

*Full Length Research Paper*

# Effective factors on the employment status of agricultural graduates in Iran

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The main purpose of this study was to analyse the effective factor(s) on employment status of agricultural graduates. It was quantitative and applied research that conducted through descriptive-survey method. Questionnaire (that developed by researchers base on literature review) and interview consisted the means for data gathering. Statistical population of research consisted of all agricultural graduates in seven field of agriculture since 2006 to 2008 (N = 530). 156 graduates as a statistical sample by using Cochran's equation were chosen. Results showed that "absence of employment capacity in public sector"; "unsuitable conditions for employment in public sector" and "discordance of university education with agricultural profession" was three most important components that had effect on unemployment of graduates. Result also showed that there was significant difference between viewpoint of employed and unemployed graduates about the effect of "having entrepreneurship spirit"; interest to employment in agricultural jobs; and experience having in computer skill" on employment status of agricultural graduates. Results based on factor analysis showed that the effective components on employment status of agricultural graduates were categorized into six factors that named; educational history, professional skills, entrepreneurship spirit, practical experience, communication skills and socio- economic context. These six factors totally determined 70.03% of total variance of graduate's employment status.

**Key words:** Agriculture, employment, higher education, graduates.

## INTRODUCTION

Today, the on-going socio-economic integration and globalization process is making the world smaller, linking not only our fates to our social developments but also our fates to the advancements we make in science and technology. In the 21st century, this integration and globalization process is posing ever greater challenges that we must overcome if we want to progress in further. Unemployment is one of the development problems that face every developing economy. Meanwhile graduate employment has been a global concern for all higher education sectors, Iran's higher education system faced

with this problem too.

Since 1990, there has been an increase in student numbers and it is estimated that there are currently many Students studying at higher agricultural education institutions in Iran, this expansion has led to an increasingly access to higher agricultural education across a wider range of population couple with an increased supply of graduates to the labor market (Acar, 1993; Hosseini, 2008). Available statistics show that although agricultural education institutes with 19.9% of total students population is the most populous part of higher education in Iran, a figure which is the lowest compared to other parts of higher education (Barkham, 1987). It is notable that, there is a high level of unemployment agricultural graduates in Iran, whereas agricultural sector serves as the largest employer and a

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major contributor to the economy in this country.

Public services in Iran is experiencing resource constrains to generate employment due to lack of funding and lack of organizational planning. Today, private sector is becoming the dominant player in the economy and expected to generate more employment opportunities. Most of the students expected to select future employment in a government sector whereas the majority of graduates who had no prior experiences may have some delay in entering the labor market. Therefore we will face with a high rate of unemployment in all of sectors (Weligamage, 2005; Zamani, 2003; Mirzaei et al., 2007). Developing social and human is effective factor in development, if it had capital return through occupation of social and economic opportunities; otherwise it is the waste of investment especially in developing countries with their specific problems in economy sector through unemployment.

Therefore unemployment-employment balance is one of problems we have to face and solve during the reforming period of industries and societies. To construct a harmonious society, great attention has been paid to this problem (Qu, 2009; Ahmadpour, 2007). However, if the new cohorts of educated workers find themselves unemployed, households could be less motivated in investing in human capital. Moreover, the society pays a high cost for every young person reaching a university degree. It is thus a waste of public resources to leave a significant share of the stock of human capital unemployed. Finally, given that education is the best way to achieve social mobility, higher unemployment within the highly skilled will disfavor relatively more the less wealthy who can not rely on physical capital assets to create their own businesses, nor on social capital to get the good jobs due to the rationing that will inevitably grow in the market of skilled labor (Marouani, 2009; Ahmadpour, 2007).

Employment is often defined as a set of achievements skills, understandings and personal attributes that make graduates more likely to gain employment and be successful in their chosen occupations, which benefits themselves, the workforce, the community and the economy (Yorke and Knight, 2003). The employment market requires graduates who have both theoretical and practical knowledge. This is an impetus for the universities and prospective employers of graduates to change the direction of graduate production by integrating the learning of university courses with practical work outside the campuses in the format of internship and Cooperative Education (Sirijeerachai and Suksa-Ard, 2009).

Also employers' expectations are varied and cannot easily be determined because of the numerous factors that may influence the need for recruitment or the recruitment requirement. Because employers' views about the reputation of certain institutions and departments tend to influence recruitment, some

institutions of higher education consequently try to ensure higher competitive edge for their graduates by establishing some direct professional experiences (learning visits, internships) during the students' course of study (Anyanwu, 2000; Ahmadpour, 2007).

