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# Perception of Agricultural Students and Agro-professionals towards Agricultural Education and Skill Development in India: Connect and Disconnect

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**ABSTRACT**

India is entering in phase of demographic dividend. Presently, India has more than 50 per cent of its population within the age group of 15 to 59 and 28 percent of population in age group of 15-29. Furthermore, by 2020, more than 65 percent of Indian population will be under working age group. Manpower availability in agricultural sector indicated that more than 12000 agricultural graduates pass out from the state agricultural universities (SAUs) all over the country every year, of which only 2000 find job in private and public sector, leaving a huge number of graduates unemployed. This agricultural demographic dividend may become an asset as well as liability for Indian agriculture, depending upon the extent of skill development among agricultural students. For capturing perception of agricultural students, data has been gathered from 100 agricultural students comprising from State Agricultural Universities, MANAGE and ICAR-IARI. To analyze the perception of agro-professionals, 25 Kisan Call Centre level- I graduate employees and 25 agro entrepreneur were interviewed. The present study has analyzed the existing perception of agricultural students and agro-professionals towards agricultural education and skill development in India. Respondents have shown high importance level towards core employability skills, professional skills and communication skills however respondents perceived that the implementation level of core employability skills, professional skills and communication skills in Indian agricultural education system is low. Skill gap analysis has shown that there is high skill gap in four core employability skills (team work, entrepreneurship, practical application and self-motivation), three professional skills (creativity, problem solving ability and statistical competence) and three communication skills (verbal communication, non-verbal communication and technical writing) and these skills needs to be given more importance in agricultural education system in India.

**Key words:** Agricultural education, demographic dividend, skill gap and employability

## INTRODUCTION

India is entering in phase of demographic dividend. Presently, India has more than 50 per cent of its population within the age group of 15 to 59 and 28 percent of population in age group of 15-29. Furthermore, by 2020, more than 65 percent of Indian population will be under working age group. Manpower availability in agricultural sector indicated that more than 12000 agricultural graduates pass out from the state agricultural universities (SAUs) all over the country every year, of which only 2000 find job in private and public sector, leaving a huge number of graduates unemployed.The ICAR continues to provide professional and partial financial support to state agricultural universities (SAUs) for enhancing the quality, relevance and access of higher agricultural education.According to Detailed Project Report of theNational Agricultural Education Project, 2012, the support from ICAR is for policy, quality assurance through accreditation, common, academic regulations, course curricula and delivery systems, improvement of faculty, competence, promoting excellence through scholarships/fellowships, Niche areas ofexcellence, experiential learning units, National Professors, National Fellows, EmeritusScientists, admissions of students through All India competitions, modernization offarms, IT support and up-gradation of infrastructure and facilities including libraries.Recent initiatives include new UG and PG curriculum based on IV Deans' Committeeand National Core Group recommendations, introduction of experiential learning andNiche Areas of Excellence, availability of 1700 Journals on line through CeRA,fellowships (SRF and International Fellowships) and NTS, strengthening Centres ofAdvanced Studies, introduction of the Adjunct Professor Scheme and modernization ofAU farms etc. In addition, good support has been provided under X and XI Plan forimproving and modernizing infrastructure for teaching-learning.Since independence there has been a policy concern for youth in India. The Planning Commission of India has recognised youth as the most vital section of the community(Visaria, 1998).

But still of these huge efforts of ICAR, agricultural universities are not finding places among top colleges in India. Students passing out of Agricultural universities

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are finding difficulties in getting suitable jobs with high skill gap and agriculture still remains the last choice of thousands of students in India after Medical, Engineering and other academic fields. Agricultural demographic dividend may become an asset as well as liability for Indian agriculture, depending upon the extent of skill development among agricultural students. Poor employability of theworkforce due to deficit in educational attainment and health may hamper the advantages due todemographic dividend (Chandrasekhar *et al,* 2006)

The present study was done to fulfil the objectives *i. e.* to study the perception of agricultural students and agro-professionals on agricultural education in India and to identify the skill gap under employability skills, professional skills and communication skills of agricultural students and agro-professionals.

