Investigation of Agricultural Education Systems and Labor Market Needs in Iran

Mehdi Shariatzadeh Joneydi

The Institute for Education Studies, Bloke 3o, Shahid Asadi Alley, Hejrat Street, Peyambr Avenue, Tehran, Iran

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ABSTRACT

The goal of this research was to analyze and evaluate the components of agriculture high school system in Iran and adapting them with the needs of market. This research is quantity-applied which is done according to correlative-descriptive method. The population included the experts and the workers of the field. All the chosen experts were included in the research (N=60), and 120 of the workers were chosen by the multiple cluster method. The main research tool was a questionnaire. The questionnaire's validity was proved by a group of experts, and its reliability, with Cronbach's α coefficient of 0.73 for the experts and of 0.85 for the workers, was announced as suitable. The results indicated that in analyzing the rate of influence and adaption of the goals of agriculture high school system with the needs of Iran, variables of entrepreneurship, *providing the work force, training half-skilled work force, training technicians, preparing people to occupy the job opportunities, and making new job opportunities are important. In analyzing the adaption rate of absorption process in agriculture high school system the results showed that the process of education leading, and giving priority to students who had experiences in agriculture fields are influential in the analyzes. In analyzing the adaption rate of the education program with the market needs five variables of internship methods, academic and workshop equipments, skill standards, academic minors, and methods of evaluating applied and skill-based courses specify 47% of changes related to the adaption rate of education program with the market needs.*

Key words: agriculture training, market, regression analyzes, education program

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INTRODUCTION

Most of the developing countries are able to develop their potentials and human sources but they have not been successful in utilizing the potentials to the best [15]. Academic institutes, training the work force, play an important role in leading each country to success. Therefore, it could be said that an efficient education system can provide the country with productive work force [16].

In the undeveloped and developing countries like Iran, lots of academic majors are not functional at all and most of the graduates never find the opportunity to put their knowledge into experience. If these graduates ever find a job, it is not related to the field they studied. In fact, inefficient function of educational system in inappropriate training of the work force has led to the graduates do not adapt to the needs of the market [2].

Nonconformity between the job and the professional skills of people would lessen the impact of the education on development of productivity. As a result, structural revision and improvement in the educational system has become very important [7].

Educational systems play an important role in effectiveness and efficiency of economic, social, cultural, and political systems and, so, play an important role in development of the countries. Most of the experts believe that human

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resources have the most important role in development of the countries and quantity and quality of human resources are important in development [10]. On the other hand, developing the agriculture has a direct relationship with the development of national development and one of the important production factors in agricultural field is related to human resources that can play an important role in improving the productivity. Therefore, training the human resources is one of the conditions and preconditions of agricultural development. Teaching agriculture through improving learners' knowledge and skills increases their productivity [5].

Agriculture high school education is planned to provide work force for making a relationship between the lower levels of work force pyramid (unskilled) with the higher levels of the pyramid (experts) [3]. In this level, education should be managed in a way that the graduates have enough skills to start working in agricultural fields with interest and enthusiasm without the need to go for higher education.

Agricultural education system in developing countries has failed in fulfilling and adapting rural societies' needs, because, most of the time the curriculums and teaching methods are not adapted with the development goals of the country and with the farers needs and market. This situation has worsened with the economic crisis [14].

Lacks of conformity and adaption between the outputs of education system with the needs of market have always been the governments' concern. Because the result of such nonconformity is job deviation or unemployment of the graduates, that leads to questioning the internal and external functionality of educational system [9]. In Iran, in spite of years of new high school system, there is ambiguity about the conformity of the high school system and the needs of agricultural market. Researches done on the agriculture high school graduates in Iran show these people are not appropriately absorbed in the market and lots of them are unemployed or work in unrelated fields. Although such a problem could have different reason, undoubtedly one of the reasons is the nonconformity of the education with the local needs and failure of the courses to teach the learners the skills they need for the market.

Considering what is told, evaluating the results of training programs are highly important. If the evaluation is done correctly, it can provide a concrete base for programming, revising, and modifying the content and the structure of agriculture high school system lessons [13].

