## Bridging the Gap: Enhancing Career Readiness for Agricultural Graduates in India

### Abstract

Agricultural Educational institutions are striving to enhance their methodologies to equip graduates with skills that meet diverse industry demands. While graduates are trained in foundational agricultural science, there is a growing recognition that securing suitable employment requires competencies beyond technical expertise. The study identifies notable gaps in these skill sets among graduates, indicating that while educational programs assess technical abilities rigorously, there is room for improvement in developing broader employability skills. The research involved final-year undergraduate students, alumni, and employers from Tamil Nadu Agricultural University (TNAU). A 67-item questionnaire was administered to students, alumni and employers. The 67 items were grouped into 16 skill categories and percentage analysis was carried out for better understanding. The analysis revealed that a significant portion of students (67.12%) are female, reflecting a positive trend in gender participation in agricultural education. However, the preference for government jobs among 85% of students raises concerns about their willingness to explore opportunities in the private sector, which may limit their career options. The study's findings also reveal discrepancies in perceptions of essential employability skills among students, alumni, and employers. Students and alumni rated "Listening" as the most critical skill, while employers prioritized "Problem Solving and Analytic" skills. Furthermore, the study advocates for robust career guidance programs that encourage students to consider diverse career paths, including the private sector. Additionally, addressing gender disparities in the workforce is crucial to ensure equitable opportunities for all graduates.

**Keywords: Agricultural education, skill , employability**

### Introduction

Education and employment are closely interconnected, with educational institutions thriving on the aspirations of families who invest significantly in their children's education. Since India

gained independence, agricultural education has been crucial, receiving substantial investment due to its importance for various societal stakeholders. Indian agricultural institutions are continuously improving their teaching and learning methods to equip graduates with the skills needed to address diverse industry demands and make meaningful contributions. Skill acquired in academics and required in job are significantly different (Shibi 2020). While knowledge acquisition is vital, employability is the ultimate objective for graduates. Finding suitable employment that aligns with individual skills is critical for industry growth.

Both agricultural universities and employers recognize that there are many opportunities for graduates in India, but they also note the presence of considerable skill gaps that need to be bridged to meet industry needs. In response, agricultural universities have incorporated a variety of courses into their programs, focusing on current trends in areas such as management, nanoscience, and information and communication technology. These additions enhance the fundamental science of agriculture. While universities thoroughly evaluate technical skills, students and graduates are also assessed on a wide range of competencies, including problem-solving, decision-making, organization, time management, risk-taking, communication (both oral and written), listening, interpersonal relations, conflict management, leadership, coordination, creativity, innovation, adaptability, visionary thinking, conceptualization, commitment to lifelong learning, and personal motivation. It is found that the students need training in quantitative ability and logical ability (Shibi, 2022). There has been a surplus of highly educated graduates seeking a career, while on the other hand, potential employers complain of a skill-mismatch phenomenon. (Alibaygi, 2013).Pratley (2015) showed starting salaries for agriculture, in 2012, were in the top 10 graduate salary bracket, compared with the 2012 Graduate Careers Australia survey with agriculture grouped with environmental studies graduates and was ranked 17 th of 23 study areas.In terms of competence, graduates perceived themselves to be most competent at working independently, relating well with supervisors, and working well with fellow employees and least competent at identifying political implications of the decisions to be made. (Shane, 2008). The value of student self-assessment of their skills and utility of the profile to underpin personal development planning is important in graduate studies.(Saunders, 2010)

A systematic approach to forecasting human resource needs in agriculture, particularly in aligning human resource demands with educational requirements, has been established in India (Rashmi, 2013). According to the "Assessment of Future Human Capital Requirements in Agriculture and Allied Sectors," conducted by NAIP from 2009 to 2011, the number of graduates has been increasing at a rate of five percent over the past decade. This trend is expected to double in the next decade to meet the growing demand. According to Armoogum(2016) employers specify that graduates are not updated or equipped with modern technologies in the agricultural sector aroundthe world. The Threshold Learning Outcomes incorporate both science and vocational based understanding and skills of agriculture, embracing knowledge of agricultural systems; inquiry and problem solving; communications; and personal and professional responsibility (Botwright Acuña et al., 2014).McClymont's approach to course design and this broader rationale resulted in a curriculum providing highly employable Rural Science graduates, in agricultural and other disciplines (Lazenby, 2011).

The study was conducted to assess the preparedness of students in getting into the right career choices. The study assessed the perceived employability skill requirement by students, graduate employees and employers

## Research Methodology

The study was conducted at Tamil Nadu Agricultural University and the respondents were final year UG students, alumni and employers.

The student perception of importance of employability skill was studied by taking a sample of 660 final year students of TNAU. The sample was selected from various degree programmes viz., B.Sc., (Agri), B.Tech (Horti), B.Tech (Biotechnology), B.Tech (Bioinformatics), B.Tech (EEE), B.Tech (FPE) of AC&RI, Coimbatore, B.Sc., (Agri), Madurai, B.Sc., (Agri), ADAC&RI, Trichy and B.Sc., (Agri), Killikulam.The skill requirement as perceived by graduate employees was assessed from 50 alumni/graduate employees.The skill requirement as perceived by employers has been assessed from 24 employers. A 67-item questionnaire adapted from Evers et al. (1998) with responses ranging from 0 = no importance (or competence) to 3 = major importance (or competence) was administered to students, alumni and employers. The 67 items were grouped into 16 skill categories for better understanding.