## METHODOLOGY

For capturing perception of agricultural students, data has been gathered from 100 agricultural students comprising from State Agricultural Universities, MANAGE and ICAR-IARI. To analyze the perception of agro-professionals, 25 Kisan Call Centre level- I graduate employees and 25 agro entrepreneur were interviewed. Table1 indicates the details of respondents from Agricultural University/Institute and table 2 indicates the details of Agro-Professionals selected for the study. For capturing the perception of agricultural students a set of 10 statements reflecting the constraints in agricultural education in Indiawas identified based on brainstorming among respondents and Likert's five point scale was used to estimates the ranks of statements. Three set of skills namely core employability, professional skills and communication skills were identified on the basis of review of literature and under each set of skills further sub skills were identified. The perception regarding importance level of three set of skillsamong agricultural students was captured using Likert scale with five categories as extremely important, highly important, somewhat important, not important and irrelevant.

The perception agricultural students regarding importance levelassigned to three set of skills by agricultural universities/institutes was captured using Likert scale with five categories as extremely important, highly important, somewhat important, not important and irrelevant.Skill gap was calculated as the difference between the importance levels of three set of skills among agricultural students and importance levels assigned to three set of skills by agricultural universities /institutes.

**Table 1: Details of respondents from Agricultural University/Institute**

| Name of University/Institute | Degree Program | Number of student selected |
|---|---|---|
| Tamil Nadu Agricultural University, Coimbatore, College of Agricultural Technology, Theni | B.Sc. Agriculture (final year) | 25 |
| Uttar BangaKrishiViswavidyalaya, Cooch Behar, West Bengal | B.Sc. Agriculture (final year) | 25 |
| MANAGE, Hyderabad | MBA in Agri Business Management (Final Year) | 25 |
| ICAR-Indian Agricultural Research Institute, New Delhi | M.Sc. Agriculture (First Year) | 25 |

**Table2: Details of Agro-Professionals selected for the study**

| Name of Organisation | Designation | Number of Agro-Professionals selected |
|---|---|---|
| Kisan Call Centre, Hyderabad | Kisan Call Centre level- I graduate employees | 25 |
| Self Employed | Agro Entrepreneur | 25 |

## RESULTS AND DISCUSSION

### Major Findings of the Study Perception of agricultural students and agro-professionals on agricultural education in India

In order to analyse the perceptions of the selected agricultural students and agro-professionals they were asked to respond to 10 different statement on constraints of agricultural education in Indiausing Likert's Five Point Scale: Highly agreed (5) agreed (4) Neitheragreed Nor Disagreed (3) Disagreed (2) and Highly Disagreed (1). On the basis of the perception score, mean and rank have been calculated for each statement for the purpose of analysis. Table 3 shows the perception of selected agricultural students and agro-professionals towards agricultural education scenario in India.

**Table 3: Perception of selected agricultural students and agro-professionals towards agricultural education scenario in India.**

| Statements | Students (n=100) | | Agro-professionals (n=50) | |
|---|---|---|---|---|
| | Mean | Rank | Mean | Rank |
| Agricultural education setup in India is inefficient system of imparting agricultural education among students | 3.22 | 10 | 3.59 | 8 |
| Students passing out of Agricultural universities/institutes faces problems in getting jobs as compared students passing out of medical and engineering colleges | 3.92 | 4 | 4.16 | 4 |
| Agricultural universities/institutes are unable to impart essential employable skills among agriculture students | 4.09 | 3 | 4.17 | 3 |
| Skills acquired in agricultural universities/institutes mismatch with skills required in job | 4.11 | 2 | 4.33 | 1 |
| Agricultural universities/institutes do not have effective teaching-learning environment | 3.54 | 8 | 3.79 | 7 |
| Most of the teachers of agricultural universities/institutes do not have essential set of skills that requires for effective teaching | 3.78 | 6 | 3.45 | 9 |
| Agricultural universities/institutes are unable to generate spirit of entrepreneurship among agricultural students | 4.28 | 1 | 4.24 | 2 |

| | | | | |
|---|---|---|---|---|
| Agricultural universities/institutes generally not focus on imparting practical knowledge rather believe in theories and lectures. | 3.81 | 5 | 4.13 | 5 |
| Students passing out of agricultural universities/institutes are not at par in terms of skills as compared with students passing out of IIMs/IITs | 3.66 | 7 | 4.10 | 6 |
| Agricultural universities/institutes do not provide platform for national and international exposure in form of seminar, conferences etc. | 3.51 | 9 | 3.41 | 10 |