A number of studies conducted on the employment status of graduates and investigated the factor influencing the employment status. The research by Jones and Larke (2001) on factors influencing career choice of African American and Hispanic Graduates of a Land-Grant College of Agriculture found that, the college experience was not determined to have an impact on one's choice of agriculture as a career and also Parents' level of education did not play a role in the respondents' choice of an agriculture-related career.

Employers, especially in the private sector, consider satisfactory competency in foreign language (such as English, French and ..... ) as a requirement for recruitment, because the official language used in the private sector, thus inadequate foreign language competency becomes an obstacle against employability of the graduates (Anyanwu, 2000 and Anonymous, 2007).

Existing research clearly indicated that although few graduates manage to obtain additional qualifications such as, Computer literacy and IT skills and become employed, the majority find it difficult to obtain such skills or additional qualifications following graduating (Mirzaei et al., 2007). The existing gap between the skills required the employers and the profile of the graduates has been reported as a reason for unemployment (Weligamage, 2005). As we know nowadays many affairs, especially agriculture depends on national and international relationship skills.

Having limited job opportunities in agriculture careers (unable to find suitable employment in one's previously selected "ideal" career) led people to choose a career other than one in an agriculture related field (Jones and Larke, 2001; Zamani, 2003). The relevance of the curriculum to the job is an important factor that could also determine employability, and in Laraya (2009) research, majority of the respondents agreed that curriculum content is an important factor in the graduates' jobs. Also researches showed that most of employed respondent are settled in the city (Laraya, 2009; Hemmati et al., 2007).

In a multi-stakeholder approach to address graduate (UN) employment in Bangkok, key issues of graduate unemployment that participants identified were: mismatch of qualifications with employers' needs, lack of supply and demand information on labour market, lack of proper career guidance and information, lack of exposure of students to the real world of work (Anonymous, 2007).

Some researchers serve to cloud rather than illuminate the underlying factors affecting the situation of the labourer, by neglecting or misinterpreting the more fundamental economic, technological and especially the

**Table 1.** Statistical population of study.

Grade and field of graduates	2006	2007	2008	Total
Agronomy (Bachelor)	56	29	21	106
Plant production (A.S.)	34	52	18	104
Plant production (Bachelor)	17	20	23	60
Medicine and aromatic plant cultivation (Technician)	38	79	31	148
Mechanization (A.S.)	--	17	18	35
Environment (A.S.)	--	24	34	58
Agronomy (A.S.)	--	9	10	19
Total	145	230	155	530

**Table 2.** Frequency of respondent base on employment status.

Employment status	f	%
Employed	65	41.7
Unemployed	89	57.1
Under employed	2	1.3
Total	156	100

demographic determinants of standard of life and position in society that many graduate students seek employment in governmental and non-governmental organizations (Hemmati et al., 2007; Mirzaei et al., 2007).

There is no single way of enhancing agricultural graduate employment. It requires a holistic approach, integrating knowledge, work experience and technical and interactive skills development and reflecting on how these can meet the needs of flexible organization. To develop effective employment strategies, it is necessary to research students' decision making processes and their images of agriculture (Lucas, 1993). This paper highlights important issues for graduate students seeking employment in agricultural sector. The purpose of this study was twofold. First, it determines the key factors that influence the employment status of agricultural graduates and Second: Investigating the employment status of graduates, investigating the employment satisfaction of graduates and comparison of employed and unemployed graduates about the effect of these factors in employment of graduates.

## MATERIALS AND METHODS

This study was quantitative and applied research that conducted through descriptive -survey method. Questionnaire (that developed by researchers base on literature rearview) and interview consisted the means for data gathering. Questionnaire validity confirmed by content validity method a panel of experts and its reliability confirmed by implication of pilot test and calculation of Cronbach's alpha coefficient (0.81 - 0.89 for different part of questionnaire). Statistical population of research consisted of all agricultural graduates in seven field of agriculture since 2006 to 2008 (N = 530) (Table 1). 156 graduates as a statistical sample by using Cochran's

equation were chosen. With using stratified sampling, statistical sample was studied. Variables, except variable with ratio and interval scales, have measured with 5 levels Likert scale (extremely high, high, moderate, low and very low).

