

The Study of Agricultural Students' Effective Entrance in Agricultural Fields after Graduation: Case Study of Students of University College of Agricultural and Natural Resources, Tehran University, Iran

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Abstract: The article considers the current situation of professionalism in the agricultural labor market of Iran and intends to analyze the feasibility of effective entrance of agricultural students in agricultural fields, one of the most important solutions for knowledge based agriculture fulfillment, based on the case study of students of University College of Agricultural and Natural Resources of Tehran University. Results of the analysis revealed that 96.8% of students came from cities, 65.2% had not any practical experience in farming operations and 84.9% of them had no experience in farmers advisory and training services. Totally, the research demonstrated that effective entrance of agricultural students in agricultural fields presently is not feasible and agricultural sector has tenacious bottlenecks in knowledge based agriculture accomplishment. Finally, the study suggests what is needed to occur in the Iranian agricultural higher education system in order to achieve a more effective student entrance and alumnus preparation.

Key words: Professionalism, knowledge-based agriculture, training

INTRODUCTION

Trained, skilled and technician work force has central and pivotal role in labor productivity as a major component of agricultural development (Hunt, 2000). Today with all the new technologies, products, and innovative practices being introduced, farm operations require an expanded knowledge base (The Minister of Agriculture and Agri-Food Canada, 2007) for sustainable agricultural development achievement. In other words, as agriculture has based on the advanced science and technologies in recent era, demand for eligible and competent labor is increasing in this sector (Okutsu *et al.* 2004). Thus, fundamental focus of agricultural development policy-makers must be oriented toward providing the empowered and developed human resources. Studies carried out in many developing countries have concluded that investing in human resources development is essential for poverty reduction, efficient utilization of available resources, and economic development (Bellay, 2000; Azizi, 2005). Indeed because of the increasing use of the high-tech in the farms, farm managers, especially new volunteers, will need to pass the higher levels of formal education.

Throughout the world, educational systems, including higher education, are expanding (Li *et al.*, 2008) and

higher education is essential to national social and economic development (The Taskforce on Higher Education and Society, 2000). Universities have a direct role in poverty alleviation (Atchoarena and Holmes, 2005) and "Today, more than ever before in human history, the wealth-or poverty-of nations depends on the quality of higher education" (Malcolm Gillis, 1999 cited in The Taskforce on Higher Education and Society, 2000). The vast majority of poor people in developing countries, such as Iran, live in rural areas and education is a key factor in poverty reduction. In this context, the relationship between higher education and rural development is becoming an important policy concern, particularly in countries where the revitalization of rural areas represents a critical challenge (Atchoarena and Holmes, 2005). Indeed, Higher Agricultural Education (HAE) institutions have fundamental role in adaptation of farming systems with newly emerging conditions, because the attendance of their alumnus affects on improvement the income of farmers by increasing their yield (National Commission on Farmers, 2006; Zamani, 2002). These institutions have many important functions in terms of their intellectual leadership for agriculture and their contribution to learning and knowledge generation (Atchoarena and Holmes, 2005). Hence, the Global Consortium of Higher Education and Research for Agriculture (GCHERA)

mission is "to foster global cooperation for the improvement of higher education and research for agriculture as a prerequisite to solving food security and environmental problems confronting our world" (The Institute for Global Environmental Strategies, 1999). Okutsu *et al.* (2004) have emphasized that employment of the newly graduating students who majored in agriculture-related subjects at universities and other higher education institutions is one of the most effective solutions of addressing demand for skilled labor. Of course, the employment of skilled and competent graduate students in the countries with Complex, Diverse and Risk-prone (CDR) farming systems including Iran - which have weak knowledge application and low productivity levels in the farming systems- is more important.

While agricultural universities contribute to the growth and modernization of agriculture, they often fail to adjust their curricula and management curricula to respond to the changes affecting agriculture and the rural space. In many developing countries, HAE is experiencing serious problems that impact the quality of the education provided and bring into question the relevance of the programs offered. Issues of concern include inadequate funding, often-decreasing enrolment, poor infrastructure, the declining quality of research and teaching, low faculty morale, and high graduate unemployment rates (Atchoarena and Holmes, 2005). Concern has grown among leaders in the American agricultural community that they will face shortages of qualified workers in the future. Coulter *et al.* (1986) anticipated about a 10% decline of new college graduates with agricultural expertise through 1990. Mallory and Sommer (1986) suggest that these enrollment deficits could be due to misperceptions of higher education students toward agriculture (Cited in: Cecchetti and Sommer and Leising, 1992). In contrast, agricultural education in Africa (and elsewhere) faces with over-supply and high unemployment of graduates mostly due to their poor practical skills rooted from lack of curriculum relevance in turn (Oniango and Eicher, 1999 cited in Maguire, 2000).