It is evident from the table 3 that agricultural students and agro-professionals ranked statement 'Agricultural universities/institutes are unable to generate spirit of entrepreneurship among agricultural students' as 1st and 2st respectively which indicate that our agricultural education system is unable to generate spirit of entrepreneurship among agricultural students. Table 3 reveals that Respondents have highly agreed upon that 'Skills acquired in agricultural universities/institutes mismatch with skills required in job','Agricultural universities/institutes are unable to impart essential employable skills among agriculture students', 'Students passing out of Agricultural universities/institutes faces problems in getting jobs as compared students passing out of medical and engineering colleges' and 'Agricultural universities/institutes generally not focus on imparting practical knowledge rather believe in theories and lectures'.This clearly indicate that indian agricultural education is not imparting those skills which are highly required by job driven market. Though the statements 'Students passing out of agricultural universities/ institutes are not at par in terms of skills as compared with students passing out of IIMs/IITs' and 'Agricultural universities/institutes generally not focus on imparting practical knowledge rather believe in theories and lectures' was ranked lower by respondents but the mean of scores do not have much difference with those statements having high rank, which indicates that all statements represents the valid constraints in our agricultural education system.

## Perception regarding importance level of three set of skills among agricultural students

Table 4 shows the perception regarding importance level of three set of skills among agricultural students

**Table 4: Perception regarding importance level of three set of skills among agricultural students**

| Core Employability | Mean | Professional Skills | Mean | Communication Skills | Mean |
|---|---|---|---|---|---|
| Subject Knowledge | 4.91 | Statistical Competence | 3.56 | Communication in English | 4.79 |
| Reliability | 4.55 | Creativity | 4.12 | Written Communication | 4.36 |
| Team Work | 4.79 | Problem solving | 4.32 | Reading | 4.10 |
| Willingness to learn | 4.12 | Applied Knowledge | 4.66 | Technical Skills | 3.91 |
| Self-discipline | 4.73 | Planning | 4.31 | Verbal Communication | 4.88 |
| Self-motivated | 4.22 | Organising | 4.32 | Non Verbal communication | 4.35 |
| Following directions | 4.17 | Time Management | 4.91 | Presentation | 4.77 |
| Empathy | 4.11 | Leadership | 4.82 | Data Analysis | 3.82 |
| Entrepreneurship | 4.81 | | | | |
| Integrity | 4.65 | | | | |
| Practical Application | 4.84 | | | | |
| **Overall Average** | **4.54** | | **4.38** | | **4.37** |

It is evident from the table 4 that agricultural students have given high importance to all three set of skills Core Employability, Professional Skills and Communication Skills. Among core employability, respondents rated subject matter knowledge of highest importance followed by entrepreneurship, practical application, team work, integrity, self-discipline, reliability, Self-motivated, willingness to learn, following directions and empathy. Among profession skills respondents rated time management and leadership as most important skills followed by applied knowledge, problem solving, organising, planning, creativity and statistical competence. Among communication skills respondents rated verbal communication and presentation skillsas most important skills followed by communication in English, written communication, nonverbal communication, reading, technical skills and data analysis. Overall respondents treated all three set of skills as important for employability.

## Perception of agricultural students regarding importance level assigned to three set of skills by agricultural universities/institutes

Table 5shows the perception regarding importance level of three set of skills among agricultural students

**Table 5: Perception of agricultural students regarding importance level assigned to three set of skills by agricultural universities/institutes**

| Core Employability | Mean | Professional Skills | Mean | Communication Skills | Mean |
|---|---|---|---|---|---|
| Subject Knowledge | 3.79 | Statistical Competence | 1.28 | Communication in English | 2.30 |
| Reliability | 3.11 | Creativity | 1.14 | Written Communication | 3.11 |
| Team Work | 2.17 | Problem solving | 1.98 | Reading | 3.24 |
| Willingness to learn | 2.56 | Applied Knowledge | 2.15 | Technical writing Skills | 1.43 |
| Self-discipline | 2.83 | Planning | 3.11 | Verbal Communication | 1.51 |
| Self-motivated | 3.10 | Organising | 3.26 | Non Verbal communication | 2.16 |
| Following directions | 3.25 | Time Management | 2.94 | Presentation | 2.56 |
| Empathy | 2.31 | Leadership | 2.49 | Data Analysis | 2.55 |
| Entrepreneurship | 1.19 | | | | |
| Integrity | 3.71 | | | | |
| Practical Application | 1.37 | | | | |
| **Overall Average** | **2.68** | | **2.29** | | **2.36** |

It is evident from the table 4 that agricultural students perceive that among core employability skills agricultural universities/ institutes are giving least importance to entrepreneurship and practical application followed by team work, Self-discipline, empathy, self-motivation, reliability, following direction and integrity respectively. Table 5 reveals that respondents perceived that subject knowledge is being given importance by agricultural universities/ institutes however practical application of subject knowledge is being given least importance by agricultural universities/ institutes.