The professional training of agriculture should supplement the curriculums and should have the flexibility to adapt with the local needs. To achieve this goal there should be a balance between the theoretical and professional trainings, because teaching the agriculture cannot be accomplished through regular classrooms and on the boards [17].

Lots of experts believe that not having enough skills and lack of self confidence, which is a result of educational system, is one the major reasons of unemployment among the graduates [1].

Therefore, regarding the strategic role of agriculture in economy and national independence, the part that education of this field plays in appropriate forming of job pyramid in agriculture, and also the huge amount of money government pays for this level of education, paying attention to the quality of agriculture high school is very important [2]. The factors which are analyzed to improve the quality of educational systems are goals and curriculums, management of educational system, trainers, trainees, educational spaces, equipments and instruments, information sources and teaching-learning processes [11].

The quality of agricultural education in high school and improvement of the students studying at schools and colleges are influenced by fundamental factors of public and professional education like learning, trainer, the goal, curriculum, equipments, and the educational space [8].

The international findings say quality of each educational system is dependent on the quality of the managers [12]. For an educational institute to reach its goal, it needs a competent and capable management. Management is defined as creating and keeping an environment in which acting sufficiently to reach specific goals is possible [9]. Therefore, educational management is to provide the situation with the condition in which learners can acquire permanent and deep knowledge [12].

Sheppard (2005) considers supervising and supporting the teachers, improving teacher's preparation quality, constant observation of teaching, employment of new teaching stuffs, on time decision making, providing a dependable atmosphere, supporting and guiding the teachers, constant observation on professional development of teaching stuff, moving toward variable educational goals, accepting the students' and teachers' ideas, capability of managing the conflicts between the teaching stuff and personnel, and a good behavior and appropriate relationship with the personnel as managing factors influential on education quality.

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Leithwood and Levin (2005) believe different management factors such as motivation making, observation on lesson plans, observation on the quality and quantity of learners' homework, professional development of the personnel and providing learning opportunities for them, evaluating trainers' functions, discipline, preannounced and unannounced visiting of the classes, controlling learners' activities and making sure they are adapted with school policies, observation over trainees' attendance in school, appreciating and rewarding the good and excellent jobs, controlling the part and supervising the personnel, holding meetings with school groups, assessment of trainers skills and rewarding the ones who are influential on learners' development, and holding gatherings to know more about the trainees are effective on educational management.

MATERIALS AND METHODS

This research is a quantity based one which, regarding controlling the variables is non-experimental and, regarding the goal, is an applied research. The research population included the experts and the workers of agriculture high schools in new high school system. 60 of the experts were picked, and 120 of the workers were chosen by multiple cluster method. The major research tools are two questionnaires. The questionnaires validity was proved by a group of experts, and its reliability, with Cronbach's alpha coefficient of 0.73 for the experts and of 0.85 for the workers, was announced as appropriate. At first level variables of agriculture high school system goals, acceptance and absorption rules, and curriculum were considered as dependent variables. At the next level training the needed work force in agriculture market was taken as the dependent variable and it relationship with variables of agriculture high school system goals, acceptance and absorption rules, and curriculum was examined. To evaluate the influence rate of the variables step by step multiple regression analysis method was used.

RESULTS AND DISCUSSION

Evaluation of the respondent's personal characteristics
Results show age average of the experts is 42.2 years old and the workers' age average is 29 years old. The average of working experience for the experts was 18 years and for the workers 15.9 years. Also, 69% of the experts had bachelor degree and 74% of them had a bachelor in Agriculture. 57% of the workers had a bachelor degree and 82% of them had a bachelor in Agriculture.

Influential Factors on Conformity of Agriculture High School Curriculum with the Market Needs
In order to analyze the conformity and influence of the goals of agriculture high schools with market needs step by step multiple regression analysis was used. According to the results, at the first step, entrepreneurship with 0.311 coefficient of determination was taken into analysis. At the second step the variable of skilled worker training was analyzed. This variable specified 8% of the changes related to the dependent variable. At the other steps variables of providing the work force, training half-skilled workers, training technicians, preparing people to take job opportunity, and self-employment were analyzed. Analyses of these seven variables showed that they specify about 75.1% of the changes related to conformity of the goals of agriculture high schools with market needs. Analyzing β of the changes showed that entrepreneurship is the most influential variable. Other results are shown in tables (1) and (2).
According to the regression coefficient the regression line equation could be written as:

$$Y=89.667+0.865_{x1}+0.774_{x2}+0.694_{x3}+0.612_{x4}+0.531_{x5}+0.472_{x6}+0.384_{x7}$$

