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Effectiveness of Agricultural Higher Education in Vietnam

Case study of 5 selected universities

Master thesis

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Declaration

I hereby declare that this diploma thesis "Effectiveness of Agricultural Higher Education in Vietnam – case study of 5 selected universities" is my own work under coordination with my supervisor and contains no material which has been accepted for the award of any degree or diploma in any institute, college or university. Moreover, to the best of my knowledge, it contains no material previously published or written by another person, except where due reference is made in the text of the thesis.

Prague, 24th April, 2015

Signature

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Phuong Thao Nguyen

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Abstract

A strong agricultural sector is the key to a nation's economic development; vice versa, agricultural productivity of a country depends significantly on a foundation system of education and research in agricultural field. In terms of Vietnam, a country that approximately 70% of population lives in rural areas with agricultural production is their main livelihoods, agriculture is absolutely the key sector for the domestic economy.

Investment in education is always considered as the first priority of a country in the process of developing the social and economic aspects, therefore, agricultural education should be intensively concentrated by Vietnam's government to have spectacular achievements in agriculture for the country development.

The objective of this thesis was to comprehend the current situation of Agricultural Higher Education in Vietnam, then find out recommendations to improve its effectiveness. To accomplish this objective, a survey was conducted with respondents from five selected universities in Vietnam: Vietnam National University of Agriculture, Thai Nguyen University of Agriculture and Forestry, Hue University of Agriculture and Forestry, Can Tho University and Ho Chi Minh city University of Agriculture and Forestry. In addition, there are 13 representatives of employers from Agricultural Production companies participating in the survey, for example, Vietnam Dairy Products Joint Stock company (Vinamilk), Vietnam Dried Fruit Hiep Phat Joint Stock company, Vinamit Joint Stock company.

The recommendations described in this thesis cover a variety of aspects in agricultural education, research and extension, focusing on some main themes: (1) Mobilizing political and financial support for agricultural education; (2) Closing gap between the Ministry of Agriculture and Rural Development and the Ministry of Education and Training; (3) Increasing research contributions of agricultural universities in Vietnam; (4) Applying successful models of other countries into Vietnam; (5) Increasing international mobilities of students.

Keywords: agriculture, research, extension, education, employment, student mobility.

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List of abbreviations

EC	European Commission
UNESCO	The United Nations Organization for Education, Science and Culture
UNDP	The United Nations Development Program
UN	United Nations
USA	The United States of America
GSO	General Statistics Office
WSU	Washington State University
IARI	Indian Agricultural Research Institute
SAU	State Agricultural University
USAID	United States Agency for International Development
ABU	Ahmadu Bello University
IPSARD	Institute of Policy and Strategy for Agriculture and Rural Development
WPR	World Population Review
WENR	World Education News and Reviews
VGP	Vietnam Government Portal
WDE	World Data on Education
GDP	Gross Domestic Product
MOET	Ministry of Education and Training
NGO	Non Governmental Organization
VEF	Vietnam Education Foudation
IRED	Institute for Research on Educational Development

1. Introduction

It is undeniable that education is considered as the leading factor to the success of a nation in terms of socio – economic development. Education investment is, hence, a tool for reducing poverty and inequality of a country because of its functions in raising income, improving health issues, closing gender gap, forecasting and preventing climate change. It is said that "If all students in low income countries left school with basic reading skills, 171 million people could be lifted out of poverty, this is equal to a 12% cut in global poverty" (UNESCO, 2010). This fact shows clearly the importance of basic education providing for people to cut poverty not only for that home country but also for the whole world.

Investment into education is always a priority within a country in the process of developing and sustaining the economy, since development in general depends significantly on human resources capacity. Especially for developing countries, education situations may decide the level of power in socio – economic fact that country is holding (Winthrop et al., 2013).

After a long time of wars, Vietnam's economy has been in bad situation due to the destruction of those wars and the time waste needed to recover the country. In the period of renovation, Vietnam's government faced difficulties in controlling and leading the exhausted economy at that time, therefore, a number of wrong directions appeared and it takes a long time afterwards for this nation to find their own way of developing, particularly concentrating on agriculture (Arkadie and Mallon, 2004).

Vietnam has comparative advantages in developing agriculture sector thanks to its beneficial geography, rich natural resources and the history of agriculture background for thousands of years. Most of Vietnamese citizens live on rural and agriculture development since the original establishment of the country and this sector is forecast to continue being a vital part in the economic process (Coxhead et al., 2010).

In the conference outlook for agricultural markets in 2013 by the Institute of Policy and Strategy for Agriculture and Rural Development (IPSARD) in Hanoi, Ms Nguyen Thi

Xuan Thu – Vice Minister of Agriculture and Rural Development of Vietnam, said that in 2012, Vietnam's economy still faced difficulties, agriculture continues to be the cure for the economy. In the upcoming years, agriculture is going to remain an important factor, contributing to the socio-economic development of the country (Xuan, 2013).

Being aware of the significance of agriculture development for the context of country, Vietnam's government has concentrated remarkably on education for this sector in recent years. There are a number of universities or educational centers majored in agricultural fields to set up human resources for this key sector (VGP, 2006).

This thesis aims to acknowledge the effectiveness of agricultural higher education in Vietnam, hence, find out suitable solutions to increase quality of education in agricultural sciences in particular, and to improve agriculture sector of the whole country in general.