## Findings and Discussion

The study aimed to examine students' perceptions of the importance of employability skills and their level of competence to identify any perceived gaps in their skillsets.

## Profile of the Respondents

Fundamental information regarding students, alumni, and employers was gathered, and the specifics are provided below.

## Profile of students

The analysis of student profiles aimed to provide a basic understanding of the respondents. It revealed that a higher percentage of female respondents (67.12%) were observed compared to males (32.87%), indicating a positive trend of increasing female participation in agricultural education. However, ensuring their prospects and readiness for field-oriented jobs requires careful selection and societal acceptance.

The medium of instruction holds significant implications for educational policies and the development of young individuals. Results indicated that 57.42% of students were educated in English, while 42.57% studied in Tamil medium.

Regarding career plans, approximately 64% of students aimed for employment, while 35% opted for further studies. Government jobs were preferred by 85% of students compared to 8.48% who showed interest in private sector employment. The preference for government jobs remains high, suggesting a need for motivation and confidence-building among students to explore opportunities in the private sector.

### Table 1: Basic details of students

**n=660**

| S.No. | Particulars | | Percent |
|---|---|---|---|
| 1. | Gender | Male | 32.87 |
| | | Female | 67.12 |
| 2. | Medium of instruction in school | English | 57.42 |
| | | Tamil | 42.57 |

| 3. | Career plan | Higher Studies | 35.30 |
|---|---|---|---|
| | | Job | 63.79 |
| | | Both | 0.30 |
| | | Not decided | 0.61 |
| 4. | Job preference | Private | 8.48 |
| | | Government | 85.00 |
| | | Not decided | 3.18 |

**Profile of Alumni**

Of the fifty alumni who responded from the private sector, it was discovered that 62% were male, while only 38% were female. Additionally, more than 50% of the respondents entered the workforce after completing their undergraduate studies, while 42% began their careers after completing postgraduate studies.

**Table 2: Basic details of alumni**

| S.No. | Particulars | | Percent |
|---|---|---|---|
| 1. | Gender | Male | **62** |
| | | Female | 38 |
| 2. | Qualification | Undergraduate | **52** |
| | | Post graduate | 42 |
| | | Ph.D | 6 |

**Profile of Employers**

Out of the twenty-four employers from the private sector who participated in our interviews or responded to our emails, it was revealed that 66.67% were male, and they had entered the workforce after completing their undergraduate studies.

**Table 3: Basic details of employers**

| S.No. | Particulars | | 24 % |
|-------|-------------|------|------|
| 1. | Gender | Male | **66.67** |
| | | Female | 33.33 |
| 2. | Qualification | UG | **45.83** |
| | | PG | 41.67 |
| | | Ph.D | 8.33 |

The profile of the various categories shows that the agricultural sector in the private industries is male oriented and matching the high female population in the university to private sector is going to be challenging.

**Ranking of Employability skills:**

The consensus among students, alumni, and employers identified 16 key employability skills essential for curriculum enhancement. However, it is apparent that students may not be acquiring all the necessary skills required for success in employment. There exists a disparity in perception between alumni, employers, and graduates regarding the most critical employability skills.

Both students and alumni prioritize "Listening" as the skill in greatest need of attention, whereas employers prioritize "Problem Solving and Analytic" as the top-rated skill. This indicates a discrepancy in perceived skill priorities between educational institutions and the demands of the job market. Understanding of the real skill sets required in the job market is highly essential so that students can gain them over a period of time. The same hold good with the institutions as updation of syllabus according to the current industry requirement will help the students as they enter into the career.

**Table 4: Ranking of employability skills**

| Rank | Employability skill | | |
|------|---------------------|--------|-----------|
| | **Students** | **Alumni** | **Employers** |

| | | | |
|---|---|---|---|
| 1 | Listening | Listening | Problem Solving and Analytic |
| 2 | Lifelong Learning | Visioning | Visioning |
| 3 | Motivation-Personal Strengths | Lifelong Learning | Creativity, Innovation, and Change |

**Conclusion**

Educational programs should focus more on developing students' problem-solving abilities, enabling them to tackle real-world challenges effectively. An atmosphere that encourages free expression and open dialogue will help cultivate creativity among students, allowing them to think outside the box. A curriculum that is overly focused on theoretical knowledge without practical application can stifle innovation. It's essential to bridge the gap between theory and real-world experience. Incorporating hands-on internships and rural experiences in the curriculum will provide students with practical insights, helping them understand the complexities of agricultural practices and rural issues. Creating a more dynamic and experiential learning environment will not only enhance students' skills but also prepare them to be effective change-makers in the agriculture sector.

Disclaimer (Artificial intelligence)

Option 1:

Author(s) hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc.) and text-to-image generators have been used during the writing or editing of this manuscript.

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