 years | d) 54 years |
| 11 | Maximum GST rate imposed is | | | |
| | a) 22% | b) 26.5% | c) 28% | d) 29% |
| 12 | Father of Agriculture is | | | |
| | a) Norman E Borlaug | b) Haberlandt | c) Rudolf Steiner | d) William S Gaud |
| 13 | Year in which Krishi Bhavan established in Kerala was | | | |
| | a) 1985 | b) 1986 | c) 1987 | d) 1988 |
| 14 | National Farmers Day is celebrated on..... | | | |
| | a) April 24 | b) June 1 | c) Dec 23 | d) Mar23 |
| 15 | The year in which Kerala witness worst floods causing extensive damage to agriculture | | | |
| | a) 2017 | b) 2018 | c) 2016 | d) 2015 |
| 16 | In which state farmers are richest in India | | | |
| | a) Maharashtra | b) Assam | c) Meghalaya | d) Punjab |
| 17 | First organic district in Kerala | | | |
| | a) Alappuzha | b) Palakkad | c) Kasaragod | d) Thrissur |
| 18 | Which is the largest agriculture state in India | | | |
| | a) Uttar Pradesh | b) Rajasthan | c) Madhya Pradesh | d) Andhra Pradesh |
| 19 | Which country is No:1 in agriculture? | | | |
| | a) India | b) USA | c) Brazil | d) China |
| 20 | Which state in India has the best soil suited for agriculture is | | | |
| | a) Tamil Nadu | b) Madhya Pradesh | c) Punjab | d) Gujrat |
| 21 | Which crop has been promoted under the "Subhiksha Keralam" project for sustainable agriculture? | | | |
| | a) Rubber | b) Coconut | c) Banana | d) Vegetables |
| 22 | Tag colour of foundation seed is | | | |
| | a) White | b) Blue | c) Green | d) No tag colour |
| 23 | International publication of KAU | | | |
| | a) International Journal of Agricultural Research | b) Journal of Agriculture | c) Journal of Tropical Agriculture | d) Journal of Horticulture |
| 24 | Recently released rice variety from RRS, Vyttila suitable for Pokkali regions | | | |
| | a) KAU Pournami | b) KAU Lavanya | c) KAU Jyothsna | d) Vyttila-9 |
| 25 | Plant nutrient mixture KAU Sampoorana can be used in | | | |
| | a) Rice | b) Banana | c) Vegetable | d) All of these |
| 26 | Plagiarism checking software used by KAU | | | |
| | a) Urkund | b) iThenticate | c) Turnitin | d) Viper |
| 27 | Ready platform for agricultural libraries of Indian National Agricultural Research and Education system (NARES) | | | |
| | a) CeRA | b) IDEAL | c) CABI e-book | d) CAB abstract |
| 28 | ICAR with the assistance of NAHEP and GoI, CAAST project was funded by | | | |
| | a) NABARD | b) RBI | c) World bank | d) SBI |
| 29 | State recently declared Internet access as a fundamental right for its citizens | | | |
| | a) Tamil Nadu | b) Kerala | c) Maharashtra | d) Karnataka |
| 30 | Coconut day is celebrated on of every year | | | |
| | a) July 28 | b) Dec 4 | c) Sep 2 | d) Feb 2 |

PART VII

Training need

Please put a (✓) mark in the appropriate column against each statement to indicate the need for training as Urgently Needed (2), Needed (1) and Not Needed (0) to the given below needs:

I. Technical/operational

| A. Research aptitude | | Training need | | |
|------------------------------------|---|---------------|---|---|
| | | 2 | 1 | 0 |
| 1 | Identification of new research area | | | |
| 2 | Preparation of project proposals | | | |
| 3 | Innovativeness | | | |
| 4 | AI tools for research | | | |
| 5 | Statistical software like R programming, SPSS, Stata etc. | | | |
| 6 | Scientific writing | | | |
| 7 | Scientific publication | | | |
| B. Extension | | | | |
| 1 | Digital technologies used for training | | | |
| 2 | Guidelines for research stations in product development and sales | | | |
| 3 | VR-assisted training for farmers and other stakeholders | | | |
| 4 | Program planning | | | |
| 5 | Program implementation | | | |
| 6 | Program monitoring | | | |
| 7 | Program evaluation | | | |
| 8 | Procedure for Transfer of technology | | | |
| 9 | Common guidelines for conducting workshop | | | |
| 10 | Recent technologies developed by KAU | | | |
| C. Teaching aptitude | | | | |
| 1 | Use of modern teaching tools | | | |
| 2 | New ICT trends | | | |
| 3 | Use of smart classroom | | | |
| 4 | Classroom management | | | |
| D. Subject matter expertise | | | | |
| 1 | Carbon neutral farming | | | |
| 2 | AI and its scope in agriculture | | | |
| 3 | Nanotechnology in agriculture | | | |
| 4 | Use of drone in precision agriculture practices | | | |
| 5 | Climate resilient agriculture | | | |
| 6 | Hands on training on IoT, Robotics in agriculture | | | |
| 7 | Software designing | | | |
| 8 | Advances in farm mechanization | | | |
| 9 | Mobile app development | | | |
| 10 | Varietal release procedure | | | |
| 11 | If any other subject you need to expertise, please mention | | | |

II. Organizational

| A. Office management & administration | | Training need | | |
|---------------------------------------|---|---------------|---|---|
| | | 2 | 1 | 0 |
| 1 | Preparation of annual progress report | | | |
| 2 | RTI act | | | |
| 3 | Protocol for handling confidential or sensitive information | | | |
| 4 | Appointment of RA | | | |
| 5 | Purchase of equipment | | | |
| 6 | Procedures to be followed in handling and completing external funded research projects in KAU | | | |
| 7 | KAU statute, Policy and regulation | | | |
| 8 | Office automation | | | |

| | | | | |
|--------------------------------|--|--|--|--|
| 9 | Labour norms | | | |
| 10 | Procurement and purchase rules | | | |
| B. Financial management | | | | |
| 1 | UFAST | | | |
| 2 | UNISPARK | | | |
| 3 | Revolving fund – scheme and mode of operations | | | |
| A. Project management | | | | |
| 1 | Project preparation | | | |
| 2 | Finding suitable funding agencies | | | |
| 3 | Project implementation | | | |
| 4 | Release of funds to comptroller account | | | |
| 5 | Request AS, TS, and FS | | | |
| 6 | Release and mapping funds in UFAST | | | |
| 7 | Fund flow system in DBT | | | |
| 8 | Start of zero balance account for project | | | |
| 9 | Demanding and releasing fund to prime account | | | |
| 10 | Project records maintenance – consumables, equipment, issue register, stock register, miscellaneous etc. | | | |
| 11 | Procedure related to project completion report, utilization certificate, asset transfer certificate etc. | | | |

III. Socio-Psychological

| Socio-Psychological attributes | | Training need | | |
|--------------------------------|---|---------------|---|---|
| | | 2 | 1 | 0 |
| 1 | Time management | | | |
| 2 | Stress management | | | |
| 3 | Work-life balance | | | |
| 4 | Personality development | | | |
| 5 | If any other needed, please mention | | | |



APPENDIX - VIII

**KERALA AGRICULTURAL UNIVERSITY
COLLEGE OF AGRICULTURE, VELLANIKKARA
Department Of Agricultural Extension**

TITLE: Competency mapping among employees of Kerala Agricultural University

INTERVIEW SCHEDULE FOR TECHNICAL OFFICERS

PART I

General Information

- 1) Name: 2) Age:years
 3) Designation: 4) Gender: Male/Female
 2) Official address:
 3) Educational qualification:

PART II

4) Total work experience:

Please state your total work experience below:

| Sl. No. | Designation of the post held | Duration (No:of years or month) | Office |
|---------|------------------------------|---------------------------------|--------|
| 1 | | | |
| 2 | | | |
| 3 | | | |

5) Training exposure:

Have you undergone any in-service training? YES/NO

If yes, please mention the number of the trainings undergone till date.....

6) Frequency of transfer:

Number of transfers you have received during your service period till date

7) Self-confidence:

Please read carefully each statement and put a (✓) mark against each of the following statement for your opinion [NAA=Not At All, ALB=A Little Bit, SW=Some What, VM=Very Much, EX=Extremely]

| Sl. No. | Statements | NAA | ALB | SW | VM | EX |
|---------|---|-----|-----|----|----|----|
| 1 | I feel confident about my abilities | | | | | |
| 2 | I am worried about whether I am regarded as a successful or a failure | | | | | |
| 3 | I feel satisfied with the way my personality looks right now | | | | | |
| 4 | I feel that I am having trouble in understanding things | | | | | |
| 5 | I feel that others respect and admire me | | | | | |
| 6 | I get nervous in the time of difficulties | | | | | |
| 7 | I can keep myself calm and quite in adverse situation | | | | | |
| 8 | I feel myself as smart as others | | | | | |
| 9 | I am worried about what other people think of me | | | | | |
| 10 | I feel confident that I understand things | | | | | |
| 11 | I feel concerned about the impression I am making | | | | | |
| 12 | I feel that I have less scholastic ability than others | | | | | |

8) Achievement motivation:

Please put a (✓) mark in any one of the five alternatives provided against each statement to indicate your degree of agreement or disagreement to each statement. [Strongly Agree (SA), Agree (A), Undecided (UD), Disagree (D), Strongly Disagree (SD)]

| Sl. No. | Statements | SA | A | UD | D | SD |
|---------|---|----|---|----|---|----|
| 1 | I should enjoy my work as much as play | | | | | |
| 2 | I should work like a slave at everything I undertake until I am satisfied with the result | | | | | |
| 3 | I should succeed in my occupation even if I am neglectful of my family | | | | | |
| 4 | I should have determination and driving ambition to achieve certain things in life even if my qualities make me unpopular | | | | | |
| 5 | Work should come first even if I don't get rest | | | | | |
| 6 | Even when my own interest is in danger, I should concentrate on my job and forget my obligation to others | | | | | |
| 7 | I should get difficult goal for myself and try to reach them | | | | | |

9) **Perceived workload:**

Please indicate your feeling about these following statements by marking (✓) against any one of the five alternatives. [Strongly Agree (SA), Agree (A), Undecided (UD), Disagree (D), Strongly Disagree (SD)]

| Sl. No. | Statements | SA | A | UD | D | SD |
|---------|--|----|---|----|---|----|
| 1 | I feel busy or rushed until I finish the target | | | | | |
| 2 | I feel pressured while performing my work | | | | | |
| 3 | I feel the amount of work I did was interfaced with how well it got done | | | | | |

10) **Infrastructure facilities:**

How many of the following facilities are available to you and to what extent these are made available to you for undertaking job related activities? Please put a (✓) mark or check in the appropriate column against each facility.

| Sl. No. | Items | Easily available | Available with difficulty | Not at all available |
|---------|---|------------------|---------------------------|----------------------|
| 1 | Telephone/Internet facilities/Computer system | | | |
| 2 | Physical facilities | | | |
| 3 | Electricity facilities | | | |
| 4 | Stationery | | | |
| 5 | Demonstration/ Field equipment | | | |
| 6 | Quarters facilities | | | |
| 7 | Transportation facilities | | | |

11) **Organizational climate:**

Please indicate your degree of agreement/disagreement by giving a (✓) in the appropriate column for any one of the five alternatives against each statements given below: [Strongly Agree (SA), Agree (A), Undecided (UD), Disagree (D), Strongly Disagree (SD)]

| Sl. No. | Statements | SA | A | UD | D | SD |
|---------|---|----|---|----|---|----|
| 1 | In the university, there are many rules, policies, procedures and practices to which I have to support | | | | | |
| 2 | I can make decisions and solve problems without consulting with superiors at each step | | | | | |
| 3 | The university sets challenging goals for itself and communicates its goal commitment to the employees | | | | | |
| 4 | The university recognizes and rewards good work of employees rather than ignoring, criticizing or punishing when something goes wrong | | | | | |
| 5 | Things are well organized and goals are clearly defined in the university | | | | | |
| 6 | Friendliness, interpersonal trust and mutual support are very much prevalent in the university | | | | | |

| | | | | | | |
|---|---|--|--|--|--|--|
| 7 | As need for leadership arise, employees feel free to take leadership roles and are rewarded for successful leadership | | | | | |
|---|---|--|--|--|--|--|

12) **Job involvement:**

Given below are some statements related to your entanglement in the job. Please indicate your degree of agreement or disagreement to them based on your experience by putting a (✓) mark in any one of the five alternatives provided against each statement. [Strongly Agree (SA), Agree (A), Undecided (UD), Disagree (D), Strongly Disagree (SD)]

| Sl. No. | Statements | SA | A | UD | D | SD |
|---------|---|----|---|----|---|----|
| 1 | I shall stay overtime to finish a job, even if I am not paid for it | | | | | |
| 2 | The major satisfaction in my life comes from my job | | | | | |
| 3 | I usually go for work a little early to get the things ready | | | | | |
| 4 | The most important things that happens to me is to involve in my work | | | | | |
| 5 | Sometime I keep myself awake at night thinking ahead to next day's work | | | | | |
| 6 | I am really a perfectionist about my work | | | | | |
| 7 | I felt depressed when I fail at something connected with my job | | | | | |
| 8 | I have other activities more important than my work | | | | | |
| 9 | Quite often I feel like staying at home instead of going for work | | | | | |
| 10 | To me, my work is only a small part of my life | | | | | |
| 11 | I am very much involved personally in my work | | | | | |
| 12 | I avoid taking on extra duties and responsibilities in my work | | | | | |
| 13 | Most things in my life are more important than work | | | | | |

13) **Job satisfaction:**

How satisfied are you with following aspects of your job? Please indicate your level of satisfaction by putting a (✓) mark in the appropriate column for any one of the five alternatives against each statement. [NAS=Not At All Satisfied, NS=Not Satisfied, NO=No Opinion, S=Satisfied, VMS=Very Much Satisfied]

| Sl. No. | Statements | NSA | NS | NO | S | VMS |
|---------|--|-----|----|----|---|-----|
| 1 | My present salary | | | | | |
| 2 | Job security | | | | | |
| 3 | Praise and recognition for good work by the university | | | | | |
| 4 | Opportunity to work with team spirit | | | | | |
| 5 | Help, guidance and encouragement from superiors and relationship with them | | | | | |
| 6 | Opportunity for self-development | | | | | |
| 7 | Promotion policy of the university | | | | | |
| 8 | Freedom to pursue original ideas | | | | | |
| 9 | Freedom for flexibility in work | | | | | |
| 10 | Status and prestige as a person in the university | | | | | |
| 11 | Type of work done by me | | | | | |
| 12 | Scope to prove you: merit and excellence | | | | | |

14) **Job commitment:**

Please indicate your degree of agreement or disagreement by giving a (✓) mark in any one of the five alternatives in the appropriate column for following statements. [Strongly Agree (SA), Agree (A), Undecided (UD), Disagree (D), Strongly Disagree (SD)]

| Sl. No. | Statements | SA | A | UD | D | SD |
|---------|---|----|---|----|---|----|
| 1 | If one has real desire to his/her fellowmen, the best job is to be an employee in the university | | | | | |
| 2 | If I could get a similar salary, there are many other jobs I would rather have than that of an employee in the university | | | | | |

| | | | | | | |
|---|---|--|--|--|--|--|
| 3 | There are other jobs for which I believe I am trained that would rather give greater personal satisfaction than being an employee to the university | | | | | |
| 4 | If I am honest with myself, I am dissatisfied with my job as an employee in the university | | | | | |
| 5 | Being an employee in the university gives me a lot freedom that I would not have, if I were to be an employee in another departments/sector | | | | | |
| 6 | When I look at the alternative jobs for which I think I am trained, I am glad that I am working as an employee to this university | | | | | |
| 7 | Unless a person has a real desire to serve his fellowmen, he/she should not try to become an employee in this university | | | | | |

15) **Job stress:**

Based on the level of stress in the job you are experiencing, please indicate your response in the appropriate column. [Strongly Agree (SA), Agree (A), Undecided (UD), Disagree (D), Strongly Disagree (SD)]

| Sl. No. | Statements | SA | A | UD | D | SD |
|---------|--|----|---|----|---|----|
| 1 | I have a lot of work and fear that very little time to do it | | | | | |
| 2 | I feel so burdened that even a day without work seems bad | | | | | |
| 3 | I feel that I never take a leave | | | | | |
| 4 | My job makes me nervous | | | | | |
| 5 | The effect of my job on me is too high | | | | | |
| 6 | Many a times, my job becomes a big burden | | | | | |
| 7 | Sometimes when I think about my job, I get a tight feeling in my chest | | | | | |
| 8 | I feel bad when I take a leave | | | | | |

PART III

16) **Job Performance**

Please put a (✓) mark in any one of the five alternatives provided against each statement to indicate your degree of agreement or disagreement to each statement. [Strongly Agree (SA), Agree (A), Neutral (N), Disagree (D), Strongly Disagree (SD)]

| Sl. No. | Items | SA | A | N | D | SD |
|-----------------------------------|---|----|---|---|---|----|
| I. Task performance | | | | | | |
| 1 | I have the competencies that my job requires | | | | | |
| 2 | I work effectively and efficiently | | | | | |
| 3 | I understand and carry out work-related procedures | | | | | |
| 4 | I work in a planned and organized manner to conclude the task defined to me | | | | | |
| 5 | I am eager to acquire new skills related to my job | | | | | |
| II. Contextual performance | | | | | | |
| 1 | I take extra care and responsibilities while doing my duty | | | | | |
| 2 | I contribute to the creation of a positive working environment in my university | | | | | |
| 3 | If I encounter a situation that prevents the task from being done, I try to fix it | | | | | |
| 4 | I help and encourage my colleagues to complete their work | | | | | |
| 5 | Even if there are criticisms inside or outside the university, I defend my university | | | | | |
| 6 | I am proud to be a part of this university | | | | | |

PART IV

In this part, please put a (✓) mark in the appropriate column against each statement to indicate your level of competency ranging from 1 to 5, as 1: Very Low Competency, 2: Low Competency, 3: Medium Competency, 4: High Competency and 5: Very High Competency.