Table 1- step by step regression analysis of conformity of the goals of agriculture high schools with market needs

Steps	R	R^2
1	0.56	0.311
2	0.63	0.391
3	0.66	0.433
4	0.73	0.533
5	0.77	0.598
6	0.82	0.682
7	0.87	0.751

Studying the Influential Factors on Adaption of Absorption Process with the Needs of Market
The results of the study about the adoption of absorption process with the market needs showed that giving priority to the students who already have experience in agriculture specified 32.9% of the variance about the absorption and acceptance process. The variables of education counseling specified 15.8% of the variance related to dependent variable. At the last step, giving priority to the rural student was taken into the analysis which specified 15.2% of the dependent stariable variance. Considering the β coefficient of the variables, giving priority to the students who have experience in agricultural field has the highest importance coefficient. The other results are presented in tables (3) and (4). The regression line equation at the last step is:

$$Y= -62.866+0.21_{x1}+1.118_{x2}+1.742_{x3}$$

Table 2- influential factors on conformity of the goals of agriculture high schools with market needs

Variables	B	SEB	Beta	T	Sig.
Fixed coefficient	86.667	4.428	_	20.251	0.000
Entrepreneurship	0.865	0.460	0.794	4.058	0.000
Training skilled worker	0.774	0.414	0.723	2.98	0.002
Providing work force	0.694	0.312	0.648	2.67	0.002
Training half-skilled worker	0.612	0.294	0.592	2.54	0.003
Training technician	0.531	0.212	0.481	2.36	0.002
Preparing people to get the job opportunity	0.472	0.174	0.374	2.20	0.003
Self-employment	0.384	0.132	0.284	1.74	0.004

Table 3- step by step regression analysis of adoption of absorption process with the market needs

Steps	R	R²
1	0.573	0.329
2	0.691	0.478
3	0.799	0.639

Table 4- influential factors on Adaption of Absorption Process with the Needs of Market

Variables	B	SEB	Beta	t	Sig
Fixed coefficient	-62.866	3.528	--	-5.658	0.00
priority to the students who have experience in agricultural field	0.21	0.540	0.810	18.659	0.00
education counseling	1.118	0.234	0.470	11.798	0.00
priority to the rural student	1.742	0.332	0.475	11.566	0.00

Studying the Adaption of Curriculum with Needs of the Market

Studying the adaption of curriculum with the needs of the market shows that five variables of internship programs, workshop and school equipments, skill standards, and evaluating the theoretical and practical lessons specified 47% of the changes related to adaption of the curriculum to the market needs. Regarding the β rate of the variables, variable of workshops and schools equipments is the most important variable in adaption of curriculum with the needs of the market. Other results are shown in tables (5) and (6). The regression line equation at the last step is:

$$Y=71.07+0.375_{x1}+0.3788_{x2}+0.255_{x3}+0.218_{x4}+0.183_{x5}$$

Table 5- step by step regression analysis of adaption of curriculum with market needs

Steps	R	R²
1	0.419	0.176
2	0.525	0.276
3	0.601	0.361
4	0.652	0.425
5	0.686	0.470

Table 6- influential factors on adaption of curriculum with market needs

Variables	B	SEB	Beta	t	Sig
Fixed coefficient	71.07	5.68	--	8.625	0.000
Internship program method	0.375	0.440	0.283	6.907	0.000
Workshops and schools equipments	0.378	0.434	0.318	5.633	0.000
Skill standards	0.255	0.657	0.192	4.295	0.000
Academic majors	0.218	0.324	0.107	6.004	0.000
Evaluating the theoretical and practical lessons	0.183	0.456	0.101	6.89	0.000