In many cases, lack of relevance of extension education to the rural world is a problem for students graduated from agricultural institutions. The gap between methods and content taught and the rural socio-cultural context causes difficulties for graduates in establishing good communication with rural people particularly for urban students (Van Crowder *et al.*, 1998). Of course, the increase of urban-based students as one of the contextual constraints --which affect the teaching of agriculture in developing countries currently as well as into the next century-- (Van Crowder *et al.*, 1998) exacerbates this situation. The profile of students entering agricultural programs has also changed. Students in HAE are no longer purely rural in origin or necessarily from a farming

background. The urgency of "getting a degree" often swells the ranks of HAE but the impact of HAE graduates on agriculture or rural development is not necessarily strong (Atchoarena and Holmes, 2005). On the other hand, current education and research are compartmentalized into classical departments and disciplines that often ignore the complex realities of natural, agricultural, and other human-designed systems. Communication with the agricultural industry likewise is confined to answers to specific questions that are perceived to be within the domain of specialized research and expertise. There is relative isolation from the natural resource environment and the urban society context (Lieblein *et al.*, 2000). Regarding to these issues, current agricultural education systems are require fundamental reform to support improvements in global food security and environmental sustainability (Acker, 1999).

Similarly, HAE institutions of Iran suffer from many challenges. Today there are ample barriers for entrance agricultural students and alumnus to production fields in Iran (Karbasioun, 1998) and as Mohsenin (1998) mentioned, they could not appropriately absorbed by agricultural labor markets, despite the agricultural sector's sever need. Agricultural graduates are ill-prepared to meet the demands of the employers in the knowledge-based agriculture and to address the needs of the farmers. Derakhshan believes that this problem is the result of the frequently dominance of urban agricultural alumnus and their tendency to the employment in the urban governmental and non- governmental institutions (Tabaraei and Ghasemi, 2007). Indeed, despite the too many investments, agricultural higher education system of Iran faces with several challenges in competence-based educating and training and supplying capable and qualified labor resulting failures in the improving human resources particularly increasing professionalism rate in the Iran's agricultural sector.

However many studies have emphasized low level of the sector's specialization but they did not present appropriate indicators for that. This study was carried out in two phases including documentary and survey phases. The first phase aims at illustration of the problematic situation of human resource development in agricultural sector by some important indicators. Then this inquiry proceeds to analyze the feasibility of effective entrance of agricultural students in agricultural fields - as one of the most effective factors on improving the professionalism rate in the sector- and its constraints by carrying out case study in the University College of Agricultural and Natural Resources University of Tehran, Iran. To fulfill the purpose of the second phase, the following research questions were addressed:

- What were the students' perceptions toward their readiness for entrance into farms?

Table 1: Change in the educational level of agricultural labor 1967-2004

Year	Total labor	Illiterate labor		Higher educated labor	
		Person	%	Person	%
1967	2964480	2656911	89.62	467	0.02
1977	2982963	2463395	82.58	756	0.03
1987	3195947	2263169	70.81	5368	0.17
1997	3349036	1607899	48.01	15715	0.47
2004	4324314	1961220	45.35	134039	3.10
Annual growth rate (%)	1.21 -0.69	-1.30	752.69	515.17	

Sources: Research findings based on the data collected from the National Census of Population and Housing of Iran 1967, 1977, 1987 and 1997 and Agricultural Census 2004

- What were the perceptions of students concerning their future effectiveness in improvement of farmers' performance?
- What were students' attitudes in respect to appropriateness of rural climate for economic activity?
- What were students' career preferences after graduation with emphasis on agricultural choices?
- What were some effective factors on students' entrance to agricultural fields?

