EMPLOYER PERCEPTIONS AND ATTITUDES TOWARDS AGRICULTURAL UNIVERSITY TRAINING IN KENYA

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Abstract

Agriculture is the backbone of most Sub-Saharan African economies accounting for 40 % of the GDP and 80% employment. Yet agricultural graduates have not been able to "hit the ground running" upon graduation. This study assessed the quality of agricultural graduates from Kenyan Universities in terms of relevance to job market demands. A mixed method approach was used to collect data through a personal interview survey and focus group discussions involving 54 public and private organizations. Descriptive statistics was used to generate means and frequencies to validate the study hypotheses. Results indicated that employers' main concern on quality of graduates were poor interpersonal (> 90%), communication (53%), practical (>90%) and character (78%) skills. Further future agriculture will be impacted by competencies in practical skills (56%) and training in contemporary issues like climate change (17%). Success of agricultural production to a large degree depends on the human resources available within the sector. If the quality of university graduates is poor, it negatively affects the entire knowledge chain. This research also has an implication for university administrators and policy makers in training holistic graduates that meet employers' and socio-economic development needs. Integrating job market requirements into university curricula can improve the quality of graduates that directly impact agricultural productivity for economic development and poverty reduction.

Keywords: Employer perceptions; agricultural training; graduates; university curriculum; Kenya

1. Introduction

The world population is projected to reach 9.15 billion by 2050 with over 70 percent of that population living in urban areas (FAO 2012) and it is expected to increase exponentially over the next 30 years. This increase will impact world agriculture and hence require agricultural graduates who understand the complexities of how to meet the demands of producing and marketing agricultural products. Besides, employers demand graduates with relevant skills and competencies that meet current and future growth areas in agriculture (Seth, Heinert, and Grady 2016). In majority of Sub-Saharan African countries, agriculture is the backbone of their economies, accounting for up to 40 percent of the gross domestic product, 15 percent of exports, and 60–80 percent of employment (Schaffnit-Chatterjee 2014; World Bank 2008). However, Africa's hunger and poverty situation is projected to get worse by the year 2020 with an increase in the number of children that are malnourished (Dramé-Yayé, Chakeredza, and Temu 2011). Research, extension, marketing, credit, and policy institutions are not providing sufficient support to smallholder agriculture, which is central to advancing agriculture in the region. Underlying problems include inadequate emphasis on effective and relevant tertiary agricultural training and an inability to attract the best students into agriculture (Dramé-Yayé, Chakeredza, and Temu 2011).

University graduates are entering a workforce where practical skills and competencies are important; yet, majority of the graduates have limited hands-on experience. As a result, employability of agricultural graduates from most African universities has been low and many lack the competence and experience to establish their own enterprises. Yet, agricultural training plays a major role in capacity building for growth in the agricultural sector contributing to sustainable development and food security (Birhanu 2010). This is precipitated by the increasing demands on African agriculture that necessitates innovative production, processing and marketing of agricultural commodities (Kidane and Worth 2014). Further, agricultural training is important to achieve a high agricultural productivity and developing highly skilled and competent graduates required for proper functioning of agricultural systems (RayChaudhuri 2010). Training of students at the university must stimulate students to learn, to seek information and to critically synthesize information and knowledge, and also offer possibilities for applying their acquired skills.

The main aim of the study was to assess the current employer perception and thinking of agricultural training in the Kenyan Universities so that training programs at the university are aligned to the job market demands. It was expected that the results of the study will be used to strengthen the relationships between the universities and the employers. This will lead to enhanced communication between universities and the industry resulting in industry performance improvements as well as quality graduate training.

2. Materials and Methods

A mixed method approach consisting of a cross-sectional survey was carried out with both descriptive and analytical component. It involved data collection using semi-structured interviews, administered through questionnaires to employers on their knowledge on perceptions and attitudes of agricultural graduates in the sector. A survey was conducted covering both public and private organizations employing first degree

graduates for the last ten (10) years, from 2004 to 2013 with establishments nationwide. In addition, we sought for information among the key managers in the agricultural industries from production to processing sectors using key informant interviews and focussed group discussions to substantiate information obtained from the personal interviews and/or their recorded data.