1) Personality trait

| Sl. No. | Statements | Level of competency | | | | |
|---------|--|---------------------|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 |
| 1 | I always embrace the goodness in others | | | | | |
| 2 | I can manage stressful situation calmly | | | | | |
| 3 | I calmly hear opinions, sentiments and desires of farmers | | | | | |
| 4 | I always do follow-up with the farmers | | | | | |
| 5 | I can extend helping hand to others | | | | | |
| 6 | I have trustworthiness in execution and dedication to extension activities | | | | | |
| 7 | I am confident in doing daily chores | | | | | |
| 8 | I always respect others positive attributes | | | | | |
| 9 | I am self-motivated and desired to succeed in my activities | | | | | |
| 10 | I always utilize the suggestions of superiors, co-workers, and students | | | | | |
| 11 | I always try to build strong rapport with others | | | | | |

2) Skill

| Sl. No. | Statement | Level of competency | | | | |
|---------|--|---------------------|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 |
| 1 | I can fix the field/extension issues successfully | | | | | |
| 2 | I do organize and perform field visit | | | | | |
| 3 | I have expertise in farm management methods and procedures | | | | | |
| 4 | I have skills in farm planning, cultivation, and harvesting techniques | | | | | |
| 5 | I have good co-operation skills to collaborate with farmers and agricultural experts | | | | | |
| 6 | I can evaluate data and maintain records by employing farm management software and equipment | | | | | |
| 7 | I always try to understand market trends and make smart crop selection and sales decisions | | | | | |
| 8 | I have capacity to manage farm staff and labourers | | | | | |

3) Ability

| Sl. No. | Statements | Level of competency | | | | |
|---------|--|---------------------|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 |
| 1 | I have requisite knowledge to execute out tasks | | | | | |
| 2 | I always discuss with others before reaching a conclusion | | | | | |
| 3 | I constantly ensure that operations are implemented in line with the plan | | | | | |
| 4 | I always have alternate remedies for the problems faced | | | | | |
| 5 | I take appropriate action depending on the seriousness of the circumstance | | | | | |
| 6 | I can adapt to new work environment | | | | | |

4) Creativity

| Sl. No. | Statements | Level of competency | | | | |
|---------|---|---------------------|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 |
| 1 | I promote new environmental friendly agricultural practices that support conservation | | | | | |
| 2 | I always try to connect with agricultural experts and scientists to remain up to date on the most recent advances in the agriculture sector | | | | | |
| 3 | I can create new marketing options for agricultural by-products | | | | | |
| 4 | I can highlight cutting-edge farming techniques and technology for farmers | | | | | |

5) Communication

| Sl. No. | Statements | Level of competency | | | | |
|---------|--|---------------------|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 |
| 1 | I always try to settle issues/arguments with peers | | | | | |
| 2 | I choose appropriate channel for exchanging messages | | | | | |

| | | | | | | |
|---|--|--|--|--|--|--|
| 3 | I communicate clearly and effectively with colleagues, farmers, subordinates and labourers | | | | | |
| 4 | I can talk in a comprehensible manner to state views and opinions | | | | | |
| 5 | I am proficient in the local language | | | | | |
| 6 | I am frequent in reading of books, professional interest periodicals and magazines | | | | | |
| 7 | I can draft letters, reports, emails, and other types of written correspondence. | | | | | |
| 8 | I have patience and delicacy while dealing with tough or unpleasant interactions | | | | | |

6) Leadership

| Sl. No. | Statements | Level of competency | | | | |
|---------|--|---------------------|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 |
| 1 | I supervise and monitor subordinates for the regular progress till the work is done | | | | | |
| 2 | I always guide labourers | | | | | |
| 3 | I can recognize workplace dynamics, group dynamics and methods for fostering teams | | | | | |
| 4 | I am always willing to take up responsibilities | | | | | |
| 5 | I can foresee unexpected changes to the intended course of action | | | | | |
| 6 | I give co-workers with right direction and support in order to help them grow their technical capabilities | | | | | |
| 7 | I always assign tasks equally among labourers in a fair manner | | | | | |

7) Team work

| Sl. No. | Statements | Level of competency | | | | |
|---------|--|---------------------|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 |
| 1 | I believe in the value of working together to accomplish a given target | | | | | |
| 2 | I am efficient in allocation of duties and resources among team members for quick, and effective completion of tasks | | | | | |
| 3 | I give priority to team success, and members should be given credit | | | | | |
| 4 | I organize group meetings whenever necessary | | | | | |
| 5 | I build trusting bonds with the team's superiors, co-workers and labourers | | | | | |
| 6 | I always enhance the team's mutual respect and trust | | | | | |

8) Accountability

| Sl. No. | Statements | Level of competency | | | | |
|---------|---|---------------------|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 |
| 1 | I am capable of replying to queries | | | | | |
| 2 | I regularly seek to understand farmers needs | | | | | |
| 3 | If the answer is not immediately available, I find time to address the queries made by the farmers | | | | | |
| 5 | I am responsible for meeting deadlines and finishing the given tasks | | | | | |
| 6 | I maintain a system for tracking and recording the attendance, work hours and task completed by labourers | | | | | |

9) Professional ethics

| Sl. No. | Statements | Level of competency | | | | |
|---------|--|---------------------|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 |
| 1 | I am self-motivated and dedicated in finding career growth opportunities | | | | | |
| 2 | I always prioritize farmers' problems | | | | | |
| 3 | I take pleasure in doing work | | | | | |
| 4 | I act based on the severity of the situation | | | | | |
| 5 | I manage to interact with people in an ethical and fair manner | | | | | |
| 6 | I am dedicated to my profession | | | | | |
| 7 | I am unbiased in making decisions | | | | | |
| 8 | I am open to expert review | | | | | |
| 9 | I have liberty at work | | | | | |

| | | | | | | |
|----|---|--|--|--|--|--|
| 10 | I always follow the university established guidelines, procedures, and policies | | | | | |
|----|---|--|--|--|--|--|

PART V

10) Attitude

Please put a (✓) mark in any one of the five alternatives provided against each statement to indicate your degree of agreement or disagreement to each statement. [Strongly agree (SA), Agree (A), Neutral (N), Disagree (D), Strongly Disagree (SD)]

| Sl. No. | Statements | SA | A | N | D | SD |
|---------|--|----|---|---|---|----|
| 1 | I focus to provide latest technological solutions and guarantee their effective implementation to farmer community | | | | | |
| 2 | I disrespect my colleagues | | | | | |
| 3 | I always do timely execution of tasks and projects | | | | | |
| 4 | I aim for perfection in my technical work | | | | | |
| 5 | I actively seek feedback to improve | | | | | |
| 6 | I disregard ethical and professional norms | | | | | |
| 7 | I am fast adaptive to new technologies, tools, and techniques | | | | | |
| 8 | I support co-workers to accomplish similar goals and create a healthy working environment | | | | | |
| 9 | I do compromise on confidentiality and honesty | | | | | |
| 10 | I believe in the power of teamwork | | | | | |
| 11 | I am always ready to partake in in-service training if necessary | | | | | |
| 12 | I show a lack of enthusiasm to learn and adapt to new technologies and processes | | | | | |
| 13 | I am eager to acquire more knowledge | | | | | |
| 14 | Even under tough circumstances, I maintain a pleasant and hopeful mindset | | | | | |
| 15 | I have no interest in doing professional advancement | | | | | |
| 16 | I show a great commitment to hard work and perseverance | | | | | |
| 17 | I don't have sufficient knowledge on funds, schemes and policies | | | | | |

PART VI

11) Knowledge

Please choose the correct answer from the multiple choices given below against each question.

| | |
|---|---|
| 1 | Critical task during planting season a) Conduct soil testing b) Monitor pest and disease infestation c) Manage irrigation system d) All the above |
| 2 | Importance of record-keeping a) Track crop yield b) Record expenses and income c) Complying with regulatory requirements d) All the above |
| 3 | Trade name for coconut husking tool developed by KAU a) Keraraksha b) Kalparaksha c) Keramitra d) Kalpamitra |
| 4 | Tissue culture technique is not standardized for which crop a) Black pepper b) Gladiolus c) Pineapple d) Jack fruit |
| 5 | Mancompu trap is used for killing a) Fruit-fly b) Rat c) Rhinoceros beetle d) Red palm weevil |
| 6 | Chawki stand is used for a) Apiculture b) Sericulture c) Tissue culture d) Ericulture |
| 7 | Value added product from marigold a) Oil b) Oleoresin c) Dye d) Soap |
| 8 | The class of seeds supplied to farmers is a) Breeder seeds b) Foundation seeds c) Certified seeds d) Registered seeds |
| 9 | Setting up garden in a glass bottle is a) Bottlearium b) Terrarium c) Indoor glass garden d) Glass garden |

| | |
|----|--|
| 10 | Ingredient used to make jeevamrutham a) Ripe banana b) Tender coconut water c) Pulse flour d) Sugar syrup |
| 11 | Which one is secondary macro-nutrient? a) K b) Mn c) S d) B |
| 12 | Choose the day neutral plant from the options following below a) Tomato b) Onion c) Cluster bean d) Beetroot |
| 13 | Toxic present in watermelon is a) Saponin b) Serotonine c) Vicine d) Solasodine |
| 14 | Guar gum production is from which crop a) Cluster bean b) Rubber c) Jackfruit d) Acacia |
| 15 | Which vegetable earn high foreign exchange? a) Tomato b) Onion c) Potato d) Chilly |
| 16 | Dominant element in earth crust is a) Oxygen b) Nitrogen c) Silicon d) Aluminium |
| 17 | Jackfruit was recommended as 'State fruit of Kerala' in which year a) 2016 b) 2017 c) 2018 d) 2019 |
| 18 | "Subhiksha Keralam" was launched in which district a) Thrissur b) Alappuzha c) Kozhikode d) Malappuram |
| 19 | Kerala's first solar-powered Mini Water Supply Scheme (MWSS) was inaugurated in which village to provide clean drinking water to the residents a) Kuttanadu b) Vengadu c) Kattappana d) Kuttampuzha |
| 20 | The establishment of State's first agro export zone in which district a) Wayanad b) Palakkad c) Alappuzha d) Thrissur |
| 21 | Which district have 'organic farming park' in Kerala? a) Thrissur b) Wayanad c) Alappuzha d) Kannur |
| 22 | The project launched by the Kerala government to enhance the productivity and sustainability of paddy cultivation in the state a) Green Kerala Project b) Sasya Sree Project c) Paddy Prosperity Project d) Krishi Kiran Project |
| 23 | Initiative by the Kerala government to support and encourage startups and innovations in the agricultural sector a) GreenTech Kerala b) Agripreneurship Mission c) KrishiSaksham d) Agriculture Innovators' Scheme |
| 24 | In 2023 Kerala Flood Management Bill, the provision related to wetland conservation to strengthen the state's disaster management efforts a) Ban on construction in wetland areas b) Free distribution of wetland seeds to farmers c) Leave the wetland as fallow d) Introduction of wetland tourism zones |

PART VII

Training need

Please put a (✓) mark in the appropriate column against each statement to indicate the need for training as Urgently Needed (2), Needed (1) and Not Needed (0) to each statement given below:

I. Technical/operational

| A. Seed manures and fertilizers | | Training need | | |
|---------------------------------|--|---------------|---|---|
| | | 2 | 1 | 0 |
| 1 | Selection of appropriate varieties for the particular field scenario | | | |
| 2 | Improved crop varieties | | | |
| 3 | New seed production methods | | | |
| 4 | Preparing compost | | | |
| 5 | Enhancing soil fertility using the right amount of manures and fertilisers | | | |
| 6 | New fertilizer formulations | | | |
| B. Agronomic practices | | | | |
| 1 | Tillage preparation for crucial crops | | | |
| 2 | Management of nurseries for required crops | | | |
| 3 | Transplanting methods | | | |
| 4 | Weed-control procedure | | | |

| | | | | |
|--------------------------------------|--|--|--|--|
| 5 | Intercultural operations | | | |
| 6 | Determining crop maturity indexes and the appropriate harvest stage | | | |
| 7 | Different methods of farm waste recycling/utilisation | | | |
| 8 | Integrated farming methods | | | |
| C. Soil and water management | | | | |
| 1 | Procedures for collecting soil samples | | | |
| 2 | Various soil types, their nutritional condition, and management techniques | | | |
| 3 | Field water and its management techniques | | | |
| D. Plant protection | | | | |
| 1 | Pest detection and management techniques | | | |
| 2 | Disease diagnosis and treatment methods | | | |
| 3 | Application method of pesticides and fungicides in crops | | | |
| 4 | Preparation of various concentrations of pesticides and fungicides | | | |
| 5 | Plant protection equipment and maintenance | | | |
| 6 | Integrated pest and disease management | | | |
| E. Post-harvest technology | | | | |
| 1 | Agricultural product harvesting technique | | | |
| 2 | Post-harvest processing of by-product | | | |
| 3 | Grading and sorting of the produce | | | |
| 4 | Various post-harvest technologies | | | |
| 5 | Packaging of produce | | | |
| F. Field extension activities | | | | |
| 1 | Analysing field problems | | | |
| 2 | Giving solution to field problems on-time | | | |

II. Organizational

| A. Office management & administration | | Training need | | |
|---------------------------------------|---|---------------|---|---|
| | | 2 | 1 | 0 |
| 1 | Digital data recording / e-filing | | | |
| 2 | RTI management | | | |
| 3 | Proficient in using farm management software | | | |
| 4 | Handling various mandatory registers kept in office | | | |

III. Socio-Psychological

| Socio-Psychological attributes | | Training need | | |
|--------------------------------|----------------------------|---------------|---|---|
| | | 2 | 1 | 0 |
| 1 | Time management | | | |
| 2 | Stress management | | | |
| 3 | Work-life balance | | | |
| 4 | Customer-friendly approach | | | |
| 5 | Personality development | | | |



APPENDIX - IX

KERALA AGRICULTURAL UNIVERSITY
COLLEGE OF AGRICULTURE, VELLANIKKARA
Department Of Agricultural Extension

TITLE: Competency mapping among employees of Kerala Agricultural University

INTERVIEW SCHEDULE FOR ADMINISTRATIVE STAFF

PART I

General Information

- 1) Name: 2) Age:years
3) Designation: 4) Gender: Male/Female
7) Official address:
8) Educational qualification:

PART II

9) Total work experience:

Please state your total work experience below:

Table with 4 columns: Sl. No., Designation of the post held, Duration (No:of years or month), Office. Rows 1, 2, 3.

10) Training exposure:

Have you undergone any in-service training? YES/NO

If yes, please mention the number of the trainings undergone till date

11) Frequency of transfer:

Number of transfers you have received during your service period till date

12) Self-confidence:

Please read carefully each statement and put a (✓) mark against each of the following statement for your opinion [NAA=Not At All, ALB=A Little Bit, SW=Some What, VM=Very Much, EX=Extremely]

Table with 7 columns: Sl. No., Statements, NAA, ALB, SW, VM, EX. Rows 1-12.