Data were analyzed by SPSS.13 software. Factor analysis technique was used for analysis of the effective factors on graduate employment and determines the importance of each factor as well. Proper statistic such as non parametric test, frequency, percent, standard deviation, mean and coefficient of variance were used the analysis of data with regards to research purpose.

## RESULTS

The results of descriptive statistics show that 71.2% of respondent were single and about 77% of respondent were male. The most of graduate had bachelor degree (57%). And about 90% of respondent were born in the city and only about 10% of them were born in rural areas. It was reported that slightly more than 50% of graduate's age was less than 25 years old. Also the results show that about 57.1% the graduates were unemployed (89 graduates) and 41.7% of them were employed (Table 2).

Table 3 shows that 24.6% of employed graduate's had employed in nonagricultural field and the most frequency in the agricultural related fields refers to horticulture and agriculture.

Table 4 displays the results which show frequency of employed graduate's base on their reason for accepting their job situation and the relationship between their job and their field. This finding shows that about 26% of respondent job, were related to their job situation. The findings also indicated that about 46% of respondent accepted the job for financial need or need to income and

**Table 3.** Frequency of employed graduate's base on their field.

Fields	f	%	Valid percent
Horticulture	13	20	26.5
Agronomy	4	6.2	8.2
Medicinal plants	6	9.2	12.2
Husbandry	4	6.2	8.2
Apiculture	7	10.8	14.3
Other fields	15	23.1	30.6
Nonagricultural	16	24.6	-
Total	65	100	-

**Table 4.** Frequency of employed graduates base on their reason for accept their job.

Reasons	f	% of total	% of graduated that there were not relation between their job and field (valid percent)
Financial need	22	33.8	45.8
Inaccessibility to better job	4	6.2	8.3
Constrain of family	7	10.8	14.6
Interest to this job	7	10.8	14.6
More Income in this job	2	1.3	4.2
Escape from unemployment	6	9.2	12.5
Agricultural related job	17	26.2	-
Total	65	100	-

**Table 5.** Ranking of factors based on their effect on unemployment of graduate in agriculture sector.

Factors	S.D	Mean	C.V
Inexistence of employment capacity in public sector	1.44	3.87	0.3720
Unsuitable condition for employment in public sector	1.39	3.06	0.3723
Discordance of university education with agricultural profession	1.14	3.03	0.3795
Unknown bureaucracies affair	1.36	3.45	0.3942
Weakness of practical skills in graduates	1.36	3.07	0.4430
Inadequate income in agricultural sector	1.38	3.06	0.4509
Hardness of work in agricultural sector	1.35	2.98	0.4530
Weakness of theoretical knowledge of graduates	1.21	2.65	0.4566
Lack of relationship between graduation fields with needs of job market	1.54	3.35	0.4597
Inability of graduates for establish an related enterprise	1.34	2.88	0.4653
Unsuitable environmental work in agriculture sector	1.37	2.88	0.4757
Lack of need to more experts in agriculture sector	1.46	2.55	0.5725
Uninteresting graduates to agricultural work	1.52	2.30	0.6609

about 14.5% of them accepted their job by constrain of family and only about 14.5% of them had interest in this job situation.

In order to identify the main factors that affect on unemployment of graduate in agriculture sector 13 items were selected and unemployed graduates were asked to prioritize them. Using coefficient variation as indicator, showed that inexistence of employment capacity in public sector, unsuitable condition for employment in public

sector, discordance of university education with agricultural profession are the most important factor that affect on unemployment of graduate in agriculture sector. Table 5 illustrates the perception of respondents.

To compare the viewpoint of employed and unemployed graduate about the effect of some factors on employment of graduates the Mann-Whitney Test was used. The results showed that there is significant difference between viewpoint of this 2 groups about the

**Table 6.** Comparison the viewpoint of employed and unemployed graduates about the effect of factors on employment of graduates.