2.1 The survey instrument

Semi-structured questionnaires used were designed using theory of change approach to evaluate quality of agricultural graduates. The instrument was divided into five sections: Characteristics of firm/ demographics; interpersonal, communication, practical and character skills. Under each section, questions revolved around expected graduate abilities and capabilities under the prevailing employer conditions going by current university curricula, Commission of University Education guidelines (CUE 2014), scientific knowledge available (Biggs 2003; Nyaigotti-Chacha 2004). and researchers' experiences and insights.

2.2 Sampling approach

Nairobi County was purposively selected as the main capital city in Kenya and the largest urban centre which hosts 80% of the agricultural industry sector. The population was divided into different clusters based on the agricultural industry segments. These included physical production (in put suppliers, production firms, agro-processors) and service provision (marketers, research, extension, regulatory). This was followed by stratifying each cluster based on the operations and specializations (input suppliers, production firms, agro-processors, marketers, research, extension, regulatory). Within each stratum, a random sampling technique was used to select the population sample of interest.

2.3 Methodology

A stratified simple random sampling on the basis of their operations in the value chain i.e. input suppliers, production, agro-processors, marketers and information was adopted in the selection of 50 sample establishments covered by the survey with the industry as the strata. The Cochan's sample size formula (Cochran 1977) was adopted for the computation of sample size:

$$N_o = \frac{z^2pq}{e^2}$$ ………………………………………………..Equation 1

Where, N_o is the sample size, z is the selected critical value of desired confidence level, p is the estimated proportion of an attribute that is present in the population, q p = −1 and e is the desired level of precision. Equation 2 was used to calculate the final sample size

$$n = \frac{n_o}{1 + \frac{n_o - 1}{N}}$$ …………………………………………………………Equation 2

Where, n is the final sample size, n_0 is the sample size derived from equation (1) and N is the population size.

The sample size by category was proportionally allocated based on the number of firms in the sampling

frame. The survey was done in the headquarters/placement offices of the companies/organizations. The target respondents of the survey were the immediate supervisors of the graduates or persons at senior level who have knowledge of the performance of the graduates.

After the survey, focus group discussions comprising of 25 participants and 10 key informants consisting of employers, university lecturers and policy makers were conducted to validate the survey results. Both qualitative and quantitative data was collected.

2.4 Data Quality Control

Training of the research assistants and pre-testing of the data collection tools was done to enhance thorough data collection. A review of the questionnaires was done at the end of each interview. The primary investigator went through the day's questionnaires to ensure data was complete, accurate and had no omissions. Supervision during data collection also helped in ensuring a quality job was done.

2.5 Data analysis

The data was statistically analyzed for means and frequencies using SPSS version 15.0(SPSS 2006). Binary and categorical variables were summarized using frequencies and percentages.

3. Results

3.1 Characteristics of the firms

In total, 54 firms/organisations were surveyed of which 63% were private entities, 22% were public institutions and 15 % were non-governmental organizations (Figure 1). Assessing the education background of the respondents, 54.7% had attained a Master of Science degree while 32.1% had a BSc. degree from a recognized university either in the country or abroad. Of all the establishments sampled, 89% had employed graduates from universities within the last 10 years. This was an indication that apart from government ministries, private companies and non-governmental organizations employ a large percentage of Agriculture graduates in Kenya.
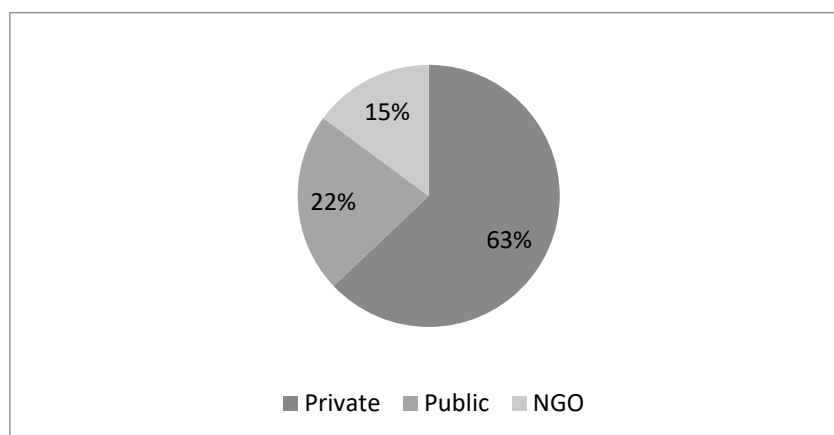
**Figure 1: Business nature of Organization covered during the survey**