13) Achievement motivation:

Please put a (✓) mark in any one of the five alternatives provided against each statement to indicate your degree of agreement or disagreement to each statement. [Strongly Agree (SA), Agree (A), Undecided (UD), Disagree (D), Strongly Disagree (SD)]

| Sl. No. | Statements | SA | A | UD | D | SD |
|---------|---|----|---|----|---|----|
| 1 | I should enjoy my work as much as play | | | | | |
| 2 | I should work like a slave at everything I undertake until I am satisfied with the result | | | | | |
| 3 | I should complete my task even if I neglect my family | | | | | |
| 4 | I should have determination and driving ambition to achieve certain things in life even if my qualities make me unpopular | | | | | |
| 5 | Work should come first even if I don't get rest | | | | | |
| 6 | Even when my own interest is in danger, I should concentrate on my job and forget my obligation to others | | | | | |
| 7 | I should get difficult goal for myself and try to reach them | | | | | |

14) **Perceived workload:**

Please indicate your feeling about these following statements by marking (✓) against any one of the five alternatives. [Strongly Agree (SA), Agree (A), Undecided (UD), Disagree (D), Strongly Disagree (SD)]

| Sl. No. | Statements | SA | A | UD | D | SD |
|---------|--|----|---|----|---|----|
| 1 | I feel busy or rushed until I finish the target | | | | | |
| 2 | I feel pressured while performing my work | | | | | |
| 3 | I feel the amount of work I did was interfaced with how well it got done | | | | | |

15) **Infrastructure facilities:**

How many of the following facilities are available to you and to what extent these are made available to you for undertaking job related activities? Please put a (✓) mark or check in the appropriate column against each facility.

| Sl. No. | Items | Easily available | Available with difficulty | Not at all available |
|---------|---|------------------|---------------------------|----------------------|
| 1 | Telephone/Internet facilities/Computer system | | | |
| 2 | Old data and files | | | |
| 3 | Electricity facilities | | | |
| 4 | Stationery | | | |
| 5 | Furnitures | | | |
| 6 | Quarters facilities | | | |
| 7 | Transportation facilities | | | |

16) **Organizational climate:**

Please indicate your degree of agreement/disagreement by giving a (✓) in the appropriate column for any one of the five alternatives against each statements given below [Strongly Agree (SA), Agree (A), Undecided (UD), Disagree (D), Strongly Disagree (SD)]

| Sl. No. | Statements | SA | A | UD | D | SD |
|---------|---|----|---|----|---|----|
| 1 | In the university, there are many rules, policies, procedures and practices to which I have to support | | | | | |
| 2 | I can make decisions and solve problems without consulting with superiors at each step | | | | | |
| 3 | The university sets challenging goals for itself and communicates its goal commitment to the employees | | | | | |
| 4 | The university recognizes and rewards good work of employees rather than ignoring, criticizing or punishing when something goes wrong | | | | | |
| 5 | Things are well organized and goals are clearly defined in the university | | | | | |
| 6 | Friendliness, interpersonal trust and mutual support are very much prevalent in the university | | | | | |

| | | | | | | |
|---|---|--|--|--|--|--|
| 7 | As need for leadership arise, employees feel free to take leadership roles and are rewarded for successful leadership | | | | | |
|---|---|--|--|--|--|--|

17) **Job involvement:**

Given below are some statements related to your entanglement in the job. Please indicate your degree of agreement or disagreement to them based on your experience by putting a (✓) mark in any one of the five alternatives provided against each statement. [Strongly Agree (SA), Agree (A), Undecided (UD), Disagree (D), Strongly Disagree (SD)]

| Sl. No. | Statements | SA | A | UD | D | SD |
|---------|---|----|---|----|---|----|
| 1 | I shall stay overtime to finish a job, even if I am not paid for it | | | | | |
| 2 | The major satisfaction in my life comes from my job | | | | | |
| 3 | I usually go for work a little early to get the things ready | | | | | |
| 4 | The most important things that happens to me is to involve in my work | | | | | |
| 5 | Sometime I keep myself awake at night thinking ahead to next day's work | | | | | |
| 6 | I am really a perfectionist about my work | | | | | |
| 7 | I felt depressed when I fail at something connected with my job | | | | | |
| 8 | I have other activities more important than my work | | | | | |
| 9 | Quite often I feel like staying at home instead of going for work | | | | | |
| 10 | To me, my work is only a small part of my life | | | | | |
| 11 | I am very much involved personally in my work | | | | | |
| 12 | I avoid taking on extra duties and responsibilities in my work | | | | | |
| 13 | Most things in my life are more important than work | | | | | |

18) **Job satisfaction:**

How satisfied are you with following aspects of your job? Please indicate your level of satisfaction by putting a (✓) mark in the appropriate column for any one of the five alternatives against each statement. [NAS=Not At All Satisfied, NS=Not Satisfied, NO=No Opinion, S=Satisfied, VMS=Very Much Satisfied]

| Sl. No. | Statements | NSA | NS | NO | S | VMS |
|---------|--|-----|----|----|---|-----|
| 1 | My present salary | | | | | |
| 2 | Job security | | | | | |
| 3 | Praise and recognition for good work by the university | | | | | |
| 4 | Opportunity to work with team spirit | | | | | |
| 5 | Help, guidance and encouragement from superiors and relationship with them | | | | | |
| 6 | Opportunity for self-development | | | | | |
| 7 | Promotion policy of the university | | | | | |
| 8 | Freedom to pursue original ideas | | | | | |
| 9 | Freedom for flexibility in work | | | | | |
| 10 | Status and prestige as a person in the university | | | | | |
| 11 | Type of work done by me | | | | | |
| 12 | Scope to prove you: merit and excellence | | | | | |

19) **Job commitment:**

Please indicate your degree of agreement or disagreement by giving a (✓) mark in any one of five alternatives in the appropriate column for following statements. [Strongly Agree (SA), Agree (A), Undecided (UD), Disagree (D), Strongly Disagree (SD)]

| Sl. No. | Statements | SA | A | UD | D | SD |
|---------|---|----|---|----|---|----|
| 1 | If one has real desire to his/her fellowmen, the best job is to be an employee in the university | | | | | |
| 2 | If I could get a similar salary, there are many other jobs I would rather have than that of an employee in the university | | | | | |

| | | | | | | |
|---|---|--|--|--|--|--|
| 3 | There are other jobs for which I believe I am trained that would rather give greater personal satisfaction than being an employee to the university | | | | | |
| 4 | If I am honest with myself, I am dissatisfied with my job as an employee in the university | | | | | |
| 5 | Being an employee in the university gives me a lot freedom that I would not have, if I were to be an employee in another departments/sector | | | | | |
| 6 | When I look at the alternative jobs for which I think I am trained, I am glad that I am working as an employee to this university | | | | | |
| 7 | Unless a person has a real desire to serve his fellowmen, he/she should not try to become an employee in this university | | | | | |

20) **Job stress:**

Based on the level of stress in the job you are experiencing, please indicate your response in the appropriate column. [Strongly Agree (SA), Agree (A), Undecided (UD), Disagree (D), Strongly Disagree (SD)]

| Sl. No. | Statements | SA | A | UD | D | SD |
|---------|--|----|---|----|---|----|
| 1 | I have a lot of work and fear that very little time to do it | | | | | |
| 2 | I feel so burdened that even a day without work seems bad | | | | | |
| 3 | I feel that I never take a leave | | | | | |
| 4 | My job makes me nervous | | | | | |
| 5 | The effect of my job on me is too high | | | | | |
| 6 | Many a times, my job becomes a big burden | | | | | |
| 7 | Sometimes when I think about my job, I get a tight feeling in my chest | | | | | |
| 8 | I feel bad when I take a leave | | | | | |

PART III

21) **Job Performance**

Please put a (✓) mark in any one of the five alternatives provided against each statement to indicate your degree of agreement or disagreement to each statement. [Strongly Agree (SA), Agree (A), Neutral (N), Disagree (D), Strongly Disagree (SD)]

| Sl. No. | Items | SA | A | N | D | SD |
|-----------------------------------|---|----|---|---|---|----|
| I. Task performance | | | | | | |
| 1 | I have the competencies that my job requires | | | | | |
| 2 | I work effectively and efficiently | | | | | |
| 3 | I understand and carry out work-related procedures | | | | | |
| 4 | I work in a planned and organized manner to conclude the task defined to me | | | | | |
| 5 | I am eager to acquire new skills related to my job | | | | | |
| II. Contextual performance | | | | | | |
| 1 | I take extra care and responsibilities while doing my duty | | | | | |
| 2 | I contribute to the creation of a positive working environment in my university | | | | | |
| 3 | If I encounter a situation that prevents the task from being done, I try to fix it | | | | | |
| 4 | I help and encourage my colleagues to complete their work | | | | | |
| 5 | Even if there are criticisms inside or outside the university, I defend my university | | | | | |
| 6 | I am proud to be a part of this university | | | | | |

PART IV

In this part, please put a (✓) mark in the appropriate column against each statement to indicate your level of competency ranging from 1 to 5, as 1: Very Low Competency, 2: Low Competency, 3: Medium Competency, 4: High Competency and 5: Very High Competency.

1) Skill

| Sl. No. | Statements | Level of competency | | | | |
|------------------------------------|---|---------------------|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 |
| I. Analytical skills | | | | | | |
| 1 | I have strong capacity for critical thinking to assess and make wise conclusions | | | | | |
| 2 | I am capable of processing and analyzing data with the aid of analytical tools and software | | | | | |
| 3 | I am able to build and maintain databases effectively for data management | | | | | |
| 4 | I am excellent in numerical and mathematical abilities for financial analysis and budgeting | | | | | |
| 5 | I have strong grasp of spreadsheet software for data analysis and reporting | | | | | |
| II. Problem-solving skills | | | | | | |
| 1 | I can solve problems quickly and effectively | | | | | |
| 2 | I can create effective strategies and action plans | | | | | |
| 3 | I can examine diverse points of view and make logical and sensible choices | | | | | |
| 4 | I always keep trying until I find a solution by pushing through challenges | | | | | |
| 5 | I keep update on new knowledge, and learn new skills to improve problem-solving | | | | | |
| 6 | I always keep an optimistic outlook despite failures | | | | | |
| III. Decision-making skills | | | | | | |
| 1 | I am capable to analyse information before reaching conclusion | | | | | |
| 2 | I have a strong sense of ethics to reach a decision | | | | | |
| 3 | I make judgements based on priority and significance | | | | | |
| 4 | I usually try to make decisions that minimise potential negatives | | | | | |
| 5 | I can collect and analyse data, restructure procedures, and make wise decisions | | | | | |

2) Ability

| Sl. No. | Statements | Level of competency | | | | |
|---------|---|---------------------|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 |
| 1 | I have clarity and precision in all office works | | | | | |
| 2 | I am experienced in handling data and record keeping | | | | | |
| 3 | I know the rules and regulations for administrative work | | | | | |
| 4 | I consistently persuade and maintain attention over time | | | | | |
| 5 | I have requisite knowledge to execute out tasks | | | | | |
| 6 | I constantly ensure that operations are implemented in line with the plan | | | | | |
| 7 | I can adapt to a new work environment | | | | | |

3) Leadership

| Sl. No. | Statements | Level of competency | | | | |
|---------|--|---------------------|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 |
| 1 | I can provide specific guidance, aid and mentorship for my team members | | | | | |
| 2 | I regularly supervise and monitor clientele for the progress till the task is done | | | | | |
| 3 | I can foresee potential issues and future prospects | | | | | |
| 4 | I recognize workplace dynamics, group dynamics and methods for fostering teams | | | | | |

4) Communication

| Sl. No. | Statements | Level of competency | | | | |
|---------|------------|---------------------|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 |

| | | | | | | |
|---|---|--|--|--|--|--|
| 1 | I can communicate clearly and effectively with superiors, colleagues, farmers, students, subordinates and customers | | | | | |
| 2 | For written communication, I can use excellent grammar, punctuation, and spelling | | | | | |
| 3 | I always respond to queries in time | | | | | |
| 4 | I can use basic language and choose appropriate channel for exchanging messages | | | | | |
| 5 | I can talk in a comprehensible manner to state views and opinions | | | | | |
| 6 | I have excellent customer service relationship, assisting clients and guests in timely and pleasant manner | | | | | |

5) Team work

| Sl. No. | Statements | Level of competency | | | | |
|---------|--|---------------------|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 |
| 1 | I establish a base of mutual respect and trust | | | | | |
| 2 | I always maintain strong work relationship | | | | | |
| 3 | I give priority to team success, and members are given credit | | | | | |
| 4 | I always assign tasks and responsibilities equally among everyone in a fair manner | | | | | |
| 5 | I always do open conversation with team members | | | | | |

6) Accountability

| Sl. No. | Statements | Level of competency | | | | |
|---------|--|---------------------|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 |
| 1 | I can reply to all emails, calls, and other forms of communication | | | | | |
| 2 | I take charge of allocated duties and see that they are done on schedule | | | | | |
| 3 | I am capable of providing accurate and trustworthy information to queries | | | | | |
| 4 | I always inform the authority of any conflicts or legal problems | | | | | |
| 5 | When making purchases or managing financial resources, I adhere to specified financial rules | | | | | |
| 6 | I always judiciously supply funds based on organisational rules and policies | | | | | |
| 7 | If the answer is not immediately available, I always find time to address the queries | | | | | |

7) Creativity

| Sl. No. | Statements | Level of competency | | | | |
|---------|--|---------------------|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 |
| 1 | I give orientation to employees on how to improve their work | | | | | |
| 2 | I try to improvise alternatives to challenges if the scheduled settings don't work out | | | | | |
| 3 | I consider novel approaches to execute out my work | | | | | |

8) Personality trait

| Sl. No. | Statements | Level of competency | | | | |
|---------|--|---------------------|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 |
| 1 | I always offer a warm and helping hand to others | | | | | |
| 2 | I try to manage stressful situation calmly | | | | | |
| 3 | I show honest, and trustworthiness in job | | | | | |
| 4 | I am confident in doing the daily chores | | | | | |
| 5 | I respect different viewpoints and sensible criticism of others at every level | | | | | |
| 6 | I respect others positive attributes | | | | | |
| 7 | I always try to utilize the suggestions of superiors, co-workers, and subordinates | | | | | |
| 8 | I try to build strong rapport with my co-workers | | | | | |
| 9 | I am dedicated to my profession | | | | | |

9) Professional ethics

| Sl. No. | Statements | Level of competency | | | | |
|---------|-----------------------------|---------------------|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 |
| 1 | I always try to be punctual | | | | | |

| | | | | | | |
|---|---|--|--|--|--|--|
| 2 | I act based on the severity of the situation | | | | | |
| 3 | I manage to interact with people in an ethical and fair manner | | | | | |
| 4 | I follow all applicable rules, regulations, and policies overseeing the functioning of the organization | | | | | |
| 5 | I always respect all people, regardless of their origin, nationality, gender, or religion | | | | | |
| 6 | I guarantee accuracy and precision in data input, document preparation, and scheduling | | | | | |
| 7 | I always maintain ethical standards in my workplace | | | | | |
| 8 | I safeguard sensitive information with complete privacy | | | | | |

PART V

12) Attitude

Please put a (✓) mark in any one of the five alternatives provided against each statement to indicate your degree of agreement or disagreement to each statement. [Strongly Agree (SA), Agree (A), Neutral (N), Disagree (D), Strongly Disagree (SD)]

| Sl. No. | Statements | SA | A | N | D | SD |
|---------|--|----|---|---|---|----|
| 1 | I am punctual and always prepared to start working right away | | | | | |
| 2 | When dealing with peers, superiors, and customers, I operate with the utmost professionalism | | | | | |
| 3 | Failure to complete duties as prescribed due to my lack of drive and passion toward job | | | | | |
| 4 | When my colleagues execute jobs without continual supervision, I show initiative and a proactive approach | | | | | |
| 5 | I pay little attention to all duties and documents | | | | | |
| 6 | I respond quickly to calls and emails | | | | | |
| 7 | I am highly organized, successfully managing my work, schedules, and files | | | | | |
| 8 | I am rigid and non-flexible in my workflow | | | | | |
| 9 | I always disregard privacy and secrecy while dealing with sensitive materials | | | | | |
| 10 | I am ready to partake in in-service training if necessary | | | | | |
| 11 | In order to overcome challenges or issues, I actively seek solutions | | | | | |
| 12 | I refrain from engaging in gossip or negative comments about co-workers or superiors | | | | | |
| 13 | I have good communication abilities, enabling efficient teamwork and transparent communication with stakeholders | | | | | |
| 14 | I am poor at managing workload | | | | | |
| 15 | I prioritize offering outstanding service to both internal and external clients, reacting quickly to questions and addressing complaints | | | | | |
| 16 | I struggle to perform multiple tasks simultaneously | | | | | |
| 17 | I provide adequate notice and justification for any early departures | | | | | |
| 18 | I show a desire to learn and eager to acquire more knowledge | | | | | |
| 19 | I actively contribute to a positive team environment | | | | | |
| 20 | I display lack of ownership for mistakes and blaming others | | | | | |
| 21 | I fail to fulfil deadlines | | | | | |

PART VI

13) Knowledge

Please choose the correct answer from the multiple choices given below against each question.