Analyzing Training Needed Work Force for the Market and its Variables

The element of training needed work force and its integration with related variables was analyzed by step by step multiple regression method. The results of the analysis show that the variable of adaption of absorption and acceptance process with the market needs specifies almost 9.4% of the changes related to dependent variable. At the other steps variables of goals of the agriculture high school system and educational programming were analyzed. These two variables specified 36% of the influential factors on training the needed work force with the needs of the market. Other results are shown on tables (7) and (8). The regression line equation at the last step is:

$$Y=1.6-0.364_{x1}+0.583_{x2}+1.05_{x3}$$

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Table 7- step by step regression analysis of Training Needed Work Force for the Market

Steps	R	R^2
1	0.306	0.094
2	0.571	0.330
3	0.609	0.371

Table 8- influential factors on training the needed work force for the market

Variables	B	SEB	Beta	t	Sig.
Fixed coefficient	1.6	0.545	---	2.938	0.00
Absorption and acceptance	-0.364	0.043	-0.563	-8.442	0.00
Goals of high school system	0.583	0.054	0.665	10.758	0.00
Educational programming	1.05	0.00	-0.599	-8.980	0.00

CONCLUSION

The results of this research show that in three designed components of new system the highest relationship with the adaption to market needs belongs to rules of absorption and acceptance of the students. In the variables effective on the process of absorption and acceptance giving priority to the students who have experience in agricultural fields is the most influential. The other two factors, education counseling and giving priority to the students from rural areas, occupy the other places. The results can be analyzed from different perspectives:

This research proved that in three elements of new high school system, the mechanism of absorption and acceptance is the most important one. It is a correct, scientific and logical that provides appropriate input for the educational system. Therefore, it is important that the law makers and the experts of the agriculture high school system closely focus on the system of absorption and acceptance. On the other hand in the variables affecting the system of absorption and acceptance, the variable of giving priority to the students who have working experience in agricultural field has the highest connection with the system of absorption and acceptance. The studies about industry, services, and agriculture technical high schools and collages has emphasized that the students starting at theses institutes generally do not have the motivation to study.

After the element of absorption and acceptance, the of goals in agriculture high school curriculum, has the second place of being related and integrated to the training of work force needed for the market. On the other hand, in the variables affecting the adaption of the curriculum goals with the needs and requirements of the market, the variable of entrepreneurship has the highest integrity with the above mentioned element. Entrepreneurship skills have been considered as one important part of being employed. Then again, regarding the specific characteristics of agriculture, which are restriction of the production agents, domination of private investment, finally the limitations of job making and, at the same time, the need for new educated employees to use the new technology, and developing the structure of work force, it seems that entrepreneurship is the most important and most realistic approach that could be taken in new agriculture high school system.

Comparing to the other two elements in new agriculture high school system, the element of curriculum and lesson programs has the least connection to the concept of training the market's work force. It can be concluded that lesson planning and curriculum has a smaller role in adapting the high school system with the market needs and making changes in lesson planning and curriculums, alone, cannot solve the problems of having a breach between the educational system and the market needs. However, among the variables affecting the lesson planning and curriculums, the internship programs can participate more in adapting the curriculum with the market needs, because the internship is based on real experience of work atmosphere and getting to know the technical and professional needs of the market.

- It is suggested that agricultural high schools and collages seriously focus on absorption and acceptance process.
- While employing people, bigger priority should be given to those who have working experience. To do so, the present process of acceptance and acceptance should be revised.
- Entrepreneurship should be the focal point of the agricultural education. Regarding the current situation in the market and taking into account the restrictions and difficulties in getting a job in public or private offices, entrepreneurship seems to be a proper solution, because training people who can create job opportunities can help the educates to get a job.
- In order to improve the entrepreneurship programs in agricultural academic programs, it is suggested that some changes and revisions happen in lesson plans and curriculums. Therefore, having a course about entrepreneurship should be taught as one of the main courses and the trainers and the trainees of agriculture collages should be kept updated about the importance of such programs.

- It is suggested that internship programs, that play an important role in acquiring professional and technical skills needed in market, be taken seriously. It is better to hold such programs out of the schools and colleges to let the students become familiar with the real needs and expectations of the market and social and economic situation.

- It is also suggested that in order to adapt the lesson programs and curriculum with the needs of agricultural market, get the employees of private sectors more involved in producing academic texts and their points of views and perspectives about the qualifications of the needed human sources be included too.

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