3.2 Employer perception on level of skills and competences of agricultural graduates

Several concerns were raised by the employers on the level of competences of agricultural graduates from Kenyan universities. On interpersonal skills, 21% of the employers indicated that students are not able to make decisions, are not able to relay clear instructions to their subordinates (11%),) are poorly equipped with customer handling skills as "graduates feel that they know more" than everyone else (15%), lack entrepreneurial skills (19%) and cannot develop feasible plans for the development of the firm (26%) (Figure 2)
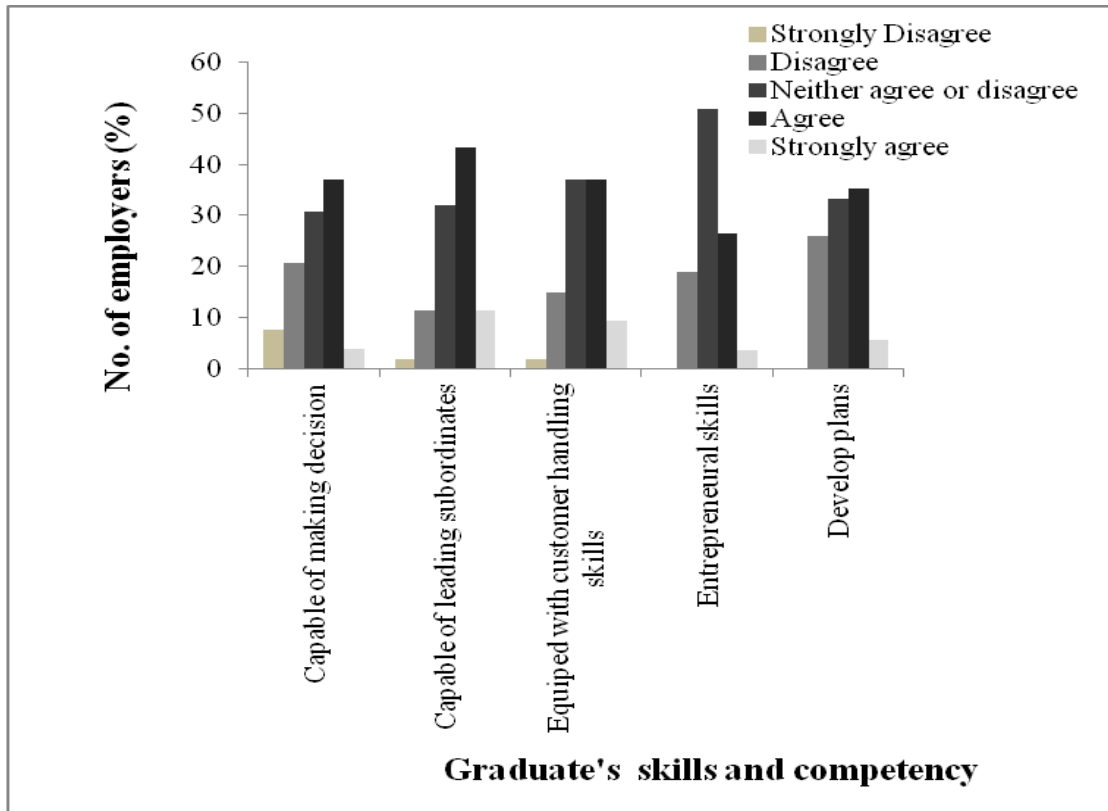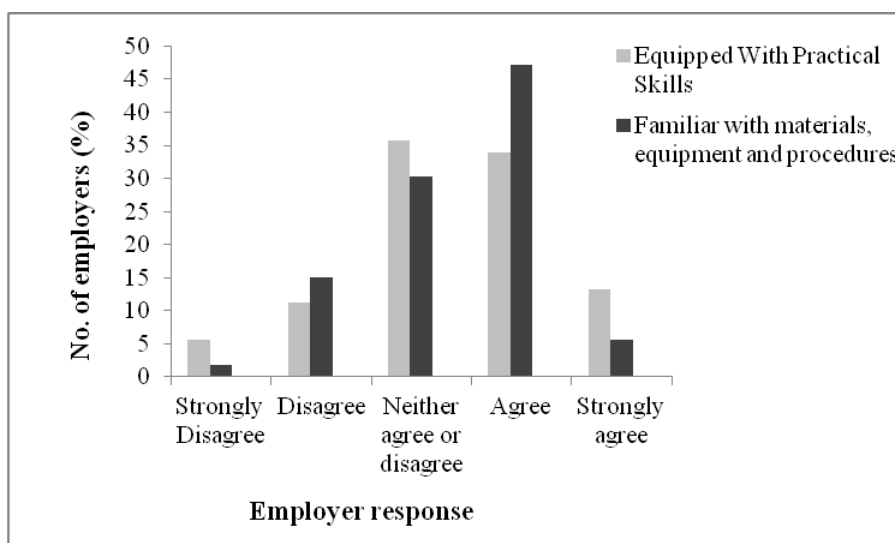