| | |
|---|--|
| 1 | Fund in which contributions and grants from central government and state government are credited to it a) General fund b) Foundation fund c) Other fund d) None of these |
| 2 | RTI Act amended on a) 1995 b) 2000 c) 2003 d) 2005 |
| 3 | It is NOT a valid mode of filing an RTI application a) Online b) Postal mail c) In-person d) Telephone call |
| 4 | Full form of GSTIN |

| | | |
|----|--|---|
| | a) Goods and Services Tax Identification Number c) Goods and Services Trade Identification Number | b) General Sales Tax Identification Number d) Government Service Tax Identification Number |
| 5 | Penalty for late filing of income tax returns a) ₹ 5,000/- b) ₹ 15,000/- c) 25,000/- d) Varies based on income earned | |
| 6 | Department responsible for processing income tax returns of organizations a) Central Board of Direct Taxes (CBDT) b) Income Tax Appellate Tribunal (ITAT) c) National Securities Depository Limited (NSDL) d) Goods and Services Tax Network (GSTN) | |
| 7 | As per KSR, the maximum rate of TA for journeys by rail or road a) Actual fare of highest class available b) 1.5 x actual fare of highest class available c) 2 x actual fare of highest-class available d) 3 x actual fare of highest class available | |
| 8 | Circumstances for which TA and DA claimed by government employees a) Only for official duty outside headquarters b) Only for official duty within headquarters c) Only for personal vacations d) For both official duty outside headquarters and personal vacations | |
| 9 | UFAST primarily used for a) Tracking attendance b) Managing faculty payroll c) Processing financial aid applications d) All of the above | |
| 10 | How UFAST contribute to data security? a) Regularly backing up student records b) Encrypting sensitive information c) Conducting vulnerability assessments d) All of the above | |
| 11 | UPAST stands for a) User Performance Analysis System Tool b) University Pension Administration System c) Unified Personnel Analysis System d) University Performance Analysis Support Tool | |
| 12 | The disbursement of pension is through a) Bank b) Money order c) Cheque d) All of these | |
| 13 | The pension paid after limited service of 10 years is called as a) Superannuation b) Compensation pension c) Exgratia pension d) Invalid pension | |
| 14 | If a discrepancy is found in an audit, what is next step? a) Report to media and public b) Document the findings and report to the management c) Terminate the job of employee responsible for the discrepancy d) Ignore | |
| 15 | Purpose of audit trail a) Track employee attendance b) Evaluate employee performance c) Record all financial transactions and activities in chronological sequence d) None of these | |
| 16 | Stock register is used for a) Record office expenses b) Register incoming mail and correspondence c) Record stationery and furniture items d) All of the above | |
| 17 | Law that governs addressing issues of wages, working hours and employment contracts a) Contract law b) Employment law c) Tort law d) Occupational health and safety law | |
| 18 | As an administrative staff, what type of information should not be shared outside the organization without proper authorization? a) Upcoming office events b) Confidential financial reports c) Employees name and designation d) All of the above | |
| 19 | If you suspect any form of harassment or discrimination in the workplace, what should you do as an administrative staff? a) Ignore b) Confront the individual c) Post on social media d) Report to supervisor or HR office | |
| 20 | Purpose of having employee handbook or policy manuals a) Outline legal obligations of the clients b) Establish guidelines for employee behaviour and conduct c) Provide information on office design and layout d) Regulate office supply purchases | |
| 21 | As an administrative staff, if you receive a legal summons or notice on behalf of the office, what should be the immediate action? a) Ignore b) Notify the management and legal department promptly c) Contact and settle the matter informally d) Respond without consulting anyone | |
| 22 | Purpose of trial balance a) Identify errors and discrepancies in the financial records b) Calculate the total expenses of the office c) Create a budget for the next financial year d) Calculate the depreciation of office assets | |
| 23 | Practice that outdated or no longer needed files are removed from active storage a) File indexing b) File purging c) File retrieval d) File classification | |

| | |
|----|--|
| 24 | System that arranges files based on time and date of creation or receipt a) Categorical b) Numerical c) Chronological d) None of these |
| 25 | Which of the following actions ensure that an outdated document is not used mistakenly in an office? a) Remove the old document immediately b) Placing a "Do Not Use" sticker on the document c) Proper version control and document identification d) Moving the document to another folder |

PART VII

Training need

Please put a (✓) mark in the appropriate column against each statement to indicate the need for training as Urgently Needed (2), Needed (1) and Not Needed (0) to each statement given below:

I. Technical/operational

| A. Office management & administration | | Training need | | |
|---------------------------------------|---|---------------|---|---|
| | | 2 | 1 | 0 |
| 1 | Protocol for handling confidential or sensitive information | | | |
| 2 | Drafting, reviewing, and editing legal documents, such as contracts, agreements, and policies | | | |
| 3 | KAU Act and statute | | | |
| 4 | Upkeeping of audit documents in an office | | | |
| 5 | UFAST | | | |
| 6 | UPAST | | | |
| 7 | UNISPARK | | | |
| 8 | Legal knowledge | | | |
| B. Financial management | | | | |
| 1 | Financial regulations and tax laws | | | |
| 2 | Income tax filing | | | |
| 3 | Income tax return filing | | | |
| 4 | GST filing | | | |
| 5 | Review and analyse financial reports | | | |
| 6 | Manage financial transactions, including accounts payable and receivable, ensuring accuracy and timely processing | | | |
| 7 | Financial procedures | | | |
| 8 | Budget management | | | |
| 9 | TA rules -KSSR | | | |

II. Organizational

| Organizational | | Training need | | |
|----------------|---|---------------|---|---|
| | | 2 | 1 | 0 |
| 1 | Digital data recording / e-filing | | | |
| 2 | RTI management | | | |
| 3 | Handling various mandatory registers to be maintained in office | | | |
| 4 | Handling funds allotted for various purposes | | | |
| 5 | University rules | | | |
| 6 | Office procedures | | | |

III. Socio-Psychological

| Socio-Psychological attributes | | Training need | | |
|--------------------------------|----------------------------|---------------|---|---|
| | | 2 | 1 | 0 |
| 1 | Time management | | | |
| 2 | Stress management | | | |
| 3 | Work-life balance | | | |
| 4 | Customer-friendly approach | | | |
| 5 | Personality development | | | |



APPENDIX - X
കേരള അഗ്രികൾച്ചറൽ യൂണിവേഴ്സിറ്റി
കാർഷിക കോളേജ്, വെള്ളാനിക്കര
വിജ്ഞാപന വ്യാപന വിഭാഗം

ശീർഷകം: കേരള കാർഷിക സർവ്വകലാശാലയിലെ
ജീവനക്കാർക്കിടയിലുള്ള കഴിവ് വിലയിരുത്തൽ

തൊഴിലാളികൾക്കുള്ള അഭിമുഖ ചോദ്യങ്ങൾ

ഭാഗം I

പൊതുവിവരം

- 1) പേര്:
- 2) പ്രായം: വയസ്സ്
- 3) പദവി:
- 4) ലിംഗഭേദം: പുരുഷൻ/സ്ത്രീ
- 5) ഔദ്യോഗിക വിലാസം:
- 6) വിദ്യാഭ്യാസ യോഗ്യത:

ഭാഗം II

7) പ്രവൃത്തിപരിചയം:

നിങ്ങളുടെ മൊത്തം പ്രവൃത്തിപരിചയം താഴെ രേഖപ്പെടുത്തുക:

| ക്രമ സംഖ്യ. | വഹിക്കുന്ന തസ്തികയുടെ പദവി | കാലാവധി (എണ്ണം: വർഷങ്ങളുടെയോ മാസത്തിന്റെയോ) | ഓഫീസ് |
|-------------|----------------------------|---|-------|
| 1 | | | |
| 2 | | | |
| 3 | | | |

8) പരിശീലന സമ്പർക്കം:

നിങ്ങൾ എന്തെങ്കിലും ഇൻ-സർവീസ് പരിശീലനം നേടിയിട്ടുണ്ടോ?
 ഉണ്ട് / ഇല്ല
 ഉണ്ടെങ്കിൽ, ഇന്നുവരെ നടത്തിയ പരിശീലനങ്ങളുടെ എണ്ണം സൂചിപ്പിക്കുക.....

9) കൈമാറ്റത്തിന്റെ ആവൃത്തി:

നാളിതുവരെയുള്ള നിങ്ങളുടെ സേവന കാലയളവിൽ നിങ്ങൾക്ക് ലഭിച്ച കൈമാറ്റങ്ങളുടെ എണ്ണം

10) സംഘടനാ കാലാവസ്ഥ:

താഴെ നൽകിയിരിക്കുന്ന ഓരോ പ്രസ്താവനകൾക്കും എതിരായി അഞ്ച് ഇതരങ്ങളിൽ ഏതെങ്കിലും ഒന്നിന് ഉചിതമായ കോളത്തിൽ ഒരു (✓) നൽകി നിങ്ങളുടെ സമ്മതത്തിന്റെ/വിയോജിപ്പിന്റെ അളവ് സൂചിപ്പിക്കുക [ശക്തമായി സമ്മതിക്കുന്നു (SA), അംഗീകരിക്കുന്നു (എ), തീരുമാനമെടുത്തിട്ടില്ല (UD), വിയോജിക്കുന്നു (D), ശക്തമായി വിയോജിക്കുന്നു (SD)]

| ക്രമ സംഖ്യ. | പ്രസ്താവനകൾ | SA | A | UD | D | SD |
|-------------|---|----|---|----|---|----|
| 1 | സർവകലാശാലയിൽ, എനിക്ക് പിന്തുണയ്ക്കേണ്ട നിരവധി നിയമങ്ങളും നയങ്ങളും നടപടിക്രമങ്ങളും സമ്പ്രദായങ്ങളും ഉണ്ട് | | | | | |

| | | | | | | |
|---|--|--|--|--|--|--|
| 2 | ഓരോ ഘട്ടത്തിലും മേലുദ്യോഗസ്ഥരുമായി കൂടിയാലോചിക്കാതെ എനിക്ക് തീരുമാനങ്ങൾ എടുക്കാനും പ്രശ്നങ്ങൾ പരിഹരിക്കാനും കഴിയും | | | | | |
| 3 | സർവ്വകലാശാല സ്വയം വെല്ലുവിളി നിറഞ്ഞ ലക്ഷ്യങ്ങൾ സ്ഥാപിക്കുകയും ജീവനക്കാരോട് അതിന്റെ ലക്ഷ്യ പ്രതിബദ്ധത അറിയിക്കുകയും ചെയ്യുന്നു | | | | | |
| 4 | എന്തെങ്കിലും തെറ്റ് സംഭവിക്കുമ്പോൾ അവഗണിക്കുകയോ വിമർശിക്കുകയോ പ്രസിദ്ധീകരിക്കുകയോ ചെയ്യുന്നതിനുപകരം ജീവനക്കാരുടെ നല്ല പ്രവൃത്തികൾ സർവ്വകലാശാല അംഗീകരിക്കുകയും പ്രതിഫലം നൽകുകയും ചെയ്യുന്നു | | | | | |
| 5 | കാര്യങ്ങൾ നന്നായി സംഘടിപ്പിക്കുകയും ലക്ഷ്യങ്ങൾ സർവ്വകലാശാലയിൽ വ്യക്തമായി നിർവ്വചിക്കുകയും ചെയ്യുന്നു | | | | | |
| 6 | സൗഹൃദവും പരസ്പര വിശ്വാസവും പരസ്പര പിന്തുണയും സർവ്വകലാശാലയിൽ വളരെ പ്രബലമാണ് | | | | | |
| 7 | നേതൃത്വത്തിന്റെ ആവശ്യകത ഉയരുമ്പോൾ, ജീവനക്കാർക്ക് നേതൃത്വപരമായ റോളുകൾ എടുക്കാൻ മടിക്കേണ്ടതില്ല, വിജയകരമായ നേതൃത്വത്തിന് പ്രതിഫലം ലഭിക്കും | | | | | |

11) അടിസ്ഥാന സൗകര്യങ്ങൾ:

താഴെപ്പറയുന്ന എത്ര സൗകര്യങ്ങൾ നിങ്ങൾക്ക് ലഭ്യമാണ്, ജോലിയുമായി ബന്ധപ്പെട്ട പ്രവർത്തനങ്ങൾ ഏറ്റെടുക്കുന്നതിന് ഇവ എത്രത്തോളം നിങ്ങൾക്ക് ലഭ്യമാക്കിയിട്ടുണ്ട്? ദയവായി ഒരു (✓) അടയാളം ഇടുക അല്ലെങ്കിൽ ഓരോ സൗകര്യത്തിനും എതിരായി ഉചിതമായ കോളത്തിൽ പരിശോധിക്കുക:

| ക്രമ സംഖ്യ. | ഇനങ്ങൾ | എളുപ്പത്തിൽ ലഭ്യമാണ് | പ്രയാസത്തോടെ ലഭ്യമാണ് | ഒട്ടും ലഭ്യമല്ല |
|-------------|---------------------------------|----------------------|-----------------------|-----------------|
| 1 | ജലസേചന സൗകര്യങ്ങൾ | | | |
| 2 | ഭൗതിക സൗകര്യങ്ങൾ | | | |
| 3 | വൈദ്യുതി സൗകര്യങ്ങൾ | | | |
| 4 | കൃഷിയിട ഉപകരണങ്ങൾ | | | |
| 5 | കൃഷിയിടനികേഷപതം | | | |
| 6 | ഭവന സൗകര്യങ്ങൾ | | | |
| 7 | യാത്രാഅലവൻസും ഗതാഗതസൗകര്യങ്ങളും | | | |
| 8 | അധിക ജോലിക്കുള്ള ബോണസ് | | | |

12) ആത്മവിശ്വാസം:

ദയവായി ഓരോ പ്രസ്താവനയും ശ്രദ്ധാപൂർവ്വം വായിച്ച് നിങ്ങളുടെ അഭിപ്രായത്തിന് ഇനിപ്പറയുന്ന ഓരോ പ്രസ്താവനയ്ക്കെതിരെയും ഒരു (✓) അടയാളം ഇടുക [NAA= ഒരിക്കലുമില്ല, ALB= അല്പം, SW= ഒരു പരിധിവരെ, VM= വളരെയധികം, EX=അങ്ങേയറ്റം]

| ക്രമ സംഖ്യ. | പ്രസ്താവനകൾ | NAA | ALB | SW | VM | EX |
|-------------|---|-----|-----|----|----|----|
| 1 | എന്റെ കഴിവുകളിൽ ആത്മവിശ്വാസം തോന്നുന്നു | | | | | |

| | | | | | | |
|----|--|--|--|--|--|--|
| 2 | എന്നെ വിജയിയായോ പരാജയമായോ പരിഗണിക്കുന്ന കാര്യത്തിൽ ആശങ്കയുണ്ട് | | | | | |
| 3 | എന്റെ വ്യക്തിത്വത്തിൽ സംതൃപ്തി തോന്നുന്നു | | | | | |
| 4 | കാര്യങ്ങൾ മനസ്സിലാക്കുന്നതിൽ ബുദ്ധിമുട്ടുണ്ടെന്ന് തോന്നുന്നു | | | | | |
| 5 | മറ്റുള്ളവർ എന്നെ ബഹുമാനിക്കുകയും അഭിനന്ദിക്കുകയും ചെയ്യുന്നതായി തോന്നുന്നു | | | | | |
| 6 | ബുദ്ധിമുട്ടുകളുടെ സമയത്ത് ഞാൻ അസ്വസ്ഥനാകും | | | | | |
| 7 | എനിക്ക് എന്നെ ശാന്തമായും പ്രതികൂല സാഹചര്യത്തിലും നിലനിർത്താൻ കഴിയും | | | | | |
| 8 | മറ്റുള്ളവരെപ്പോലെ ഞാൻ സ്വയം മിടുക്കനാണെന്ന് തോന്നുന്നു | | | | | |
| 9 | മറ്റുള്ളവർ എന്നെക്കുറിച്ച് എന്താണ് ചിന്തിക്കുന്നതെന്ന് ആശങ്കയുണ്ട് | | | | | |
| 10 | ഞാൻ കാര്യങ്ങൾ മനസ്സിലാക്കുന്നുവെന്ന് ആത്മവിശ്വാസമുണ്ട് | | | | | |
| 11 | ഞാൻ ഉണ്ടാക്കുന്ന മതിപ്പിനെക്കുറിച്ച് ആശങ്ക തോന്നുന്നു | | | | | |
| 12 | മറ്റുള്ളവരെ അപേക്ഷിച്ച് എനിക്ക് പാണ്ടിതുകഴിവ് കുറവാണെന്ന് തോന്നുന്നു | | | | | |

13) നേട്ടത്തിനുള്ള പ്രചോദനം:

താഴെ നൽകിയിരിക്കുന്ന ഓരോ പ്രസ്താവനകൾക്കും എതിരായി അഞ്ച് ഇതരങ്ങളിൽ ഏതെങ്കിലും ഒന്നിന് ഉചിതമായ കോളത്തിൽ ഒരു (✓) നൽകി നിങ്ങളുടെ സമ്മതത്തിന്റെ/വിയോജിപ്പിന്റെ അളവ് സൂചിപ്പിക്കുക [ശക്തമായി സമ്മതിക്കുന്നു (SA), അംഗീകരിക്കുന്നു (എ), തീരുമാനമെടുത്തിട്ടില്ല (UD), വിയോജിക്കുന്നു (D), ശക്തമായി വിയോജിക്കുന്നു (SD)]

| ക്രമ സംഖ്യ | പ്രസ്താവനകൾ | SA | A | UD | D | SD |
|------------|---|----|---|----|---|----|
| 1 | എന്റെ ജോലി ഞാൻ ആസ്വദിക്കുന്നു | | | | | |
| 2 | ഫലത്തിൽ തൃപ്തനാകുന്നതുവരെ ഞാൻ ഏറ്റെടുക്കുന്ന എല്ലാ കാര്യങ്ങളിലും അടിമയെപ്പോലെ പ്രവർത്തിക്കുന്നു | | | | | |
| 3 | ഞാൻ എന്റെ കുടുംബത്തെ അവഗണിച്ചാലും എന്റെ തൊഴിലിൽ വിജയിക്കുന്നു | | | | | |
| 4 | എനിക്ക് വിശ്രമമില്ലെങ്കിലും ജോലി ആദ്യം വരണം | | | | | |
| 5 | സ്വന്തം താൽപ്പര്യം അപകടത്തിലാകുമ്പോൾ പോലും, ഞാൻ എന്റെ ജോലിയിൽ ശ്രദ്ധ കേന്ദ്രീകരിക്കുകയും മറ്റുള്ളവരോടുള്ള കടമ മറക്കുകയും ചെയ്യുന്നു | | | | | |
| 6 | ബുദ്ധിമുട്ടുള്ള ലക്ഷ്യം നേടുകയും അവയിൽ എത്തിച്ചേരാൻ ശ്രമിക്കുകയും ഞാൻ ചെയ്യുന്നു | | | | | |