MATERIALS AND METHODS

The analysis of the present study is based on primary and secondary data, which were obtained from Statistical Centre of Iran, or collected by the questionnaire. The population of the study was all undergraduate agricultural students of agricultural and Natural Resources College in the University of Tehran (440 students), as biggest agricultural and natural resources college of Iran, in the the year 2008-2009. Respondents were selected through proportionate stratified sampling method on the basis of disciplines offered by Agricultural and Natural Resources College, including soil sciences, irrigation & reclamation, agricultural economics, agricultural extension and education, horticultural sciences, plant protection, agricultural machinery, agronomy and plant breeding and animal science. Utilizing Cochran's sample size formula, the target sample size was determined 77 people increased to 93. Primary data were collected using a structured and validated questionnaire consisting of closed-ended questions. A panel of seven experts reviewed the questionnaire for face and content validity. Students' attitudes and perceptions were assessed by three sets of items using a five-point Likert-type scale (1= strongly disagree; 5 = strongly agree). Cronbach's alpha was used to measure the reliability of the scales of questionnaire. The alpha for four items that measured the perceptions of students concerning their future effectiveness in improvement of the farmers' performance was 0.70 and the alpha for the nine items that measured the students' perceptions toward their readiness for entrance into the farms was 0.80 and the alpha for the five items that measured the students' attitudes relative to

appropriateness of rural climate for economic activity was 0.77. The data analysis was carried out using SPSS software.

RESULTS AND DISCUSSION

Documentary phase:

Problematic situation of improved human resources in the agricultural sector of Iran: Illiterate labor accounted for about 90% of agricultural labor of Iran in 1967, which was fell into about 45% by 2004, and on the other hand, the contribution of the higher educated labor has increased from 0.02 to 3.10% during 1967-2004 with 515.17% annually growth rate (Table 1). Nevertheless, the agricultural sector of Iran currently faces some challenges in improved human resource and is suffering from a lack of specialized and higher educated and professional human resources for taking on new challenges in the new era in Iran.

The sector still has higher-educated labor's failure as only 3.10% of its labor has had higher education diplomas in 2004 (Table 1).

The scrutinizing of employed agricultural alumnus's job in the 1967-1997 revealed a serious challenge facing professionalism in Iranian agricultural sector. Because in most appropriate situation, from each 100 employed agricultural professionals, about 6 persons have had agricultural job and other have non-relevant economic activity, which has, fell into about 5 people in end year (Fig. 1).



Fig. 1: Rate of appropriate use of employed agricultural experts in 1967-1997 Sources: Research findings based on the data collected from National Census of Population and Housing of Iran 1967, 1977, 1987

Lack of employing the agricultural alumnus in agricultural sector has resulted in low level of agricultural professionalism in the sector. Indeed, the higher educated labor contribution from the total agricultural labor isn't representative and appropriate indicator for judgment about proficiency rate of agricultural labor and thus, accurate elucidation of proficiency rate needs scrutinizing the type of higher educated labor's proficiency. The calculation of professionalism indicator, defined as the ratio of the agricultural higher educated labor to the total higher educated labor in the agricultural sector multiplied by 100, for 1967-1997 showed that professionalism rate of agricultural sector has increased since 1977 especially from Islamic revolution of Iran (1979) and reached from 11.38% in 1967 to 29.9% in 1997 with 5.25 annually growth rate. Nonetheless, the professionalism rate has been low yet, as from each 100 higher educated labor only 30 people have had agricultural proficiency in 1997 (Fig. 2).

Despite of expectation from the agricultural professionals- agricultural higher educated labor-concerning to settlement and continuous presence in rural areas, according to the Fig. 3 at least 75% of agricultural professionals had habituated in urban areas in 1967-1997 and often had been away from farming systems. Greatest urbanization level of agricultural professionals is related to 1987 (83%) and the lowest level belongs to base year with only 24% of agricultural professionals habituating in rural areas.

Similar situation is true for the total experts of agricultural sector of Iran, whether agricultural or non-agricultural higher educated labor. In the period, always the urbanization rate of total experts of agricultural sector has been about 65% and over (Fig. 4). Wondering fact is that normally the urbanization rate of total experts of agricultural sector has been lower than that one of the agricultural professionals in the 1967-1997.