Figure 2: Employer's opinion on graduate's interpersonal skills

On communication skills, 22 % of the employers reported that the graduates cannot effectively speak in public (Figure 3), lack content/ shallow and lack business language and they do not know how to compile management report.
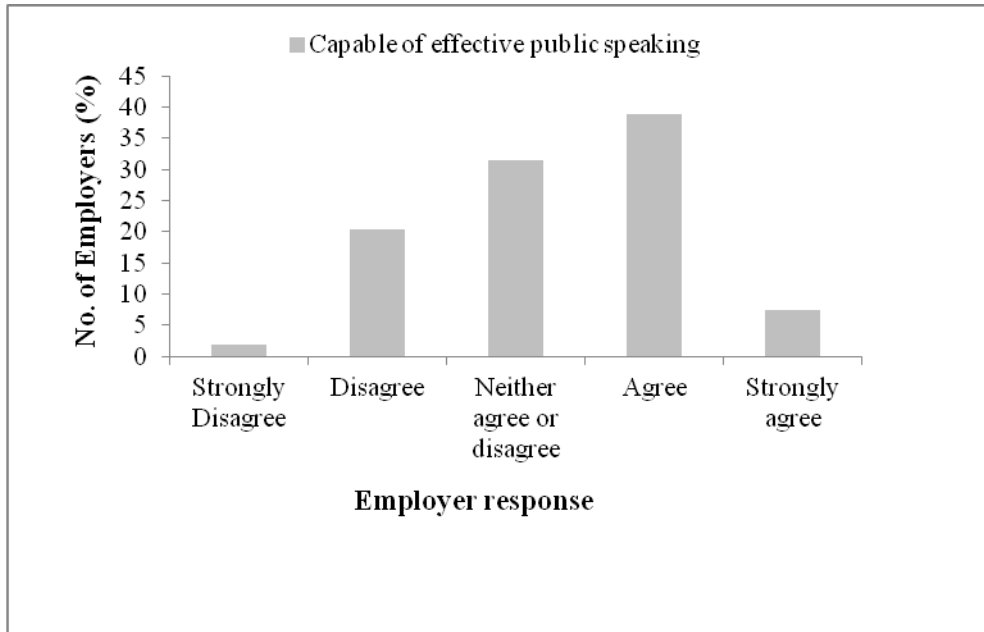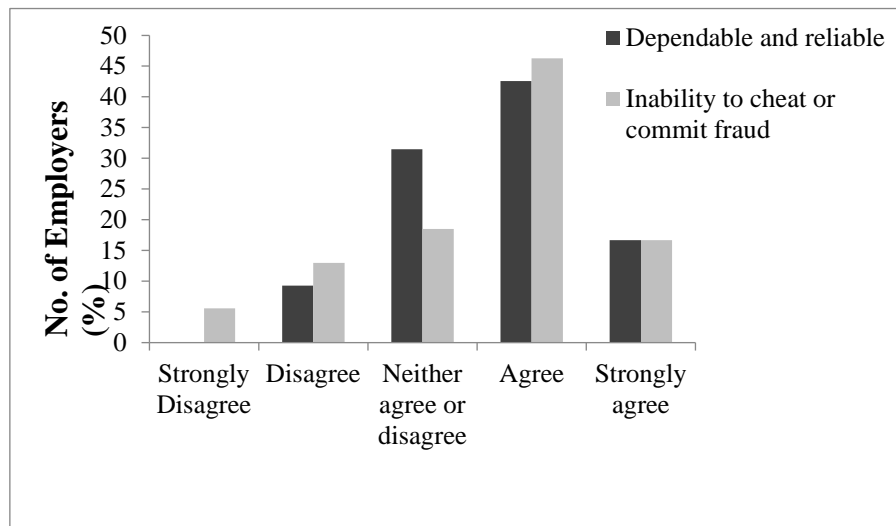
Figure 3: Employer's opinion on graduate's communication skills