14) ജോലിഭാരത്തെക്കുറിച്ചുള്ള ധാരണ:

അഞ്ച് ഇതര മാർഗങ്ങളിൽ ഏതെങ്കിലും ഒന്നിനെതിരെ (✓) അടയാളപ്പെടുത്തി ഇനിപ്പറയുന്ന പ്രസ്താവനകളെക്കുറിച്ച് നിങ്ങൾക്ക് തോന്നുന്നത് ദയവായി സൂചിപ്പിക്കുക. [ശക്തമായി സമ്മതിക്കുന്നു (SA), അംഗീകരിക്കുന്നു (എ), തീരുമാനമെടുത്തിട്ടില്ല (UD), വിയോജിക്കുന്നു (D), ശക്തമായി വിയോജിക്കുന്നു (SD)]

| ക്രമ സംഖ്യ | പ്രസ്താവനകൾ | SA | A | UD | D | SD |
|------------|--|----|---|----|---|----|
| 1 | ലക്ഷ്യം പൂർത്തിയാകുന്നതുവരെ എനിക്ക് തിരക്കുള്ളതോ തിരക്കുള്ളതോ തോന്നുന്നു | | | | | |
| 2 | എന്റെ ജോലി ചെയ്യുമ്പോൾ എനിക്ക് സമ്മർദ്ദം അനുഭവപ്പെടുന്നു | | | | | |
| 3 | ഞാൻ ചെയ്ത ജോലിയുടെ അളവ് അത് എത്ര നന്നായി ചെയ്തു എന്നതുമായി ബന്ധപ്പെട്ടിരിക്കുന്നുവെന്ന് എനിക്ക് തോന്നുന്നു | | | | | |

15) തൊഴിൽ പങ്കാളിത്തം:

ജോലിയിൽ നിങ്ങൾ കൂടുങ്ങിക്കിടക്കുന്നതുമായി ബന്ധപ്പെട്ട ചില പ്രസ്താവനകൾ ചുവടെ നൽകിയിരിക്കുന്നു. ഓരോ പ്രസ്താവനയ്ക്കെതിരെയും നൽകിയിരിക്കുന്ന അഞ്ച് ഇതരങ്ങളിൽ ഏതെങ്കിലും ഒന്നിൽ (✓) അടയാളം ഇട്ടുകൊണ്ട് നിങ്ങളുടെ അനുഭവത്തെ അടിസ്ഥാനമാക്കി അവരോട് നിങ്ങളുടെ യോജിപ്പിന്റെയോ വിരോധിപ്പിന്റെയോ അളവ് സൂചിപ്പിക്കുക. [ശക്തമായി സമ്മതിക്കുന്നു (SA), അംഗീകരിക്കുന്നു (എ), തീരുമാനമെടുത്തിട്ടില്ല (UD), വിരോധിക്കുന്നു (D), ശക്തമായി വിരോധിക്കുന്നു (SD)]

| ക്രമ സംഖ്യ | പ്രസ്താവനകൾ | SA | A | UD | D | SD |
|------------|--|----|---|----|---|----|
| 1 | ഒരു ജോലി പൂർത്തിയാക്കാൻ പ്രതിഫലം നൽകിയില്ലെങ്കിലും, ഞാൻ അധികസമയം തുടരും | | | | | |
| 2 | എന്റെ ജീവിതത്തിലെ ഏറ്റവും വലിയ സംതൃപ്തി എന്റെ ജോലിയിൽ നിന്നാണ് | | | | | |
| 3 | ഞാൻ സാധാരണയായി കാര്യങ്ങൾ തയ്യാറാക്കാൻ കുറച്ച് നേരത്തെ ജോലിക്ക് പോകും | | | | | |
| 4 | എനിക്ക് സംഭവിക്കുന്ന ഏറ്റവും പ്രധാനപ്പെട്ട കാര്യം എന്റെ ജോലിയിൽ ഏർപ്പെടുക എന്നതാണ് | | | | | |
| 5 | ചിലപ്പോൾ ഞാൻ രാത്രിയിൽ ഉറക്കമുണർന്ന് അടുത്ത ദിവസത്തെ ജോലിയെക്കുറിച്ച് ചിന്തിക്കുന്നു | | | | | |
| 6 | എന്റെ ജോലിയിൽ ഞാൻ ഒരു പരിപൂർണ്ണവാദിയാണ് | | | | | |
| 7 | എന്റെ ജോലിയുമായി ബന്ധപ്പെട്ട എന്തെങ്കിലും പരാജയപ്പെടുമ്പോൾ എനിക്ക് വിഷാദം തോന്നാറുണ്ട് | | | | | |
| 8 | എന്റെ ജോലിയേക്കാൾ പ്രധാനപ്പെട്ട മറ്റ് പ്രവർത്തനങ്ങൾ എനിക്കുണ്ട് | | | | | |
| 9 | പലപ്പോഴും ജോലിക്ക് പോകാതെ വീട്ടിലിരിക്കാൻ തോന്നാറുണ്ട് | | | | | |
| 10 | എന്നെ സംബന്ധിച്ചിടത്തോളം എന്റെ ജോലി എന്റെ ജീവിതത്തിന്റെ ഒരു ചെറിയ ഭാഗം മാത്രമാണ് | | | | | |
| 11 | എന്റെ ജോലിയിൽ ഞാൻ വ്യക്തിപരമായി വളരെയധികം ഇടപെടുന്നു | | | | | |
| 12 | എന്റെ ജോലിയിൽ അധിക ചുമതലകളും ഉത്തരവാദിത്തങ്ങളും ഏറ്റെടുക്കുന്നത് ഞാൻ ഒഴിവാക്കുന്നു | | | | | |
| 13 | എന്റെ ജീവിതത്തിലെ മിക്ക കാര്യങ്ങളും ജോലിയേക്കാൾ പ്രധാനമാണ് | | | | | |

16) ജോലിയിൽ ഉള്ള സംതൃപ്തി:

നിങ്ങളുടെ ജോലിയുടെ ഇനിപ്പറയുന്ന വശങ്ങളിൽ നിങ്ങൾ എത്രത്തോളം സംതൃപ്തനാണ്? ഓരോ പ്രസ്താവനയ്ക്കെതിരെയും അഞ്ച് ഇതരങ്ങളിൽ ഏതെങ്കിലും ഒന്നിൽ അനുയോജ്യമായ കോളത്തിൽ (✓) അടയാളം ഇട്ടുകൊണ്ട് നിങ്ങളുടെ സംതൃപ്തിയുടെ അളവ് സൂചിപ്പിക്കുക. [NAS=ഒട്ടും തൃപ്തമല്ല, NS=തൃപ്തമല്ല, NO=പറയാൻ കഴിയില്ല, S=സംതൃപ്തി, VMS=വളരെ സംതൃപ്തി]

| ക്രമ സംഖ്യ | പ്രസ്താവനകൾ | NAS | NS | NO | S | VMS |
|------------|---|-----|----|----|---|-----|
| 1 | എന്റെ ഇപ്പോഴത്തെ ശമ്പളം | | | | | |
| 2 | ജോലി സുരക്ഷ | | | | | |
| 3 | നല്ല പ്രവർത്തനത്തിന് സർവ്വകലാശാലയുടെ അഭിനന്ദനവും അംഗീകാരവും | | | | | |
| 4 | ടീം സ്റ്റിരിറ്റോടെ പ്രവർത്തിക്കാനുള്ള അവസരം | | | | | |
| 5 | മേലുദ്യോഗസ്ഥരിൽ നിന്നുള്ള സഹായവും മാർഗനിർദ്ദേശവും പ്രോത്സാഹനവും അവരുമായുള്ള ബന്ധവും | | | | | |
| 6 | സർവ്വകലാശാലയുടെ സ്ഥാനക്കയറ്റ നയം | | | | | |
| 7 | ജോലിയിൽ വഴക്കത്തിനുള്ള സ്വാതന്ത്ര്യം | | | | | |
| 8 | ഞാൻ ചെയ്യുന്ന ജോലിയുടെ തരം | | | | | |

17) തോഴിൽ പ്രതിബദ്ധത:

താഴെ നൽകിയിരിക്കുന്ന ഓരോ പ്രസ്താവനകൾക്കും എതിരായി അഞ്ച് ഇതരങ്ങളിൽ ഏതെങ്കിലും ഒന്നിന് ഉചിതമായ കോളത്തിൽ ഒരു (✓) നൽകി നിങ്ങളുടെ സമ്മതത്തിന്റെ/വിയോജിപ്പിന്റെ അളവ് സൂചിപ്പിക്കുക. [ശക്തമായി സമ്മതിക്കുന്നു (SA), അംഗീകരിക്കുന്നു (എ), തീരുമാനമെടുത്തിട്ടില്ല (UD), വിയോജിക്കുന്നു (D), ശക്തമായി വിയോജിക്കുന്നു (SD)]

| ക്രമ സംഖ്യ | പ്രസ്താവനകൾ | SA | A | UD | D | SD |
|------------|---|----|---|----|---|----|
| 1 | ഒരാൾക്ക് അവന്റെ/അവളുടെ സഹജീവികളോട് യഥാർത്ഥ ആഗ്രഹമുണ്ടെങ്കിൽ, ഏറ്റവും നല്ല ജോലി സർവ്വകലാശാലയിൽ ഒരു ജീവനക്കാരനാകുക എന്നതാണ് | | | | | |
| 2 | എനിക്ക് സമാനമായ ശമ്പളം ലഭിക്കുമെങ്കിൽ, സർവ്വകലാശാലയിലെ ഒരു ജീവനക്കാരനേക്കാൾ എനിക്ക് മറ്റ് നിരവധി ജോലികളുണ്ട് | | | | | |
| 3 | സർവ്വകലാശാലയിലെ ഒരു ജോലിക്കാരൻ എന്നതിലുപരി വ്യക്തിപരമായ സംതൃപ്തി നൽകുന്നതിന് എനിക്ക് പരിശീലനം ലഭിച്ചതായി ഞാൻ വിശ്വസിക്കുന്ന മറ്റ് ജോലികളുണ്ട് | | | | | |
| 4 | ഞാൻ എന്നോട് തന്നെ സത്യസന്ധനാണെങ്കിൽ, യൂണിവേഴ്സിറ്റിയിലെ ഒരു ജീവനക്കാരനെന്ന നിലയിൽ എന്റെ ജോലിയിൽ എനിക്ക് അത്യുപേക്ഷയുണ്ട് | | | | | |
| 5 | യൂണിവേഴ്സിറ്റിയിലെ ഒരു ജോലിക്കാരൻ എന്ന നിലയിൽ, മറ്റൊരു ഡിപ്പാർട്ട്മെന്റിൽ/സെക്റ്ററിൽ ലഭിക്കാത്ത ഒരുപാട് സ്വാതന്ത്ര്യം നൽകുന്നു. | | | | | |
| 6 | എനിക്ക് പരിശീലനം ലഭിച്ചതായി കരുതുന്ന ഇതര ജോലികൾ നോക്കുമ്പോൾ, ഈ സർവ്വകലാശാലയിൽ ഞാൻ ഒരു ജീവനക്കാരനായി പ്രവർത്തിക്കുന്നതിൽ എനിക്ക് സന്തോഷമുണ്ട് | | | | | |
| 7 | ഒരു വ്യക്തിക്ക് തന്റെ സഹജീവികളെ സേവിക്കാൻ യഥാർത്ഥ ആഗ്രഹമില്ലെങ്കിൽ, അവൻ / അവൾ ഈ സർവ്വകലാശാലയിൽ ഒരു ജീവനക്കാരനാകാൻ ശ്രമിക്കരുത് | | | | | |

18) തോഴിൽ സമ്മർദ്ദം:

നിങ്ങൾ അനുഭവിക്കുന്ന ജോലിയിലെ സമ്മർദ്ദത്തിന്റെ തോത് അടിസ്ഥാനമാക്കി, ഉചിതമായ കോളത്തിൽ നിങ്ങളുടെ പ്രതികരണം സൂചിപ്പിക്കുക. [ശക്തമായി സമ്മതിക്കുന്നു (SA), അംഗീകരിക്കുന്നു (എ), തീരുമാനമെടുത്തിട്ടില്ല (UD), വിയോജിക്കുന്നു (D), ശക്തമായി വിയോജിക്കുന്നു (SD)]

| ക്രമ സംഖ്യ. | പ്രസ്താവനകൾ | SA | A | UD | D | SD |
|-------------|---|----|---|----|---|----|
| 1 | എനിക്ക് ധാരാളം ജോലിയുണ്ട്, അത് ചെയ്യാൻ വളരെ കുറച്ച് സമയം ഉള്ളൂ എന്ന് ഭയപ്പെടുന്നു | | | | | |
| 2 | എനിക്ക് ജോലിയില്ലാത്ത ഒരു ദിവസം ഭാരമായി തോന്നുന്നു | | | | | |
| 3 | ഞാൻ ഒരിക്കലും ലീവ് എടുക്കുന്നില്ലെന്ന് തോന്നുന്നു | | | | | |
| 4 | എന്റെ ജോലി എന്നെ അസ്വസ്ഥനാക്കുന്നു | | | | | |
| 5 | എന്റെ ജോലി എന്നിൽ ചെലുത്തുന്ന സ്വാധീനം വളരെ വലുതാണ് | | | | | |
| 6 | പലപ്പോഴും എന്റെ ജോലി വലിയ ഭാരമായി മാറുന്നു | | | | | |
| 7 | ചിലപ്പോഴൊക്കെ എന്റെ ജോലിയെ കുറിച്ച് ആലോചിക്കുമ്പോൾ നെഞ്ചിൽ വല്ലാത്തൊരു വല്ലാത്തു വരും | | | | | |
| 8 | ലീവ് എടുക്കുമ്പോൾ വിഷമം തോന്നുന്നു | | | | | |

ഭാഗം III

19) ജോലിയിലെ പ്രകടനം:

ഓരോ പ്രസ്താവനയ്ക്കും നിങ്ങളുടെ യോജിപ്പിന്റെയോ വിരോധിപ്പിന്റെയോ അളവ് സൂചിപ്പിക്കാൻ ഓരോ പ്രസ്താവനയ്ക്കെതിരെയും നൽകിയിരിക്കുന്ന അഞ്ച് ബദലുകളിൽ ഏതെങ്കിലും ഒന്നിൽ (✓) അടയാളം ഇടുക. [ശക്തമായി സമ്മതിക്കുന്നു (SA), അംഗീകരിക്കുന്നു (എ), തീരുമാനമെടുത്തിട്ടില്ല (UD), വിരോധിക്കുന്നു (D), ശക്തമായി വിരോധിക്കുന്നു (SD)]

| ക്രമ സംഖ്യ | പ്രസ്താവനകൾ | SA | A | N | D | SD |
|----------------------------------|--|----|---|---|---|----|
| I. കാർത്തവ്യപരമായ പ്രകടനം | | | | | | |
| 1 | ജോലിക്ക് ആവശ്യമായ കഴിവുകൾ എനിക്കുണ്ട് | | | | | |
| 2 | ഞാൻ കാര്യക്ഷമമായി പ്രവർത്തിക്കുന്നു | | | | | |
| 3 | ജോലിയുമായി ബന്ധപ്പെട്ട നടപടിക്രമങ്ങൾ ഞാൻ മനസ്സിലാക്കുകയും നടപ്പിലാക്കുകയും ചെയ്യുന്നു | | | | | |
| 4 | നിർവ്വചിച്ചിരിക്കുന്ന ചുമതല അവസാനിപ്പിക്കാൻ ഞാൻ ആസൂത്രിതവും സംഘടിതവുമായ രീതിയിൽ പ്രവർത്തിക്കുന്നു | | | | | |
| 5 | ജോലിയുമായി ബന്ധപ്പെട്ട പുതിയ കഴിവുകൾ നേടാൻ ഞാൻ ഉത്സുകനാണ് | | | | | |
| II. സന്ദർഭോചിതമായ പ്രകടനം | | | | | | |
| 1 | എന്റെ കർത്തവ്യം ചെയ്യുമ്പോൾ കൂടുതൽ ശ്രദ്ധയും ഉത്തരവാദിത്തങ്ങളും ഏറ്റെടുക്കുന്നു | | | | | |
| 2 | എന്റെ സർവ്വകലാശാലയിൽ ഒരു നല്ല തൊഴിൽ അന്തരീക്ഷം ഞാൻ സൃഷ്ടിക്കുന്നു | | | | | |
| 3 | ജോലി ചെയ്യുന്നതിൽ നിന്ന് തടയുന്ന ഒരു സാഹചര്യം നേരിടുകയാണെങ്കിൽ, അത് പരിഹരിക്കാൻ ഞാൻ ശ്രമിക്കുന്നു | | | | | |
| 4 | എന്റെ സഹപ്രവർത്തകരെ അവരുടെ ജോലി പൂർത്തിയാക്കാൻ ഞാൻ സഹായിക്കുകയും പ്രോത്സാഹിപ്പിക്കുകയും ചെയ്യുന്നു | | | | | |
| 5 | സർവ്വകലാശാലയ്ക്കകത്തും പുറത്തും വിമർശനങ്ങൾ ഉണ്ടായാലും ഞാൻ എന്റെ സർവ്വകലാശാലയെ സംരക്ഷിക്കുന്നു | | | | | |
| 6 | ഈ സർവ്വകലാശാലയുടെ ഭാഗമായതിൽ ഞാൻ അഭിമാനിക്കുന്നു | | | | | |

ഭാഗം IV

ഈ ഭാഗത്ത്, 1 മുതൽ 5 വരെയുള്ള നിങ്ങളുടെ കഴിവിന്റെ നിലവാരം സൂചിപ്പിക്കുന്നതിന് ഓരോ പ്രസ്താവനയ്ക്കെതിരെയും ഉചിതമായ കോളത്തിൽ ഒരു (✓) അടയാളം ഇടുക, 1: വളരെ കുറഞ്ഞ കഴിവ്, 2: കുറഞ്ഞ കഴിവ്, 3: ഇടത്തരം കഴിവ്, 4: ഉയർന്നത് കഴിവ്, 5: വളരെ ഉയർന്ന കഴിവ്.