Altogether, it can be said that the agricultural alumnus did not be absorbed to the fields adequately and the sector presently has tenacious bottlenecks in the own human resources development and knowledge based agriculture accomplishment. Yet, agricultural students and alumnus can be best approach for reaching to the human resources development in the sector. Therefore, the study of the agricultural students' characteristics, attitudes and perceptions toward their readiness for the fields' entrance etc could be impressive in policymaking and provision of appropriate solutions for agricultural human resource development.

Survey phase:

Students' characteristics and perceptions: Frequencies were computed for selected demographic nominal variables. Out of total 93 respondents, 38% were male, 62% were female and their age range was 20-27 years with 21.60 years mean of age. The mean of students' total

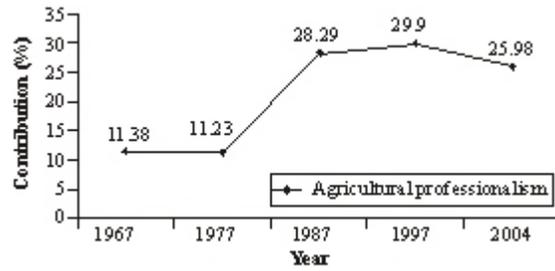


Fig. 2: Trend of agricultural professionalism in agricultural sector of Iran in 1967-2004 Sources: Research findings based on the data collected from the National Census of Population and Housing of Iran 1967, 1977, 1987 and 1997 and Agricultural Census 2004

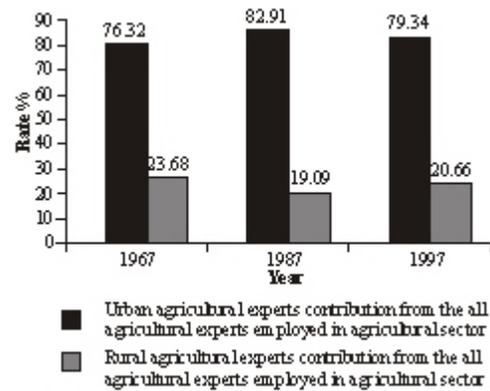


Fig. 3: Distribution of the agricultural experts employed in agricultural sector of Iran based on settlement location in 1967-1997. Sources: Research findings based on the data collected from National Census of Population and Housing of Iran 1967, 1977, 1987

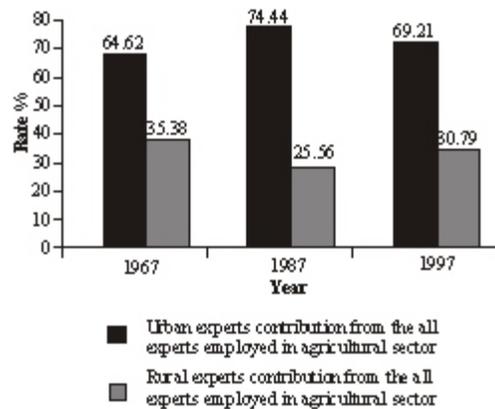


Fig. 4: Distribution of the all experts employed in agricultural sector of Iran based on settlement location in 1967-1997 Sources: Ibid

average (T.A) was 15.36 (from 20) differentiated from 12.99 to 18. As mentioned in Table 2, 92.5% of students have been born in urban areas and only 7.5% in rural

ones. On the other hand currently, 96.8% of respondents are urban settlers and just 3.2% of them habituate in rural areas (Table 3). Comparison of the statistics of Table 2 and 3 revealed that 57% of students who was borned in rural areas have out migrated to the urban areas. Also according to the research findings, 65.2% of the students have not had any experience in farming activities practically and were completely isolated from farming systems (Table 4). In addition, only 15.1% of respondents have engaged in advisory activities to farmers and the rest had no experience in this context (Table 5). Similarly, 86% of students have not experienced any vocational agricultural education courses and only 14% have attended in these courses (Table 6).

For an in depth analysis, respondents were categorized into three groups based on their perceptions toward their future effectiveness in improvement of the farmers' performance measured by the set of four Likert-type items. According to the findings, only 30.1% of them believed that their effectiveness would be high in improvement of the farmers' performance while 61.3 and 8.6% of them thought that they would have medium and low effectiveness, respectively.

Correspondingly, the set of nine Likert-type items specified students' subjective readiness for entrance into the farms. Findings exposed that only 6.5% of students had low subjective readiness for absorption in agricultural fields whereas 52.6% and 40.9% of them had medium and high subjective readiness respectively.