While on technical skills, the results of 17% of the employers indicated that graduates are theoretical and cannot effectively apply the knowledge in their work while 17% indicated that the graduates lack practical skills - they are not familiar with materials, equipment & procedures (Figure 4) in use with the organizations and hence cannot perform a critical evaluation and judgment on work related problems. Inadequate hands-on experience among graduates was stressed by the employers as a hindrance to quality performance. On character skills, 9% of the employers reported that graduates are neither dependable nor reliable and 13% pointed out dishonest of graduates depending on the environment (Figure 5). Employers reported low level of discipline among the undergraduates to their employers, fellow employees and to the customers.


Figure 4: Employer's opinion on graduate's technical skills

**Figure 5: Employer's opinion on graduate's character skills**

On general satisfaction with work performance of the graduates, only 57 % of the employers were satisfied by the performance of the graduates. For the remaining percentage, 26 % were neither satisfied nor dissatisfies, 15% were not satisfied and about 2% were very disappointed by the performance of the graduates (Figure 6).
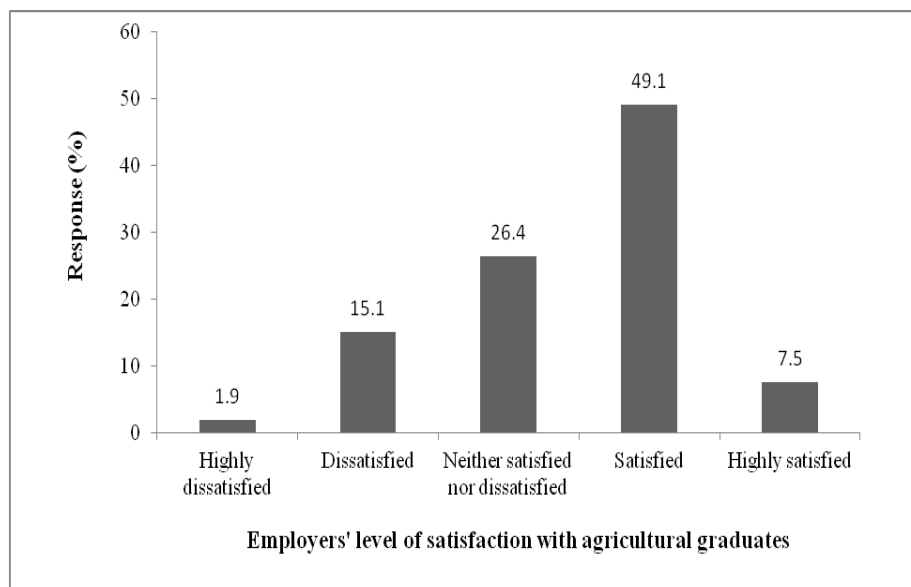
Figure 6: Employer's level of satisfaction with agricultural graduates from Kenya Universities