1) വൈദഗ്ധ്യം

| ക്രമ സംഖ്യ. | പ്രസ്താവനകൾ | കഴിവിന്റെ നില | | | | |
|-------------|---|---------------|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 |
| 1 | ഫാം ടൂളുകളും മെഷിനികളും പ്രവർത്തിപ്പിക്കാനും വിളവെടുപ്പ് നടത്താനും എനിക്ക് മികച്ച കൈ-കണ്ണി ഏകോപനം ഉണ്ട് | | | | | |
| 2 | ഞാൻ ചെയ്ത ജോലികൾ ഞാൻ വിലയിരുത്തുന്നു | | | | | |
| 3 | സന്ദർശകരുടെ പഠനയാത്രയ്ക്കിടെ അവർക്ക് വിശദീകരണം നടത്താൻ എനിക്ക് കഴിയും | | | | | |
| 4 | ആവശ്യമുള്ളപ്പോൾ ഞാൻ പൊതുവായ തൊഴിൽ വൈദഗ്ധ്യങ്ങൾ ചെയ്യുന്നു | | | | | |
| 5 | എന്നെ ഏൽപ്പിച്ച ജോലി ചെയ്യാൻ എനിക്ക് വൈദഗ്ധ്യമുണ്ട് | | | | | |
| 6 | നടീൽ, ട്രിമ്മിംഗ്, പുല്ല് പരിപാലനം എന്നിവയുൾപ്പെടെ ലാൻഡ്സ്കേപ്പിംഗിലും പരിപാലനത്തിലും എനിക്ക് പരിചയമുണ്ട് | | | | | |
| 7 | ആവശ്യമെങ്കിൽ ഞാൻ അറ്റകുറ്റപ്പണികൾ നടത്താം | | | | | |

2) ആശയവിനിമയം

| ക്രമ സംഖ്യ. | പ്രസ്താവനകൾ | കഴിവിന്റെ നില | | | | |
|-------------|---|---------------|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 |
| 1 | എനിക്ക് സമപ്രായക്കാരുമായുള്ള പ്രശ്നങ്ങൾ/തർക്കങ്ങൾ പരിഹരിക്കാൻ കഴിയും | | | | | |
| 2 | ഞാൻ അടിസ്ഥാന ഭാഷ ഉപയോഗിക്കുകയും സന്ദേശങ്ങൾ കൈമാറുന്നതിന് ഉചിതമായ ചാനൽ തിരഞ്ഞെടുക്കുകയും ചെയ്യുന്നു | | | | | |
| 3 | ഞാൻ എപ്പോഴും എന്റെ ആശയങ്ങളും അഭിപ്രായങ്ങളും വ്യക്തവും മനസ്സിലാക്കാവുന്നതുമായ രീതിയിൽ പ്രകടിപ്പിക്കുന്നു | | | | | |
| 4 | മറ്റുള്ളവർ പറയുന്നത് ഞാൻ ശ്രദ്ധിക്കുന്നു | | | | | |
| 5 | എനിക്ക് പ്രാദേശിക ഭാഷയിൽ പ്രാവീണ്യമുണ്ട് | | | | | |
| 6 | ലളിതവും എളുപ്പവുമായ രീതിയിൽ എനിക്ക് ജോലി പുതുക്കാൻ കഴിയും | | | | | |

3) നേതൃത്വം

| ക്രമ സംഖ്യ. | പ്രസ്താവനകൾ | കഴിവിന്റെ നില | | | | |
|-------------|---|---------------|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 |
| 1 | സഹപ്രവർത്തകർക്ക് ഞാൻ പ്രത്യേക മാർഗനിർദ്ദേശം നൽകുന്നു | | | | | |
| 2 | പുതിയ ജീവനക്കാർക്ക് ഓറിയന്റേഷൻ നൽകാൻ എനിക്ക് കഴിയും | | | | | |
| 3 | ജോലി ചെയ്യുന്നതിൽ ഞാൻ മുൻകൈയെടുക്കുന്നു | | | | | |
| 4 | ആവശ്യമുള്ളപ്പോൾ ആവശ്യമായ നടപടികൾ ഞാൻ സ്വീകരിക്കുന്നു | | | | | |
| 5 | ജോലിസ്ഥലത്തെ ചലനാത്മകത, ചേരി ചലനാത്മകത, ടീമുകളെ വളർത്തുന്നതിനുള്ള രീതികൾ എന്നിവ എനിക്ക് തിരിച്ചറിയാൻ കഴിയും | | | | | |

4) ശേഷി

| ക്രമ സംഖ്യ. | പ്രസ്താവനകൾ | കഴിവിന്റെ നില | | | | |
|-------------|---|---------------|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 |
| 1 | വലിയ വസ്തുക്കളെ ഉയർത്തുക, വലിക്കുക, കൊണ്ടുപോകുക തുടങ്ങിയ ശാരീരിക ചുമതലകൾ നിർവഹിക്കുന്നതിന് ഞാൻ ശാരീരിക ക്ഷമത/ആരോഗ്യം നിലനിർത്തുന്നു | | | | | |
| 2 | ഉപകരണങ്ങൾ, വിള കെട്ടുകൾ, എന്നിവയുൾപ്പെടെയുള്ള ഭാരമുള്ള വസ്തുക്കൾ ഉയർത്താൻ ഞാൻ ശക്തനാണ് | | | | | |
| 3 | വിഷമകരവും അപകടകരവുമായ സാഹചര്യങ്ങളെ അതിജീവിക്കാൻ എനിക്ക് കഴിവുണ്ട് | | | | | |
| 4 | പുതിയ അറിവുകളും നൈപുണ്യവും നേടാൻ ഞാൻ എപ്പോഴും ഉത്സുകനാണ് | | | | | |
| 5 | ജോലിയിൽ ഞാൻ വഴക്കമുള്ളവനാണ് | | | | | |
| 6 | എന്റെ ചുമതലകൾ നിർവഹിക്കുന്നതിന് ആവശ്യമായ അറിവ് എനിക്കുണ്ട് | | | | | |
| 7 | വ്യത്യസ്ത ജോലി സാഹചര്യങ്ങളുമായി ഞാൻ പൊരുത്തപ്പെടുന്നു | | | | | |
| 8 | വ്യത്യസ്ത കാലാവസ്ഥയിൽ എനിക്ക് ജോലി ചെയ്യാൻ കഴിയും | | | | | |

5) സംഘടിതപവർത്തനം

| ക്രമ സംഖ്യ. | പ്രസ്താവനകൾ | കഴിവിന്റെ നില | | | | |
|-------------|--|---------------|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 |
| 1 | ഒരു നിശ്ചിത ലക്ഷ്യം കൈവരിക്കുന്നതിന് ഒരുമിച്ച് പ്രവർത്തിക്കുന്നതിന്റെ മൂല്യത്തിൽ ഞാൻ വിശ്വസിക്കുന്നു | | | | | |
| 2 | ഞാൻ എപ്പോഴും ശക്തമായ തൊഴിൽ ബന്ധം നിലനിർത്തുന്നു | | | | | |
| 3 | എനിക്ക് മറ്റുള്ളവരുമായി തുല്യമായി ചുമതലകളും ഉത്തരവാദിത്തങ്ങളും ന്യായമായ രീതിയിൽ ഏറ്റെടുക്കാൻ കഴിയും | | | | | |
| 4 | കാർത്തവ്യം പൂർത്തിയാക്കാൻ എനിക്ക് ടീം അംഗങ്ങൾക്ക് പിന്തുണയും മാർഗനിർദ്ദേശവും നൽകാൻ കഴിയും | | | | | |
| 5 | ഞാൻ എപ്പോഴും ഒരു ടീമിൽ പ്രവർത്തിക്കാൻ ഇഷ്ടപ്പെടുന്നു | | | | | |
| 6 | ടീമിന്റെ നേട്ടത്തിനായി എന്റെ പരമാവധി സംഭാവന ചെയ്യുന്നു | | | | | |

6) വ്യക്തിത്വ സവിശേഷത

| ക്രമ സംഖ്യ. | പ്രസ്താവനകൾ | കഴിവിന്റെ നില | | | | |
|-------------|---|---------------|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 |
| 1 | മറ്റുള്ളവരുടെ അഭിപ്രായങ്ങളും വികാരങ്ങളും ആഗ്രഹങ്ങളും ഞാൻ എപ്പോഴും ശാന്തമായി കേൾക്കുന്നു | | | | | |
| 2 | ഞാൻ മറ്റുള്ളവർക്ക് സഹായഹസ്തം നീട്ടുന്നു | | | | | |
| 3 | എന്റെ വ്യക്തിപരമായ കഴിവുകളിൽ ഞാൻ വിശ്വസിക്കുന്നു | | | | | |
| 4 | മറ്റുള്ളവരുമായി ശക്തമായ ബന്ധം സ്ഥാപിക്കാൻ ഞാൻ ശ്രമിക്കുന്നു | | | | | |
| 5 | എന്റെ ദൈനംദിന ജോലികളിൽ ആത്മവിശ്വാസമുണ്ട് | | | | | |
| 7 | മറ്റുള്ളവരിലെ നന്മ ഞാൻ എപ്പോഴും ഉൾക്കൊള്ളുന്നു | | | | | |
| 8 | മറ്റുള്ളവരുടെ ക്രിയാത്മകമായ ഗുണവിശേഷങ്ങളെ ഞാൻ മാനിക്കുന്നു | | | | | |
| 9 | ഞാൻ ജോലിസ്ഥലത്ത് സുഖകരമായ അന്തരീക്ഷം സൃഷ്ടിക്കുന്നു | | | | | |

7) തൊഴിൽ നൈതികത

| ക്രമ സംഖ്യ. | പ്രസ്താവനകൾ | കഴിവിന്റെ നില | | | | |
|-------------|---|---------------|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 |
| 1 | ഞാൻ എപ്പോഴും കൃത്യനിഷ്ഠ പാലിക്കാൻ ശ്രമിക്കുന്നു | | | | | |
| 2 | സാഹചര്യത്തിന്റെ തീവ്രതയനുസരിച്ച് എനിക്ക് പ്രവർത്തിക്കാൻ കഴിയും | | | | | |
| 3 | ഞാൻ എപ്പോഴും എന്റെ തൊഴിൽ സമർപ്പിതനാണ് | | | | | |
| 5 | ഞാൻ ധാർമ്മികവും സാമൂഹികവുമായ വിശ്വാസങ്ങൾ വികസിപ്പിക്കുന്നു | | | | | |
| 6 | എന്റെ വേഷങ്ങളെക്കുറിച്ച് ആരെങ്കിലും എന്നെ ഓർമ്മിപ്പിക്കാൻ ഞാൻ കാത്തിരിക്കില്ല | | | | | |
| 7 | മണ്ണ് തയ്യാറാക്കൽ, സാംസ്കാരിക പ്രവർത്തനങ്ങൾ, വിളവെടുപ്പ് തുടങ്ങിയ ഫീൽഡ് പ്രവർത്തനങ്ങളിൽ ഞാൻ എപ്പോഴും ശ്രദ്ധാലുവാണ് | | | | | |
| 8 | എന്റെ ജോലിയിൽ എനിക്ക് സ്വാതന്ത്ര്യമുണ്ട് | | | | | |
| 9 | അനുവദിച്ച ചുമതലകൾ അഭിനിവേശത്തോടെയും പ്രതിബദ്ധതയോടെയും ഞാൻ നിറവേറുന്നു | | | | | |
| 10 | എന്റെ ജോലിയിൽ ഞാൻ എപ്പോഴും സത്യസന്ധമാണ് | | | | | |
| 11 | നെഗറ്റീവ് പാരിസ്ഥിതിക ആഘാതം കുറയ്ക്കുന്നതിന്, ഞാൻ എപ്പോഴും മാലിന്യങ്ങൾ കുറയ്ക്കുകയും വിഭവങ്ങളുടെ ഉപയോഗം ക്രമീകരിക്കുകയും ചെയ്യുന്നു | | | | | |
| 12 | മേലുദ്യോഗസ്ഥരുടെയും സഹപ്രവർത്തകരുടെയും നിർദ്ദേശങ്ങളുമായി ഞാൻ പോകുന്നു | | | | | |

ഭാഗം V

1) മനോഭാവം

താഴെ നൽകിയിരിക്കുന്ന ഓരോ പ്രസ്താവനകൾക്കും എതിരായി അഞ്ച് ഇതരങ്ങളിൽ ഏതെങ്കിലും ഒന്നിന് ഉചിതമായ കോളത്തിൽ ഒരു (✓) നൽകി നിങ്ങളുടെ സമ്മതത്തിന്റെ/വിയോജിപ്പിന്റെ അളവ് സൂചിപ്പിക്കുക [ശക്തമായി സമ്മതിക്കുന്നു (SA), അംഗീകരിക്കുന്നു (എ), തീരുമാനമെടുത്തിട്ടില്ല (UD), വിയോജിക്കുന്നു (D), ശക്തമായി വിയോജിക്കുന്നു (SD)]

| ക്രമ സംഖ്യ. | പ്രസ്താവനകൾ | SA | A | N | D | SD |
|-------------|--|----|---|---|---|----|
| 1 | അനുവദിച്ച ജോലികൾ എത്രയും വേഗം ആരംഭിക്കാൻ ഞാൻ എപ്പോഴും തയ്യാറാണ് | | | | | |
| 2 | സമപ്രായക്കാരുമായി സഹകരിക്കാനോ കൂട്ടുകൂടാനോ ഉള്ള ആഗ്രഹമില്ലായ്മ ഞാൻ പ്രകടിപ്പിക്കുന്നു | | | | | |
| 3 | എന്റെ ജോലിയോട് എനിക്ക് ശക്തമായ ഉത്തരവാദിത്തബോധമുണ്ട് | | | | | |
| 4 | തുടർച്ചയായ നിരീക്ഷണം ലഭിച്ചില്ലെങ്കിലും, ഞാൻ മുൻകൈ എടുത്ത് ഏൽപ്പിച്ച ചുമതല പൂർത്തിയാക്കുന്നു | | | | | |
| 5 | ഞാൻ ജോലിയോട് വഴക്കമുള്ളവനും മാറ്റത്തെ പ്രതിരോധിക്കുന്നവനല്ല | | | | | |
| 6 | സുരക്ഷാ ചട്ടങ്ങൾ പാലിച്ചും ശരിയായ സംരക്ഷണ ഉപകരണങ്ങൾ ധരിച്ചും ഞാൻ ജോലിസ്ഥലത്തെ സുരക്ഷയ്ക്ക് മുൻഗണന നൽകുന്നു | | | | | |
| 7 | ആവശ്യമെങ്കിൽ ഇൻ-സർവീസ് പരിശീലനത്തിൽ പങ്കെടുക്കാൻ ഞാൻ തയ്യാറാണ് | | | | | |
| 8 | എല്ലാപ്പമുള്ള സാഹചര്യങ്ങളിൽ പോലും, ജോലി ചെയ്യാനുള്ള ഉത്സാഹം എനിക്കില്ല | | | | | |
| 9 | എന്റെ സഹപ്രവർത്തകരോടും മേലുദ്യോഗസ്ഥരോടും കർഷകരോടും ഞാൻ ബഹുമാനം കാണിക്കുന്നു | | | | | |
| 10 | ഞാൻ എന്റെ ജോലിയെ പ്രതിബദ്ധതയോടും അർപ്പണബോധത്തോടും കൂടി സമീപിക്കുന്നു | | | | | |

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| 11 | ഞാൻ ഒറ്റപ്പെട്ട് പ്രവർത്തിക്കുകയും എന്റെ ടീം അംഗങ്ങളുമായി അപൂർവ്വമായി സഹകരിക്കുകയും ചെയ്യുന്നു | | | | | |
| 12 | പ്രവർത്തനങ്ങൾ കണ്ടെത്തുന്നതിലും പൂർത്തിയാക്കുന്നതിലും ഞാൻ സജീവമാണ് | | | | | |
| 13 | മാറുന്ന ജോലി സാഹചര്യങ്ങളുമായി പൊരുത്തപ്പെടാൻ ഞാൻ പാടുപെടുന്നു | | | | | |
| 14 | ഞാൻ അശുഭാപ്തിവിശ്വാസവും നിരുത്സാഹപ്പെടുത്തുന്നതുമായ ഒരു മാനസികാവസ്ഥ നിലനിർത്തുന്നു | | | | | |
| 15 | ഞാൻ വ്യക്തമായി ആശയവിനിമയം നടത്തുന്നു, ശ്രദ്ധയോടെ കേൾക്കുന്നു, പ്രൊഫഷണലായി എന്നെ അവതരിപ്പിക്കുന്നു | | | | | |
| 16 | ഞാൻ ചുമതല പൂർത്തിയാക്കാനുള്ള സമയപരിധി സ്ഥിരമായി പാലിക്കുന്നു | | | | | |
| 17 | എന്റെ കഴിവുകളും പഠിക്കാനോ മെച്ചപ്പെടുത്താനോ ഉള്ള ആഗ്രഹം എനിക്കില്ല | | | | | |
| 18 | ഹീഡ്ബാക്ക് സ്വീകരിക്കുന്നത് ഞാൻ ഒഴിവാക്കുന്നു | | | | | |
| 19 | സാധ്യമായ അപകടങ്ങൾ ശ്രദ്ധയിൽപ്പെടുമ്പോൾ ഞാൻ റിപ്പോർട്ട് ചെയ്യുന്നു | | | | | |

ഭാഗം VI

1) അറിവ്

ഓരോ ചോദ്യത്തിനും എതിരായി ചുവടെ നൽകിയിരിക്കുന്ന ഒന്നിലധികം ചോയ്സുകളിൽ നിന്ന് ശരിയായ ഉത്തരം തിരഞ്ഞെടുക്കുക.