Factors Influence on employment	Mean rank (n = 65)	Mean rank (n = 91)	U	Sig.
Perseverance for finding the job	77.71	74.81	2653.0	0.665
Familiarity with the field before entering to the university	69.53	80.51	5823.0	0.121
Interest to employment in agricultural jobs	66.47	82.64	2168.0	0.021*
The prior experience in agriculture	70/40	79/90	2411/5	0.179
The adaptability of agriculture with individual spirit	69/98	80/20	2385/5	0.145
Having entrepreneurship spirit	84/58	68/17	1203/0	0.017*
The rate of salary and income in agriculture and related jobs	72/79	78/24	2560/0	0.426
The financial support of family for job creation	71/19	79/35	2461/0	0.246
The social liberality and equity in job choice	74/19	77/26	2647/0	0.664
Experience in computer skill	63/80	84/50	2002/5	0.003**
Experience in second language (English, French, ...)	64/27	82/65	2031/5	0.009**
The knowledge and expert in agriculture	78/80	74/05	2585/5	0.483
Spending the internship course for job preparation	83/29	70/92	2307/0	0.073
Pass the agriculture supervised experience (ASE)	79/29	73/71	2555/0	0.424
Participation in educational term outside the university	80/40	72/93	2486/0	0.288
Cooperation with professors during and after study	82/94	71/16	2328/5	0.094
Participation in practical experiences during the study	73/12	78/01	2580/5	0.483
Presence of empowers professors and educators in university.	81/10	72/44	2442/5	0.210
Relationship between courses and the need of job market	75/20	76/56	2709/5	0.843

\* and \*\* significant at 5 and 1% level.

effect of "Interest to employment in Agricultural jobs" and "Having entrepreneurship spirit" ( $p < 0.05$ ). Also there is significant difference in "Experience in computer skill" and "Experience in second language (English, French ...)" too. ( $p < 0.01$ ). In the other factors there is not significant difference in the view point of both groups (Table 6).

Table 7 shows the grouping, arrived at by using ordinal factor analysis, of the factors into six latent variables, namely educational history, professional skills, Entrepreneurship spirit, practical experience, communication skill and social- economic context. The basic idea of factor analysis is to find a set of latent variables that contain the same information. As it shows in Table 7 these six factors totally determined 70.03% of total variance of graduate's employment status.

## DISCUSSION AND SUGGESTION

The conventional wisdom is that higher education is playing a key role in such endeavors. However, for higher education to live up to its expectation, it needs to change and reform itself constantly to ensure its quality in knowledge creation and education through furthering staff qualifications, creating a stimulating and favorable working environment. Moreover mobilizing and making accessible and available resources where they target groups are needed, and linkages with industries and businesses to enhance the employability of their graduates are needed.

As the ordinal factor analysis showed, the factors were categorized into six groups, namely educational history, professional skills, Entrepreneurship spirit, practical experience, communication skills and social- economic context (Figure 1).

Educational history is the first important factor in this research that lead students to the discovery of their skill and areas needing improvement, knowledge which students use to improve themselves for their job readiness. Moreover the relationship between courses and the need of job market is important factor that could also determine employability, then it could be implied that the curriculum content was instrumental to the development of competencies and skills by the respondents, like competencies in communication and skills in human relations. These competencies and skills turned out to be the most demanded by the employers/industries and generate additional employment opportunities. As well as the competencies and skills that should be acquired by a graduate is influenced by the demand and supply relationship of the employee and the employers/industries. These findings are accordance with Laraya (2009) and Hemmati et al., (2007) research.

Professional skills are always playing an important role in the employability. The findings show that lack of exposure of students to the real world of work, lack of proper career guidance and information are the most important factors influence on employment. This results echoes of report of the meeting on "A multi-stakeholder

**Table 7.** Classification of factors that Influence the employment of graduates by using ordinal factor analysis.

Factor	Variables	Variance by factor
Educational history	Participation in educational courses outside the university, collaboration with educators during the educational course, diversity of educational courses in university, presence of empowers professors and educators in university.	17/95
Professional skills	Experience in second language (English, French ...), experience in computer skill, spending the internship course for job preparation, participation in practical experiences during the study.	13/18
Entrepreneurship spirit	Perseverance for finding the job, having entrepreneurial spirit, interest to employment in agricultural jobs, adaptation of agricultural jobs with interest of graduates.	10/84
Practical experience	Previous experiences in agricultural related jobs, having agricultural knowledge and proficiencies.	9/75
Communication skill	Having administrative relationship and knowing bureaucracies affair, familiarity with the field before entering to the university.	9/52
Social-economical context	The rate of salary and income in agriculture and related jobs, The financial support of family for job creation, Social freedom and observe the justice in job opportunity and choices.	8/77
Total		70/03