The other concerns raised by the employers included, computer illiteracy, lack of information among the students, especially current issues. Also, gaps in BSc. training was raised, as programs taught are not up to date i.e. much of the training is based on medium to high potential agricultural areas and no dry land coverage yet the climate has changed. Link between universities and research stations is also lacking. Poor perception of students toward agriculture as a profession is said to hinder the ultimate performance of an individual within the program. In general the main areas of dissatisfaction were lack of professionalism

and innovativeness, lack of resource management skills and poor leadership skills. The results indicated that the growth areas that will impact agriculture in the future were mainly competencies in the use of practical skills (56%) and training in contemporary issues such as climate change (17%) (Figure 7).
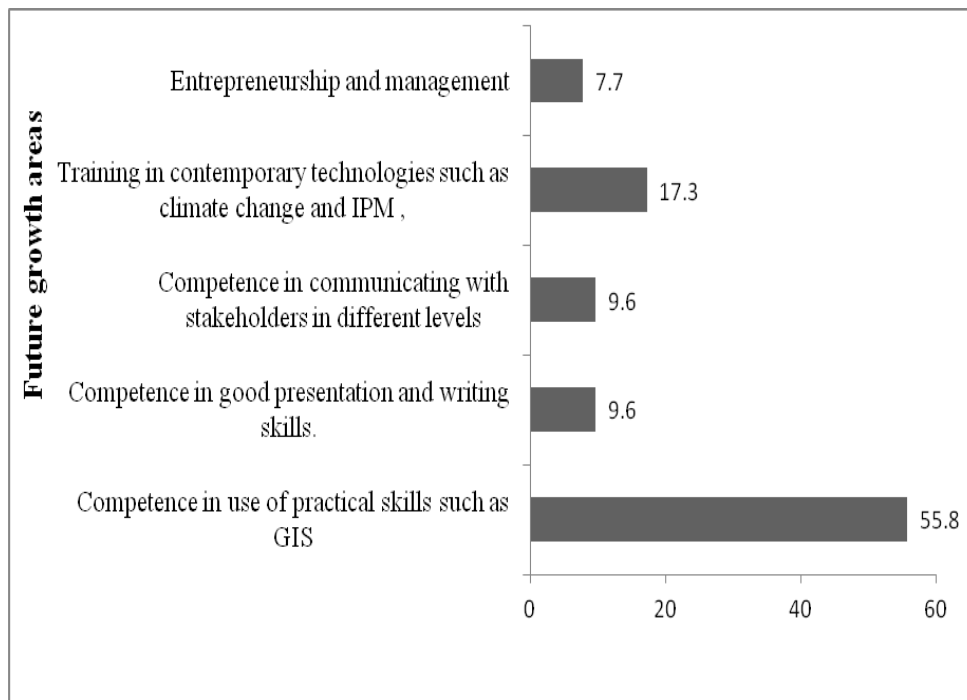
Figure 7: Future growth that will impact agricultural productivity in Kenya