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| 1 | അപര്യാപ്തമായ ജലസേചന സൗകര്യങ്ങൾ ജോലിയെ എങ്ങനെ ബാധിക്കുന്നു? a) തൊഴിലാളികൾക്കിടയിൽ ജലജന്യ രോഗങ്ങൾ വർദ്ധിപ്പിക്കുന്നു b) ജലക്ഷാമം കാരണം കൂടുതൽ സമയം ജോലി ചെയ്യുക c) വിള ഉൽപാദനക്ഷമത കുറയ്ക്കുന്നു d) മുകളിൽ പറഞ്ഞവയെല്ലാം |
| 2 | തൊഴിലാളികളുടെ ജീവിതവും തൊഴിൽ സാഹചര്യങ്ങളും മെച്ചപ്പെടുത്തുന്നതിന് സ്വീകരിച്ച നടപടികൾ a) ആരോഗ്യ പരിരക്ഷാ ഇൻഷുറൻസുകളിലേക്ക് പ്രവേശനം നൽകുക b) സാമൂഹിക സുരക്ഷാ പദ്ധതികൾ നടപ്പിലാക്കുക c) മിനിമം വേതനം വർദ്ധിപ്പിക്കുക d) മുകളിൽ പറഞ്ഞവയെല്ലാം |
| 3 | ശരിയായ സംഭരണത്തിന്റേയും ഗതാഗത അടിസ്ഥാന സൗകര്യങ്ങൾന്റേയും അഭാവം ഇതിലേക്ക് നയിക്കുന്നു: a) വിളവെടുപ്പിനു ശേഷമുള്ള നഷ്ടം കുറയ്ക്കുന്നു b) ഭക്ഷ്യ സുരക്ഷ വർദ്ധിപ്പിക്കുന്നു c) വിപണി പ്രവേശനക്ഷമത വർദ്ധിപ്പിക്കുന്നു d) കാർഷിക ഉൽപ്പന്നങ്ങൾ പാഴാക്കുന്നതിന് ഇടയാക്കുന്നു |
| 4 | മണ്ണിൽ വളങ്ങൾ ചേർക്കുന്നതിന്റെ ഉദ്ദേശ്യം a) കളകളെ നശിപ്പിക്കാൻ b) മണ്ണ് ചോർച്ച മെച്ചപ്പെടുത്താൻ c) ചെടികൾക്ക് പോഷകങ്ങൾ നൽകുന്നതിന് d) മണ്ണൊലിപ്പ് തടയാൻ |
| 5 | കാർഷിക മേഖലകളിൽ ഒരു ഭയാനകതയുടെ ഉദ്ദേശ്യം a) പക്ഷികളെയും കീടങ്ങളെയും ഭയപ്പെടുത്താൻ b) വിളകൾക്ക് തണൽ നൽകുന്നതിന് c) കൃഷി നടക്കുന്നുണ്ടെന്ന് ജനങ്ങളെ അറിയിക്കുക d) വിളവെടുപ്പ് പൂർത്തിയായതായി ആളുകളെ അറിയിക്കുക |
| 6 | കാർഷിക മേഖലയിൽ സാധാരണയായി ഉപയോഗിക്കുന്ന ജൈവ വളം a) യൂറിയ b) സൂപ്പർഫോസ്ഫേറ്റ് c) അമോണിയം നൈട്രേറ്റ് d) കമ്പോസ്റ്റ് |
| 7 | കൃഷിയിൽ കീടനാശിനി പ്രയോഗത്തിന്റെ പ്രാഥമിക ലക്ഷ്യം |

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|----|--|
| | <p>a) വിളകളുടെ വിളവ് വർദ്ധിപ്പിക്കൽ</p> <p>b) കള വളർച്ച നിയന്ത്രിക്കുക</p> <p>c) വിളകളിൽ കാണപ്പെടുന്ന രോഗങ്ങൾ കൈകാര്യം ചെയ്യുക</p> <p>d) കീടങ്ങളെ നിയന്ത്രിക്കുക</p> |
| 8 | <p>ചെടികൾ നന്നയ്ക്കുമ്പോൾ വെള്ളം സംരക്ഷിക്കാൻ എന്തുചെയ്യണം?</p> <p>a) ഇടയ്ക്കിടെ വെള്ളം</p> <p>b) ദിവസത്തിലെ ഏറ്റവും ചൂടേറിയ സമയത്ത് വെള്ളം</p> <p>c) ഈർപ്പം നിലനിർത്താൻ ചവറുകൾ ഉപയോഗിക്കുക</p> <p>d) ഹോസ് ഉപയോഗിച്ച് വെള്ളം</p> |
| 9 | <p>ഒരു ചെടിക്ക് നന്നവ് ആവശ്യമാണെന്ന് നിങ്ങൾക്ക് എങ്ങനെ പറയാൻ കഴിയും?</p> <p>a) ഇലകളിൽ സ്പർശിച്ചുകൊണ്ട്</p> <p>b) മണ്ണ് നോക്കി</p> <p>c) ചെടിയുടെ നിറവും വാടിയ ഇലകളും നോക്കി</p> <p>d) വീണ ഇലകൾ നോക്കി</p> |
| 10 | <p>ചെടികൾക്ക് വളം പ്രയോഗിക്കുമ്പോൾ പരിഗണിക്കുന്ന പാരിസ്ഥിതിക ഘടകം</p> <p>a) ദിവസത്തിന്റെ സമയം</p> <p>b) മഴയുടെ അളവ്</p> <p>c) കാറ്റിന്റെ ദിശ</p> <p>d) താപനില</p> |
| 11 | <p>ചെടികൾക്ക് വളം പ്രയോഗിക്കുന്ന ആവൃത്തി</p> <p>a) മാസത്തിലൊരിക്കൽ</p> <p>b) വർഷത്തിൽ ഒരിക്കൽ</p> <p>c) സീസണിൽ രണ്ടുതവണ</p> <p>d) വിളയെയും മണ്ണിന്റെ അവസ്ഥയെയും ആശ്രയിച്ചിരിക്കുന്നു</p> |
| 12 | <p>രാസവളങ്ങൾ കൈകാര്യം ചെയ്യുമ്പോഴും പ്രയോഗിക്കുമ്പോഴും പാലിക്കേണ്ട മുൻകരുതലുകൾ</p> <p>a) സംരക്ഷണ കയ്യുറകളും വസ്ത്രങ്ങളും ധരിക്കുക</p> <p>b) ചർമ്മവും കണ്ണും നേരിട്ട് സമ്പർക്കം ഒഴിവാക്കുക</p> <p>c) എപ്പോഴും നിർമ്മാണ നിർദ്ദേശങ്ങൾ പാലിക്കുക</p> <p>d) ഇവയെല്ലാം</p> |
| 13 | <p>കേരളത്തിൽ വിത്ത് പാകാൻ പറ്റിയ സമയം</p> <p>a) വസന്തം</p> <p>b) ശീതകാലം</p> <p>c) വേനൽ</p> <p>d) മഴക്കാലം</p> |
| 14 | <p>വിളകളിലെ രോഗവ്യാപനം കുറയ്ക്കാൻ നടപടി</p> <p>a) രോഗം ബാധിച്ച ഭാഗം മുറിച്ച് നശിപ്പിക്കുക</p> <p>b) ചെടികൾ മുറിക്കുക</p> <p>c) ജലസേചനത്തിനായി ശുദ്ധവും ശുദ്ധവുമായ വെള്ളം ഉപയോഗിക്കുക</p> <p>d) തിങ്ങിനിറഞ്ഞ സസ്യങ്ങൾ</p> |
| 15 | <p>കേരളത്തിലെ വിളവെടുപ്പുമായി ബന്ധപ്പെട്ട് "ഓണം" ഉത്സവത്തിന്റെ പ്രാധാന്യം</p> <p>a) വിളവെടുപ്പ് സീസണിന്റെ ആരംഭം അടയാളപ്പെടുത്തുക</p> <p>b) വിളവെടുപ്പ് പൂർത്തിയായതിന് ശേഷം ആഘോഷിക്കുന്ന മതപരമായ ഉത്സവം</p> <p>c) സമൃദ്ധമായ വിളവെടുപ്പിന് നന്ദി പറയുന്ന വിളവെടുപ്പ് ഉത്സവം</p> <p>d) മുകളിൽ പറഞ്ഞവയെല്ലാം</p> |
| 16 | <p>പരിക്കുകൾ ഒഴിവാക്കാൻ ഭാരമുള്ള വസ്തുക്കൾ ഉയർത്തുന്നതിനുള്ള ശരിയായ രീതി</p> <p>a) നിങ്ങളുടെ പുറം വളച്ച് നിങ്ങളുടെ പുറകിലെ പേശികൾ ഉപയോഗിച്ച് ഉയർത്തുക</p> <p>b) നിങ്ങളുടെ പുറം നേരെ നിൽക്കുമ്പോൾ നിങ്ങളുടെ കാലിലെ പേശികൾ ഉപയോഗിച്ച് ഉയർത്തുക</p> <p>c) മികച്ച പിടി ലഭിക്കാൻ കൈകൾ പൂർണ്ണമായി നീട്ടി ഉയർത്തുക</p> <p>d) വേഗത്തിൽ ദിശ മാറ്റാൻ ലിഫ്റ്റിംഗ് സമയത്ത് നിങ്ങളുടെ ശരീരം വളച്ചൊടിക്കുക</p> |
| 17 | <p>പ്രദേശങ്ങൾ തുത്തുവാരി ശേഖരിക്കുന്ന അവശിഷ്ടങ്ങൾ എന്തുചെയ്യണം?</p> <p>a) ശരിയായി വിനിയോഗിക്കാൻ അത് കത്തിക്കുക</p> <p>b) കാമ്പസിനുള്ളിൽ കുഴിയിൽ കുഴിച്ചിടുക</p> <p>c) ഇത് കമ്പോസ്റ്റ് ചെയ്യുക അല്ലെങ്കിൽ നിയുക്ത മാലിന്യ ബിന്നുകളിൽ നിക്ഷേപിക്കുക</p> <p>d) സ്വാഭാവികമായി വിഘടിപ്പിക്കാൻ നിലത്ത് വിടുക</p> |
| 18 | <p>ശമ്പളത്തിൽ നിന്ന് ഒരു സാധാരണ കിഴിവ് അല്ലാത്തത് ഏതാണ്?</p> <p>a) ആദായ നികുതി</p> <p>b) പ്രൊവിഡന്റ് ഫണ്ട്</p> <p>c) പ്രകടന ബോണസ്</p> <p>d) ആരോഗ്യ ഇൻഷുറൻസ് പ്രീമിയം</p> |

ഭാഗം IV

പരിശീലന ആവശ്യം

പരിശീലനത്തിന്റെ ആവശ്യകത സൂചിപ്പിക്കുന്നതിന് ഓരോ പ്രസ്താവനയ്ക്കെതിരെയും ഉചിതമായ കോളത്തിൽ ഒരു (·) അടയാളം ഇടുക, താഴെ നൽകിയിരിക്കുന്ന ഓരോ പ്രസ്താവനയ്ക്കും അടിയന്തിരമായി ആവശ്യമാണ് (2), ആവശ്യമാണ് (1), ആവശ്യമില്ല (0):

I. സാങ്കേതികമായ/പ്രവർത്തനക്ഷമമായ

| A. ഫീൽഡ് തയ്യാറെടുപ്പ് | | പരിശീലന ആവശ്യം | | |
|--|--|----------------|---|---|
| | | 2 | 1 | 0 |
| 1 | മണ്ണ് സാമ്പിളുകൾ ശേഖരിക്കുന്നതിനുള്ള നടപടിക്രമങ്ങൾ | | | |
| 2 | ശരിയായ അളവിൽ വളങ്ങളും വളങ്ങളും ഉപയോഗിച്ച് മണ്ണിന്റെ ഫലഭൂയിഷ്ഠ വർദ്ധിപ്പിക്കൽ | | | |
| 3 | കമ്പോസ്റ്റ് തയ്യാറാക്കൽ | | | |
| 4 | കാർഷിക മാലിന്യങ്ങളുടെ പുനരുപയോഗം/വിനിയോഗത്തിന്റെ വ്യത്യസ്ത രീതികൾ | | | |
| B. കൃഷിയിടത്തിലെ സാംസ്കാരിക പ്രവർത്തനങ്ങൾ | | | | |
| 1 | വിത്ത് ഉൽപാദനം | | | |
| 2 | വിത്ത് വിതയ്ക്കൽ | | | |
| 3 | ആവശ്യമുള്ള വിളകൾക്ക് നഷ്ടനികളുടെ കൈകാര്യം ചെയ്യൽ | | | |
| 4 | പറിചുനടൽ രീതികൾ | | | |
| 5 | കള നിയന്ത്രണ നടപടിക്രമങ്ങൾ | | | |
| 6 | കളനാശിനികളുടെ പ്രയോഗ രീതികൾ | | | |
| 7 | ജലസേചന രീതികൾ | | | |
| 8 | വളപ്രയോഗ രീതികൾ | | | |
| 9 | കാർഷിക യന്ത്രങ്ങളുടെയും ഉപകരണങ്ങളുടെയും പ്രവർത്തനം | | | |
| 10 | ഫാം സുരക്ഷാ നടപടിക്രമങ്ങൾ | | | |
| C. സസ്യ സംരക്ഷണം | | | | |
| 1 | കീടങ്ങളെ കണ്ടുപിടിക്കുന്നതും കൈകാര്യം ചെയ്യുന്നതുമായ സാങ്കേതിക വിദ്യകൾ | | | |
| 2 | രോഗനിർണ്ണയവും ചികിത്സാ രീതികളും | | | |
| 3 | വിളകളിൽ കീടനാശിനികളുടെയും കുമിശ്നാശിനികളുടെയും പ്രയോഗ രീതി | | | |
| 4 | സസ്യ സംരക്ഷണ ഉപകരണങ്ങളും പരിപാലനവും | | | |
| D. വിളവെടുപ്പിനു ശേഷമുള്ള സാങ്കേതികവിദ്യ | | | | |
| 1 | വിള പകുത സൂചികകളും ഉചിതമായ വിളവെടുപ്പ് ഘട്ടവും നിർണ്ണയിക്കൽ | | | |
| 2 | വിളവെടുപ്പിന്റെ ഘട്ടം | | | |
| 3 | വിളവെടുപ്പിനു ശേഷമുള്ള കൈകാര്യം ചെയ്യൽ രീതികൾ | | | |
| 4 | ഉൽപ്പന്നങ്ങളുടെ ഗ്രേഡിംഗ്, തരംതിരിക്കൽ | | | |
| 5 | വിളവെടുപ്പിനു ശേഷമുള്ള വിവിധ സാങ്കേതികവിദ്യകൾ | | | |
| 6 | ഉൽപ്പന്നങ്ങളുടെ പാക്കേജിംഗ് | | | |

II. സാമൂഹിക-മാനസിക

| സാമൂഹിക-മാനസിക | | പരിശീലന ആവശ്യം | | |
|----------------|--------------------------|----------------|---|---|
| | | 2 | 1 | 0 |
| 1 | സമയ കൈകാര്യം ചെയ്യൽ | | | |
| 2 | സമ്മർദ്ദ കൈകാര്യം ചെയ്യൽ | | | |
| 3 | ജോലി-ജീവിത സന്തുലിതാവസ്ഥ | | | |
| 4 | വ്യക്തിത്വ വികസനം | | | |

COMPETENCY MAPPING AMONG EMPLOYEES OF KERALA AGRICULTURAL UNIVERSITY

AAYSHA KAMAR

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ABSTRACT

**Submitted in partial fulfilment of the
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Faculty of Agriculture

Kerala Agricultural University



DEPARTMENT OF AGRICULTURAL EXTENSION

COLLEGE OF AGRICULTURE

VELLANIKKARA, THRISSUR- 680656

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Competency mapping among employees of Kerala Agricultural University

Abstract

Kerala Agricultural University (KAU) is the primary agricultural higher educational institution in the State to provide human resources, skills and technologies required for the sustainable agricultural development through education, research and extension. At present, university has nine colleges under the Faculty of Agriculture, Agricultural Engineering and Forestry, six Regional Agricultural Research Stations (RARS), seventeen research stations, seven Krishi Vigyan Kendras (KVKs) and seven other extension units. The university has the workforce of 486 teaching staff, 1077 non-teaching staff, 36 technical officers and 1601 labourers as on 01/09/2024. Competency mapping is an important tool for an organization to ensure its employees have the abilities to meet the institutional goals.