Classification of the students based on the set of five Likert-type items' composite score indicated that only 20.7% of them believed that the rural climate is appropriate for economic activity while 52.16 and 27.14% of them assessed it partly appropriate and inappropriate correspondingly.

Students were asked about their favorable future career options with emphasizing on the agricultural career alternatives. As mentioned in Table 7 the option of "doing the farming practices alongside training the farmers with public earnings" each with 19% had most attractive with 44% of students while "participation in agricultural advisory and supervisory activities with public earnings" and "non agricultural economic activity" were in the next places of attractiveness, respectively. In addition, respondents had the least tendency toward "self-reliant income generating throughout doing farming practices" and "participation in agricultural advisory and supervisory activities with earnings from farmers" (Table 7).

The students prioritized four proposed funding alternatives under conditions that they have adequate access to capital. Their preferences were determined by calculation of the Coefficient of Variation (CV) for each of alternatives. Investment in agricultural activities assigned the third priority of students and "investment in agricultural processing industries", "non agricultural

Table 2: Frequency distribution of students regarding to the place of born

Place of born	Frequency	%
Rural	7	7.5
Urban	86	92.5
Total	93	100

Table 3: Frequency distribution of students regarding to the current residential area

Current residential area	Frequency	%
Rural	3	3.2
Urban	90	96.8
Total	93	100

Table 4: Frequency distribution of students regarding to their practical experience in farming activities

Practical experience	Frequency	%	Valid percent
Yes	32	34.4	34.7
No	60	64.5	65.2
No Response	1	1.1	-
Total	93	100	-

Table 5: Frequency distribution of students regarding to their involvement in agricultural advisory activities

Advisory activities	Frequency	%
Yes	14	15.1
No	79	84.9
Total	93	100

Table 6: Frequency distribution of students regarding to their attendance in vocational agricultural education courses

	Frequency	%
Yes	13	14
No	80	86
Total	93	100

industries" and "bargaining occupations" positioned in the first, second and fourth places respectively (Table 8).

In many statistical analysis especially parametric statistics, normality is often conveniently assumed without any empirical evidence or test. Nevertheless, normality is critical in many statistical methods. If this assumption is violated, interpretation and inference may not be reliable or valid (Park, 2008). Therefore, prior to using parametric statistics normal probability distribution of the study scales and the T.A was tested by Shapiro-wilk test (Table 9). As results showed, the p-value has been greater than 0.05 in all cases, and the null hypothesis has not been rejected and the data are normally distributed. Of course, the distribution of students' subjective readiness for entrance into farms and students' attitudes relative to appropriateness of rural climate for economic activity scale was not normal, which were normalized by removing the extreme and over- repeated values.

The set of t-tests utilized "students' engagement in agricultural advisory activities" and "students practical experience in farming activities" as the independent variables. The results did indicate statistically significant differences in the students' perceptions about their future

Table 7: Frequency distribution of students regarding to their favorable future career options

Code	Career choices	Frequency	%	Valid percent
X ₁	Self-reliant income generating throughout farming practices	6	6.45	6.52
X ₂	Participation in agricultural advisory and supervisory activities with public earnings	18	19.35	19.57
X ₁	Participation in agricultural advisory and supervisory activities with earnings from farmers	2	2.15	2.17
X ₃	Doing farming practices alongside training the farmers with public earnings	41	44.09	44.57
X ₄	Non agricultural economic activity	18	19.35	19.57
X ₅	Other	7	7.53	7.61
-	No Response	1	1.10	-
-	Total	93	100	100

Table 8: Students' preferences in selection of the investment alternatives

Item	Mean	S.D.	CV	Priority
Investment in agricultural processing industries	2.92	0.92	0.32	1
Non agricultural industries	2.49	0.95	0.38	2
Investment in agricultural activities	2.41	1.24	0.52	3
Bargaining occupations	2.25	1.26	0.56	4

Table 9: Normality test for study scales and T.A. of students

Scale	Statistic	p-value
Perceptions of students concerning their future effectiveness in improvement of the farmers' performance	0.97	0.063
Students' subjective readiness for entrance into farms	0.98	0.092
Students' attitudes relative to appropriateness of rural climate for economic activity	0.98	0.105
T.A. of students	0.98	0.18