4. DISCUSSION

The study found out that employers were not satisfied by the quality of graduates from Kenyan universities. These results imply gaps in training programs offered at the Kenyan universities, together with a serious disconnect between university curricula and industry needs. While an emphasis on expansion has seen the higher education sector in Sub-Saharan Africa grow from 2.3 million in 1999 to 6.6 million in 2013, quality of graduates trained has received less emphasis leading to increasing unemployment of graduates hitting the labour market (Ligami 2016; Tristan et al. 2014; Omolo 2010). The main challenges in the current university curriculum are as a result of teaching and research approaches that remain organized along a linear vision of science; many African agricultural universities operate in isolation, with insufficient linkages to the agricultural industry and other research organizations (Kristin, Javier, and David 2008). In response to industry demands for competent graduates, colleges of agriculture need to better integrate technical, practical, communication and character skills in the curriculum. This is in line with what has been reported by Dramé-Yayé, Chakeredza, and Temu (2011) who found similar gaps in certificate, diploma and graduate training offered by institutions in Sub-Saharan Africa. Rukuni (2002) and Vandenbosch (2006) emphasize the need to improve the performance of research, extension, marketing, credit, and policy institutions. Very little focus, however, has been given to attracting the best students from high school and to offering effective and relevant higher education in agriculture (Dramé-Yayé, Chakeredza, and Temu 2011). Strong agricultural education and training systems are fundamental to the quality of human resource capacity and ultimately to the agricultural productivity gains that are necessary for

economic growth and poverty reduction in developing countries (Kruijssen 2009). Therefore, there is need to improved linkages between training institutions and industry players, regular reviews of curricula to ensure quality and relevance (Leite, Baggett, and Radhakrishna 2004) a balance between theoretical and practical course content, and incorporation of an entrepreneurial/business-oriented perspective in courses offered at the university. Brett Alpert, Stanford university's associate dean of career education argues that "A broad-based curriculum is certainly beneficial in helping students develop the combination of leadership skills, critical thinking skills and technical expertise needed to successfully navigate workplace and societal challenges and opportunities – while enabling them to find success not only in their careers, but in life more generally".

In addition, the relationships between universities and employers (industry) of graduates is important due to a rapid increase in competition and technology, a decrease in government support for universities, as well as the need for the industry to cut down on training costs and to increase profits (Quester and Baaken 2005; ARC 2001)

It should be noted that as long as graduates' skills, knowledge, and experience fail to satisfy industry requirements, improving the profession's reputation and hence marketing it to new students will remain a challenge. Use of industrial attachment and internship are likely to benefit the training program. Our thought is that the government and regulatory bodies in agricultural training are unaware of the importance, risks, and complexity of the agricultural sector, and, hence may not see the importance of stream lining the university training with the job market needs. Hence, issues on quality and relevance of higher education in agriculture, including linkages to industry, urgently need to be addressed. Integrating job market requirements into university curricula can improve the quality of graduates that directly impact agricultural productivity necessary for economic development and poverty reduction.

5. Conclusion

Agricultural training still plays an important role in the structural support and sustainability of the agri-food sector. It produces graduates to the agri-food industry, without whom it would be difficult to sustain the ever changing environment in the agricultural sector. Generally the result of this study gave a clearer picture of the current knowledge and skills required by the job market in the Agriculture graduates. Much is still required to be done by the Universities to help in producing all-round students for job markets, though some require an individual's initiative. Review of curriculum with complete involvement of employers is mandatory to fix these disjunctions. Inclusion of employers' demands in the review such as training of graduates on hard skills/practical knowledge relevant to work environment, Agribusiness and good communication skills is mandatory to ensure production of graduates who meet the job market demands. For the development of sustainable agricultural sector to meet future demands, holistic students are required with almost all basic qualities. Hence, critical enabling factors need to be established across the industry value chain to increase successes and initiate a positive feedback loop that will improve the reality and perceptions of agriculture as a field of endeavour. To this end, university training needs to be market driven with clear values on the goals and relationships within the agricultural sector.

Based on the findings of this study, it is recommended that for improved quality and future growth of agricultural field, agricultural graduates should be trained on communication and practical skills. This can be achieved through continuous student attachments/internships in agricultural industries to promote interactions between the training institutions and the employers to expose graduates to the working environment. In addition, curriculum should be designed to incorporate hands-on and scientific writing skills. Major consideration should be given to the training of agricultural graduates on resource management and interpersonal skills. Special and urgent attention needs to be given to current global issues such as climate change and competencies in practical skills such as GIS to enhance a broader perception of the agricultural graduates. Finally, it is essential to strengthen linkages between agricultural training institutions and the industry in order to develop graduates who meet the expectations of the job market.

6. Acknowledgement

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