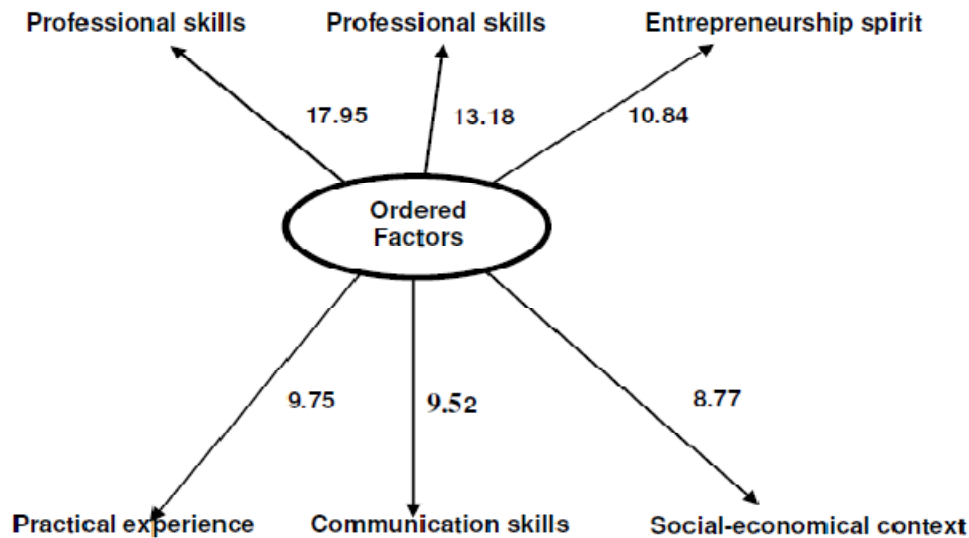
approach to address graduate unemployment in Bangkok (2007) and Marouani (2009). With regards to this findings integrating classroom learning and work-integrated learning both in the formats of internship and cooperative education to enable students to apply their academic knowledge in their workplace assignments is recommended. Whereas the competencies and skills required and the need or demand of the industry is a determinant factor in the employability of the graduates. Originally the nature of agriculture work needs to specific interest and individual taste.

As we know entrepreneurship spirit is conducive to economic growth and the creation of employment. Also the result shows that there is significant difference between entrepreneurial spirit of employed and unemployed graduates. It has been pointed by United Nations (2007) and center for rural entrepreneurship (2005) combination entrepreneurship with marketing and skills development training has skill for fostering employment and income generation and the entrepreneur has been a fundamental agent in most theories of production, distribution and growth (UNCTAD, 2004). The spirit of successful entrepreneurship of Iranians graduates, who believe in themselves and in the goal of self employment, rather than relying on government jobs. Therefore increasing the creativity power and entrepreneurship spirit of graduates during the study is another suggestion.

Practical experience is essential factor in this research.

Also in ranking the factors affecting on unemployment of graduates in agricultural sector weakness of practical skills in graduates is important factor. The findings reflects an important fact, that most of unemployment graduates in Iran are in the agriculture field, and then another suggestion is that the entrance in the universities need to revision and should be market oriented. Thereupon previous experiences in agricultural field and having agricultural knowledge of student can help to increase their employability of them after graduation. Communication skills are another important factor in graduate employability. The development of Communication skill result in creating more jobs and employment sustainability could be achieved over time. Therefore, reinforcement communication skill factors among graduates should be considered and need to be carefully examined. Overall, these findings suggest that self-employment removes the artificial barriers to success that often exist through prejudice or organizational bureaucracies, and replaces them with the free market system. In this free marketplace, individuals have the opportunity to face competition directly, and succeed or fail based on their ability to meet or beat the competition.

Social- economic context is the last important factor in employment status of graduates. Jones and Larke (2001) found that there were not significant difference between those employed in an agriculture-related career and those not employed in an agriculture-related career



**Figure 1.** The effective factors on employment status of agricultural graduates and their importance (base on its determination of total variance).

regarding salary and our research confirm that there is not significant difference between the rate of salary and income in agriculture and related jobs from the viewpoint employed and unemployed graduates. Therefore providing opportunity for graduates in agriculture careers to ensure that their jobs are competitive with other career fields increases the graduate tend to agricultural carriers. Also employers of agriculture graduates should seek to make retirement benefits in their organizations more competitive with jobs in other careers to enhance skill participation in agriculture-related careers.

From our study inexistence of employment capacity in public sector and unsuitable condition for employment in public sector was two important barriers of graduate employment. Whereas employment generation has been seen as a means of poverty alleviation, increasing the level of economic activities or economic growth then finally, we recommend the government and all relevant stakeholders continue in their quest towards reducing unemployment in Iran, as well as give their support in ensuring that the private sector is not downtrodden but embraced in this task.

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