Table 10: T-test for Test variables based on grouping variables

Dependent variable	Categorical variable	Categories	Mean (M)	S.D.	t	p-value
Perceptions of students concerning their future effectiveness in improvement of the farmers' performance	Practically experience in farming activities	Yes	15.04	3.04	2.47*	0.015
		No	13.50	2.52		
	Involvement in agricultural advisory activities	Yes	16.90	2.13	3.71**	0.000
		No	13.66	2.64		
students' attitudes relative to appropriateness of rural climate for economic activity	Practically experience in farming activities	Yes	16.00	4.03	2.07*	0.041
		No	14.10	3.95		

*: p-value \geq 0.05; **: p-value \geq 0.01

Table 11: Results of comparison of the students' subjective readiness for entrance into farms based on their career choices after graduation

F	Group A	Mean	Group B	Mean	Mean difference	SE	Sig.
11.25**	X1	39.25	X2	31.50	7.75**	2.13	0.004
			X3	34.41	4.84	1.93	0.100
			X4	26.59	12.66**	2.15	0.000
			X5	32.14	7.11	2.59	0.056
			X2	31.50	X3	34.41	2.91
	X4	26.59	4.91*		1.69	0.037	
	X5	32.14	-0.64		2.23	0.998	
	X3	34.41	X4	26.59	7.83**	1.44	0.000
			X5	32.14	2.27	2.05	0.801
	X4	26.59	X5	32.14	-5.55	2.25	0.110

*: p-value \geq 0.05; **: p-value \geq 0.01

Table 12: Results of comparison of the students' total mean of scores based on their subjective readiness for entrance into farms

F	Group A	Mean	Group B	Mean	Mean difference	Standard error	Sig.
6.07**	Low	16.23	Medium	15.67	0.55	0.65	0.670
			High	14.86	1.38	0.66	0.100
	Medium	15.67	High	14.86	0.81**	0.26	0.006

*: p-value \geq 0.05; **: p-value \geq 0.01

effectiveness in improvement of the farmers' performance based on practical experience in farming activities ($p < 0.05$) and based on engagement in agricultural advisory activities ($p < 0.01$). As mentioned in the Table 10, students who have engaged in agricultural advisory activities had more trust about own potentially effectiveness ($M = 15.04$) than students with no engagement ($M = 13.50$). Similarly, respondents who had worked in farms were more self-confident ($M = 16.90$) than others ($M = 13.66$). In addition, findings revealed that students with practical experience in farming

activities, statistically ($p < 0.05$) had better attitudes relative to appropriateness of rural climate for economic activity ($M = 16$) than others ($M = 14.10$).

The results of the ANOVA revealed statistically significant differences in subjective readiness for entrance into the farms at least between two groups of totally five groups of students based on their career choices after graduation. Therefore, the Tukey Test was utilized to compare group mean scores. These data have been presented in Table 11. Students who had chose self-reliant income generating throughout doing farming practices or

participation in agricultural advisory and supervisory activities (X_1) had significantly more subjective readiness ($p < 0.01$) than those who had preferred engagement in agricultural advisory and supervisory activities with public earnings (X_2) and those who had chosen non-agricultural economic activity (X_4). On the other hand, students who had preferred engagement in agricultural advisory and supervisory activities with public earnings (X_2) and those who had chosen doing farming activities alongside training the farmers with public earnings (X_3) had significantly more subjective readiness ($p < 0.05$ and 0.01 , respectively) than those who had preferred non-agricultural economic activity (X_4) (Table 11).

As previously mentioned, respondents divided into three groups (low, medium and high) based on their subjective readiness for entrance into farms and then, their T.A was compared together. The results of the ANOVA revealed statistically significant differences ($p < 0.01$). The Tukey Test showed that students T.A with high subjective readiness, was significantly ($p < 0.01$) more than students with medium readiness (Table 12).

This inquiry comprehensively has illustrated the crucial situation of the human resources of Iranian agricultural sector using several representative indicators and then, has explored some of the barriers in reaching to the knowledge-based sector from higher education aspect. Because of homogeneity of agriculture in Iran, the case study has provided applicable data for policy makers of the Iranian agricultural higher education system to do some substantial reforms. In contrast with the situation of American agricultural community, Iran faces oversupply of agricultural graduates and students with relative subjective readiness for absorption in agricultural fields but they aren't ready to undertake agricultural careers, as revealed this study. In line with Van Crowder *et al.* (1998) statement, one of the most important causes of this failure is increasing urban-based students who are unfamiliar with rural climate and have difficulties in establishing good communication with rural people.