With this backdrop, competency mapping was conducted among a selected sample of 70 scientists, 40 technical officers, 70 administrative staff, and 70 labourers using simple random sampling technique. Competency models tailored to each category of employees were adopted and modified focusing on the core competencies aligned with the specific job requirements for each category.

According to the TAASK-based competency model, scientists at KAU showed the highest competency gap in knowledge with an index of 56.80, and the lowest gap in attitude with an index of 34.84. By adopting hexagonal competency model for technical officers, it was identified that the highest competency gap was in knowledge with an index of 70.42, while professional ethics had the smallest gap of index value 24.60. The Lancaster competency model adopted among administrative staff highlighted creativity as the area with the largest disparity, recording a competency gap index of 56.27, whereas professional ethics showed the smallest gap of index value 26.25. According to the Pyramid competency model for labourers, knowledge exhibited the highest gap index value of 65.39, while communication had the lowest gap index value of 28.07.

It was found that majority of all the four categories of employees exhibited moderate level of job performance. To delineate the factors affecting the performance of employees of KAU, seven factors were identified among scientists viz; career progression and learning, workload, job stress, research productivity, personal efficacy, work environment and job engagement. Six factors were determined among technical officers viz; job

engagement, workplace resources and job mobility, personal efficacy, achievement motivation, career progression and occupational pressure. Five factors like career progression and job mobility, job engagements, infrastructural facility, personal efficacy and occupational pressure were identified among administrative staff. Seven factors were determined among labourers viz; age, personal efficacy, infrastructural facilities, organizational climate, achievement motivation, occupational pressure and job engagement.

The overall training needs of KAU employees were assessed under technical, organizational, and socio-psychological domains. The urgently needed trainings among scientists were in the technical domain with an index value of 50.16, followed by socio-psychological domain (42.50) and the least training need on organizational domain (39.70). The overall Training Need Index (TNI) of scientists at KAU was 44.12. The urgently needed trainings among technical officers were in technical domain with an index value of 30.25, followed by socio-psychological domain (23.75) and the least training need on organizational domain (19.38), resulting in an overall TNI of 24.46. The most needed trainings among administrative staff were in technical domain with an index value of 38.57, followed by organizational domain (30.83) and socio-psychological domain receiving the least training need index (19.57) and their overall TNI was 29.66. Similarly, the training needs of labourers were the highest in technical domain with an index value of 31.99, followed by socio-psychological domain (24.29), and their overall TNI was 28.14.

Based on the findings of the study, the training modules were designed based on the specific training needs of each category of the employees. Eight modules for the scientists of KAU, seven modules for the technical officers, three modules for the administrative staff and five modules for the labourers were designed to enhance the competency of the employees of KAU.

The implications such as developing a competency software for university to visualize performance gap for individual employee, to encourage inter-disciplinary or cross-departmental collaborative projects to bridge the knowledge gap among scientists and to implement competency-based talent management system which enable university to assess employees' current competency were recommended from the findings of the study to increase competency level of university employees.

കേരള കാർഷിക സർവകലാശാലയുടെ ജീവനക്കാരിൽ ക്ഷമതാ മാപനം

സാരാംശം

സംസ്ഥാന കാർഷിക മേഖലയുടെ സുസ്ഥിര വികസനത്തിനായി മാനവ വിഭവശേഷിയും, വൈദഗ്ധ്യങ്ങളും, സാങ്കേതിക വിദ്യകളും പ്രോത്സാഹിപ്പിക്കുന്നതിന് വിദ്യാഭ്യാസം, ഗവേഷണം, വിജ്ഞാന വ്യാപന പ്രവർത്തനങ്ങൾ എന്നിവ വഴി സംഭാവന ചെയ്യുന്ന പ്രാഥമിക ഉന്നത വിദ്യാഭ്യാസ സ്ഥാപനമാണ് കേരള കാർഷിക സർവകലാശാല. നിലവിൽ സർവകലാശാലയ്ക്ക് കാർഷികം, കാർഷിക സംയന്ത്രശാസ്ത്രം, വനശാസ്ത്രം എന്നീ ഫാക്കൽറ്റികളിൽ ഒമ്പത് കോളജുകളും, ആറ് പ്രാദേശിക കാർഷിക ഗവേഷണ കേന്ദ്രങ്ങളും, പതിനേഴ് ഗവേഷണ സ്ഥാപനങ്ങളും, ഏഴ് കൃഷി വിജ്ഞാന കേന്ദ്രങ്ങളും, ഏഴ് വിജ്ഞാന വ്യാപന സ്ഥാപനങ്ങളും ഉൾപ്പെടുന്നു. 01/09/2024 ലെ കണക്കനുസരിച്ച് 486 ശാസ്ത്രജ്ഞരും, 1601 തൊഴിലാളികളും, 1077 ഭരണകാര്യ ജീവനക്കാരും, 36 സാങ്കേതിക ഉദ്യോഗസ്ഥരുമാണ് സർവകലാശാലയിലുള്ളത്. സർവകലാശാലയുടെ ജീവനക്കാർക്ക് സ്ഥാപന ലക്ഷ്യങ്ങൾ നേടുന്നതിന് ആവശ്യമായ കഴിവുകൾ ഉണ്ടെന്ന് ഉറപ്പാക്കുന്നതിന് ക്ഷമതാ മാപനം ഒരു പ്രധാന ഉപാദിയാണ്.

ഈ പശ്ചാത്തലത്തിൽ, 70 ശാസ്ത്രജ്ഞർ, 40 സാങ്കേതിക ഉദ്യോഗസ്ഥർ, 70 ഭരണകാര്യ ജീവനക്കാർ, 70 തൊഴിലാളികൾ എന്നിവരുടെ ക്ഷമതാ മാപന പഠനം ലളിതമായ യാദൃശ്ചിക സാമ്പിളിംഗ് രീതി അടിസ്ഥാനമാക്കി നടത്തുകയുണ്ടായി. ഓരോ വിഭാഗത്തിന്റേയും പ്രത്യേക ജോലിയുമായി ബന്ധപ്പെട്ട കഴിവുകളിൽ ശ്രദ്ധ കേന്ദ്രീകരിച്ചുകൊണ്ട് മോഡലുകൾ തിരഞ്ഞെടുക്കുകയും പരിഷ്കരിക്കുകയും ചെയ്തു.

TAASK അടിസ്ഥാനമാക്കിയുള്ള കോംപറ്റൻസി മോഡൽ പ്രകാരം, കാർഷിക സർവകലാശാലയിലെ ശാസ്ത്രജ്ഞർക്ക് അറിവിൽ ഏറ്റവും വലിയ ക്ഷമതാ ഭിന്നത (56.80) കാണപ്പെട്ടപ്പോൾ, മനോഭാവത്തിൽ ഏറ്റവും കുറഞ്ഞ ഭിന്നത (34.84) രേഖപ്പെടുത്തി. സാങ്കേതിക ഉദ്യോഗസ്ഥർക്കായി ഹെക്സാഗണൽ കോംപറ്റൻസി മോഡൽ ഉപയോഗിക്കുമ്പോൾ, അറിവിൽ ഏറ്റവും ഉയർന്ന ക്ഷമതാ ഭിന്നതയും (70.42), പ്രൊഫഷണൽ നയങ്ങളിൽ ഏറ്റവും കുറഞ്ഞ ഭിന്നതയും (24.60) രേഖപ്പെടുത്തി. ഭരണകാര്യ ജീവനക്കാർക്കായി ലാൻകാസ്റ്റർ കോംപറ്റൻസി മോഡൽ ഉപയോഗിച്ചപ്പോൾ, സൃഷ്ടിപരതയാണ് ഏറ്റവും വലിയ ക്ഷമതാ ഭിന്നത രേഖപ്പെടുത്തിയത് (56.27), അതേസമയം പ്രൊഫഷണൽ നയങ്ങളിൽ ഏറ്റവും കുറഞ്ഞ ഭിന്നത (26.25) കാണിച്ചു. തൊഴിലാളികൾക്കായുള്ള പിരമിഡ് കോംപറ്റൻസി മോഡൽ പ്രകാരം, അറിവിൽ ഏറ്റവും വലിയ ഭിന്നത (65.39) രേഖപ്പെടുത്തിയപ്പോൾ, ആശയവിനിമയത്തിന് ഏറ്റവും കുറഞ്ഞ ഭിന്നത (28.07) രേഖപ്പെടുത്തി.

കാർഷിക സർവകലാശാലയിലെ ജീവനക്കാരുടെ ജോലിപ്രവർത്തനത്തെ ബാധിക്കുന്ന ഘടകങ്ങളെ വിശദീകരിക്കാനായി പഠനം നടത്തിയപ്പോൾ, നാലു വിഭാഗങ്ങളിലെയും ഭൂരിഭാഗം ജീവനക്കാർ മിതമായതട്ടിലെ

ജോലിപ്രവർത്തനം കാഴ്ചവെച്ചതായി കണ്ടെത്തി. ഔദ്യോഗിക വളർച്ചയും പഠനവും, ജോലിഭാരവും, ജോലിസമ്മർദ്ദവും, ഗവേഷണ ഉൽപ്പാദകത, വ്യക്തിപരമായ കാര്യക്ഷമത, ജോലിസ്ഥല അന്തരീക്ഷം, ജോലി പങ്കാളിത്തം എന്നിങ്ങനെ ഏഴ് ഘടകങ്ങൾ ശാസ്ത്രജ്ഞർക്കിടയിൽ തിരിച്ചറിഞ്ഞു. സാങ്കേതിക ഉദ്യോഗസ്ഥർക്കിടയിൽ ജോലി പങ്കാളിത്തം, ജോലിസ്ഥല വിഭവങ്ങൾ, ജോലിചലനക്ഷമത, വ്യക്തിപരമായ കാര്യക്ഷമത, നേട്ട പ്രചോദനം, ഔദ്യോഗിക വളർച്ച, തൊഴിൽ സമ്മർദ്ദം എന്നിങ്ങനെ ആറ് ഘടകങ്ങൾ നിർണ്ണയിച്ചു. ഭരണകാര്യ ജീവനക്കാരിൽ ഔദ്യോഗിക വളർച്ച ജോലിചലനക്ഷമത, ജോലി പങ്കാളിത്തം, അടിസ്ഥാന സൗകര്യം, വ്യക്തിപരമായ കാര്യക്ഷമത, തൊഴിൽ സമ്മർദ്ദം എന്നീ അഞ്ച് ഘടകങ്ങൾ കണ്ടെത്തി. അതേ സമയം, തൊഴിലാളികളിൽ വയസ്സ്, വ്യക്തിപരമായ കാര്യക്ഷമത, അടിസ്ഥാന സൗകര്യങ്ങൾ, സംഘടനാത്മക അന്തരീക്ഷം, നേട്ട പ്രചോദനം, തൊഴിൽ സമ്മർദ്ദം, ജോലി പങ്കാളിത്തം എന്നിവയാണ് നിർണ്ണയിച്ച ഏഴ് ഘടകങ്ങൾ.

കാർഷിക സർവകലാശാല ജീവനക്കാരുടെ പൊതു പരിശീലന ആവശ്യങ്ങൾ സാങ്കേതിക, സംഘടനാത്മക, സാമൂഹ്യ-മനോവിഷയ രംഗങ്ങളിൽ വിലയിരുത്തപ്പെട്ടു. ശാസ്ത്രജ്ഞർക്കിടയിൽ അടിയന്തിരമായി പരിശീലനങ്ങൾ 50.16 എന്ന സൂചികാമൂല്യത്തോടെ സാങ്കേതിക രംഗത്തിലാണ്, തുടർന്ന് സാമൂഹ്യ-മനോവിഷയ രംഗത്തിനും (42.50), ഏറ്റവും കുറഞ്ഞ പരിശീലനം സംഘടനാത്മക രംഗത്തിനും (39.70) ആയിരുന്നു. കാർഷിക സർവകലാശാലയിലെ ശാസ്ത്രജ്ഞരുടെ മൊത്തം പരിശീലന ആവശ്യ സൂചിക 44.12 ആയിരുന്നു. സാങ്കേതിക ഉദ്യോഗസ്ഥർക്ക് അത്യാവശ്യമായ പരിശീലനം 30.25 എന്ന സൂചികാമൂല്യത്തോടെ സാങ്കേതിക രംഗത്താണ്, പിന്നീട് സാമൂഹ്യ-മനോവിഷയ രംഗത്തിനും (23.75), ഏറ്റവും കുറഞ്ഞ പരിശീലന ആവശ്യ സംഘടനാത്മക രംഗത്തിനുമാണ് (19.38). ഈ ഘടകത്തിൽ, സാങ്കേതിക ഉദ്യോഗസ്ഥരുടെ മൊത്തം പരിശീലന ആവശ്യ സൂചിക 24.46 ആയിരുന്നു. ഭരണകാര്യ ജീവനക്കാരിൽ, ഏറ്റവും ആവശ്യമായ പരിശീലനങ്ങൾ 38.57 എന്ന സൂചികാമൂല്യത്തോടെ സാങ്കേതിക രംഗത്തിനും, തുടർന്ന് സംഘടനാത്മക രംഗത്തിനും (30.83), കുറഞ്ഞ പരിശീലന ആവശ്യവുമായി സാമൂഹ്യ-മനോവിഷയ രംഗത്തിനുമാണ് (19.57), ഇവരുടെ മൊത്തം പരിശീലന ആവശ്യ സൂചിക 29.66 ആയിരുന്നു. അതുപോലെ, തൊഴിലാളികളുടെ പരിശീലന ആവശ്യങ്ങൾ ഏറ്റവും ഉയർന്നത് സാങ്കേതിക രംഗത്ത് 31.99 എന്ന സൂചികയോടെ, ശേഷം സാമൂഹ്യ-മനോവിഷയ രംഗത്തിനുമാണ് (24.29). അവരുടെ മൊത്തം പരിശീലന ആവശ്യ സൂചിക 28.14 ആയിരുന്നു.

പഠനത്തിന്റെ ഫലങ്ങൾ ആധാരമാക്കി, ഓരോ വിഭാഗത്തിലുള്ള ജീവനക്കാരുടെയും പ്രത്യേക പരിശീലന ആവശ്യങ്ങളായി പരിശീലന മോഡ്യൂളുകൾ രൂപകൽപ്പന ചെയ്തു. കാർഷിക സർവകലാശാലയിലെ ശാസ്ത്രജ്ഞർക്കായി എട്ട് മോഡ്യൂളുകൾ, സാങ്കേതിക ഉദ്യോഗസ്ഥർക്കായി ഏഴ് മോഡ്യൂളുകൾ, ഭരണകാര്യ ജീവനാകാർക്കായി മൂന്നു മോഡ്യൂളുകൾ,

തൊഴിലാളികൾക്കായി അഞ്ചു മോഡ്യൂളുകൾ എന്നിവ ജീവനക്കാരുടെ ക്ഷമതാ വർദ്ധിപ്പിക്കാൻ രൂപകൽപ്പന ചെയ്തു.

വ്യക്തിഗത ജീവനക്കാരുടെ പ്രകടന വിടവ് ദൃശ്യവൽക്കരിക്കുന്നതിന് സർവകലാശാലയ്ക്കായി ഒരു യോഗ്യതാ സോഫ്റ്റ്‌വെയർ വികസിപ്പിക്കുക, ശാസ്ത്രജ്ഞർക്കിടയിലുള്ള വിജ്ഞാന വിടവ് നികത്തുന്നതിന് വകുപ്പുകൾക്കിടയിൽ സഹകരണ പദ്ധതികൾ പ്രോത്സാഹിപ്പിക്കുക, സർവകലാശാലയെ വിലയിരുത്താൻ പ്രാപ്തമാക്കുന്ന കഴിവ് അടിസ്ഥാനമാക്കിയുള്ള ടാലന്റ് മാനേജ്മെന്റ് സിസ്റ്റം നടപ്പിലാക്കുക തുടങ്ങിയ പ്രത്യാഘാതങ്ങൾ. പഠനത്തിന്റെ കണ്ടെത്തലുകളിൽ നിന്ന് ജീവനക്കാരുടെ നിലവിലെ കഴിവ് വർദ്ധിപ്പിക്കുന്നതിന് ശുപാർശ ചെയ്തിട്ടുണ്ട്.