Agricultural students perceive that among professional skills agricultural universities/ institutes are giving least importance to creativity, problem solvingandstatistical competence followed by organising,planning, applied knowledge, time management and leadership.

It is clear from table 5 that agricultural students perceive that among communication skills agricultural universities/ institutes are giving least importance to technical writing Skills and verbal Communication followed bynonverbal communication, presentation, communication in English, written communication, , data analysis and reading. Over all it is evident from table 5 that those skills which were perceived by agricultural students as important, agricultural universities/institutes are treating those skills as least important/less important.

**Skills Gaps analysis by Three Factor Skills**

Skill gap was calculated as the difference between the importance levels of three set of skills among agricultural students (table 4) and importance levels assigned to three set of skills by agricultural universities /institutes (table 5). Table 6 indicates the skills gaps analysis in three set of skills.

**Table 6: Skills Gaps analysis by Three Factor Skills**

| Core Employability | Mean | Professional Skills | Mean | Communication Skills | Mean |
|---|---|---|---|---|---|
| Subject Knowledge | 1.12 | Use of modern tools | 2.28 | Communication in English | 2.49 |
| Reliability | 1.44 | Creativity | 2.98 | Written Communication | 1.25 |
| Team Work | 2.62 | Problem solving | 2.34 | Reading | 0.86 |
| Willingness to learn | 1.56 | Applied Knowledge | 2.51 | Technical Skills | 2.48 |
| Self-discipline | 1.9 | Planning | 1.2 | Verbal Communication | 3.37 |
| Self-motivated | 1.12 | Organising | 1.06 | Non Verbal communication | 2.19 |
| Following directions | 0.92 | Time Management | 1.97 | Presentation | 2.21 |
| Empathy | 1.8 | Leadership | 2.33 | Data Analysis | 1.27 |
| Entrepreneurship | 3.62 | | | | |
| Integrity | 0.94 | | | | |
| Practical Application | 3.47 | | | | |
| **Overall Average** | **1.87** | | **2.08** | | **2.01** |

It is evident from table 6 that on average, professional skills contain a higher level of skills gap (2.08) compared to communication Skills (2.01) and toCore Employability (1.87).There is high skill gap in four core employability skills (team work, entrepreneurship, practical application and self-motivation), three professional skills (creativity, problem solving ability and statistical competence) and three communication skills (verbal communication, non-verbal communication and technical writing).

## CONCLUSION

The present study was done to study the perception of agricultural students and agro-professionals on agricultural education in India and to identify the skill gap under employability skills, professional skills and communication skills of agricultural students and agro-professionals.Agricultural students and agro-professionals indicated that our agricultural education system is unable to generate spirit of entrepreneurship among agricultural students. Other major constraints identified as 'Skills acquired in agricultural universities/institutes mismatch with skills required in job','Agricultural universities/institutes are unable to impart essential employable skills among agriculture students', 'Students passing out of Agricultural universities/institutes faces problems in getting jobs as compared students passing out of medical and engineering colleges' and 'Agricultural universities/institutes generally not focus on imparting practical knowledge rather believe in theories and lectures'.

Agricultural students have given high importance to all three set of skills core employability, professional skills and communication skills. Among core employability, respondents rated subject matter knowledge of highest importance, among profession skills respondents rated time management and leadership as most important skills and among communication skills respondents rated verbal communication and presentation skills as most important skills. Agricultural students perceive that among core employability skills agricultural universities/ institutes are giving least importance to entrepreneurship and practical application, among professional skills agricultural universities/ institutes are giving least importance to creativity, problem solving and statistical competence and among communication skills agricultural universities/ institutes are giving least importance to technical writing Skills and verbal Communication. Skill gap analysis indicate that there is high skill gap in four core employability skills (team work, entrepreneurship, practical application and self-motivation), three professional skills (creativity,

problem solving ability and statistical competence) and three communication skills (verbal communication, non-verbal communication and technical writing)and these skills needs to be given more importance in agricultural education system in India. Therefore, if India needs to harness its agricultural demographic dividend it has to generate employability skills among agricultural students which can be possible by focusing on core employability skills, professional skills and communication skills.

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