Overall, based on the findings of this study, the following conclusions and recommendations were drawn. Comparing with others students who had experience in agricultural fields practically, had better attitude toward villages as appropriate areas for economic activities. On the other hand, students with engagement in agricultural advisory activities and or practically experience in farming activities so far, believed more effectiveness for themselves in doing farming practices and improving agricultural productivity than other students. Thus, attendance in rural areas and farming fields and their continuing linkage with farmers can enhance the students' attitudes toward farming and increase their self-confidence and preparedness for entering in the product fields. Similarly AKIS Thematic Team (1999) of World

Bank has stated that universities can access local agricultural knowledge by recruiting more students from farm backgrounds, involving students in research and extension, and expanding work in the rural social sciences (anthropology, political science, economics, and sociology) and in rural production systems (farming systems, ecosystems, and agro-ecological region characterization). Thus, development of technical skills and professional competence of agricultural students need to a new didactical arrangement, including supervised agricultural experience programs, experiential learning, and fundamental changes in the teaching and learning processes as Alibeigi and Zarafshani (2006) have suggested.

Nevertheless, 92.5% of respondents were born in urban areas and only 7.5% of them was born in rural areas. Moreover, 57% of students who had born in rural areas have migrated to urban areas and currently their urbanization rate reached to 96.8%. Such situation shows improper selection of students for agricultural higher education system. On the other hand, challenges of the system are worsen because 65.2% of students had no practical work in farming fields and only 15.1% of them have advised farmers. Also 86% of the students have no experience in vocational agricultural education courses. Hence, current agricultural higher education institutions of Iran have been compartmentalized into classical departments, disciplines that often ignore the complex realities of agricultural, natural systems and the most of their students are from urban society context that are unfamiliar with agricultural and rural environments.

Therewith, only 20.7% of respondents believed that rural areas are appropriate environment for economic activity. Lack of the familiarity with fields and rural areas and unfavorable viewpoint of students toward rural areas as economic activities location, justifies assigning the third priority to fund in agricultural activities by students. The isolated institutions also has led to decline of the students self confidence for entering to the fields, as only 30.1% of them were hopeful into their future effective and useful entrance in the fields. Also, nevertheless students who had tendency toward self-reliance in income creating through agricultural activities, had statistically more subjective readiness for entering into the fields than others, but they were in a minority showed worrying view for agricultural entrepreneurship and job creation for alumnus. In addition, result of ANOVA indicated that students' T.A who had high subjective readiness for entrance into farms, was significantly more than T.A of students with medium one. It discloses that despite the current situation, the T.A is not proper and appropriate criterion in agricultural higher education system of Iran that one of its main purposes is fulfillment of the knowledge based agriculture by supply of educated and skilled labor. Altogether, it can be said that according to

the research findings and under continuation of current challenges, the system would be unable to supplying experts to agricultural labor market. Thus, enjoyment of Iranian agricultural sector from the professionals would not be possible and the sector will faces with tenacious bottlenecks in knowledge based agriculture accomplishment steadily. Based on the analysis given in this article, we suggest following recommendations:

Initiation and strengthening vocational courses will prepare students to entrance into the fields effectively and to deal with complex issues in the future. On the other hand, the system has to assign higher priority to the enrollment of students with rural society context in own courses, because they have more acquaintance with farming activities and probably would be more ready for agricultural jobs. In addition, the shift from conventional education toward problem solving and experiential education and training must be made in the national agricultural higher education system mainly through two ways:

- Strengthening the system linkages with rural areas and increasing the effective students' attendance in rural areas and farming fields will lead to increase of the experiences and improve their skills.
- The current main criterion for students' evaluation, T.A, does not capable to assess their educational performance and so, the criteria should be regulated as they can stimulate students to more effective attendance in the fields.

If this transformation is occurred, the responses from the agricultural job market will stimulate students, institutions and even governments to improve the quality of higher education on one hand and on the other hand, they will establish an enabling environment for alumnus skills utilization and finally will improve professionalism in agricultural sector work force of Iran.

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