2. Literature review

2.1. Country profile

2.1.1. A brief overview of Vietnam

Vietnam, officially called the Socialist Republic of Vietnam, is located in the Southeast Asia region, which has the border with China in the north, the South China Sea in the east, Cambodia in the southwest and Laos in the northwest. The population of Vietnam in the year 2014 was estimated 92.5 million with 54 different ethnic minorities, Kinh ethnic accounts for over 87% of the population (WPR, 2014).

Vietnam's land area is 331,212 square kilometers and is divided into seven regions: the Northern Uplands, Red River Delta, Central Coast, North Central, Central Highlands, Southeast and Mekong River Delta. This country includes 61 cities and provinces; in which the capital is Ha Noi, a city located in the North of Vietnam (GSO, 2015).

Vietnam's climate is different among three main zones: the North, Central and South of Vietnam. In the North of Vietnam, the weather is humid and subtropical, while South Vietnam has a tropical one around the year. As for the Central, the climate is between these two features of two regions (Yu et al., 2010).

The official language in Vietnam is Vietnamese, which adopting somehow elements of Chinese language, called Han – Viet (Chinese – Vietnamese). Nevertheless, throughout the time, the language was "Vietnamization" by French and other languages, creating a diversity of vocabulary sources for Vietnamese (Herod, 1987).

The currency of Vietnam at present is Vietnam Dong (VND), one US dollar is equal to 21,500 VND according to the exchange rate at the beginning of 2015 (SBV, 2015).

2.1.2. History of agriculture in Vietnam

Agriculture and forestry manufacture is the most important sector to the development of Vietnam, with many fluctuated changes from the years of national reunification in

1975. A strong growth of agricultural production was recorded in 1976 - up to 10 % compared to 1975 - but the production also decreased to 95% in 1976, 1977 and 1978 and a significant recovery in 1979 (Herod, 1987).

Crop and livestock made up for the lack of agriculture in this period. For instance, approximately 8 % increase in livestock production in 1977 to balance the 8 % decline in crop production (mainly as a result of one million tons of rice fell down during the season). In 1978 the results were reversed: the phenomenon of animal production plunged away with signs of grain production began to increase. Value of crop production took more than four times the output of cattle at that period of time (Mazoyer and Roudart, 2006).

One of the most difficult issues for Vietnam agriculture was erratic weather, typically drought took place in 1977 and the storms and floods of 1978. Drought as the water exceeded standards necessary plant, which made them die. Besides, a lot of floods caused reduction in the number of animals down to 20 %. The statistics of Vietnam was not publicly reporting the number of cattle down to the specified target sets in 1978 and 1980. Through the plan was seriously wrong at the end of 1970s and the decline has slowed in agriculture. And also the topic of chemical fertilizers, pesticides, and some mechanical tools is still missing in Vietnam (Coxhead et al., 2010).

Agricultural Policy published from 1976 to 1980 has achieved both good and bad results. The standards of encouraging more crops plantation with high yield (tomatoes, cassava, beans, and corn) led to the growth of less than 10% in 1975 and continued to increase by 20 % in the late 1970s. The plan encouraged farm workers in 1978 and 1979 including trying to increase the number of consumer items in rural areas and trying to expand the price. Government's policy enforcement by making promise contract was certainly profitable for those involved in the production of agricultural investment. However, the high officials did not have the ability and lack of supply for agriculture leading to the failure of policies.

Around 1976 and 1980, the new government conducted the agriculture policy in the North of Vietnam in the effort of mastering the plan of agricultural crops and

plantation. The loose control in policies during the war years led to more stringent in order to increase the number of employees to get to the other obligations and led to reduction in worker productivity as well. One Vietnamese overseas person did a survey of 10 rice production cooperatives recognized that, despite rising labor and sown area in the years 1975, 1976 and 1977, the output fell down while costs increased compared with the years from 1972 to 1974. Even without taking into account the weather and other factors, these findings were unchanging with the conclusions of other studies on the effects of collective goods model in other countries (Herod, 1987).

Capital investment for agricultural country in the third year of the 5 - year - plan was still at a low level and the district faced significant difficulties during the 5 - year - plan for 1986 to 1987. Only rice production increased by 5% annually. Although the amount of food sufficient to meet the needs of population growth of 2.3% in the year 1980, it was still not enough to increase the average number of sales per year for each person higher than the amount of 300 kg. According to the Vietnam government, in 1986, the farmer family must devote 80% of their income in exchange for the food they needed.

In conclusion of the third year during the 5-year plan, agricultural production was still lower than that requirement, therefore, Vietnam government moved to exploiting other resources to further support the industry. In 1986, agricultural income kept steadily at about 44 % of national income (the amount needed for national growth up to 10%). Agriculture accounted for approximately 66 % labor force of the whole country - higher than those in 1976 and 1980. The worst case was still the fact that average productivity per farm workers (in agriculture) declined during the renovation, much lower than the growth of workers (in the industry). In 1980, three farmers only received income equal to a worker and a worker in 1985 produced 6 times more than farmers (Coxhead et al., 2010).

In December 1986, Vo Van Kiet, Chairman of the Council of Ministers and the Prime Minister of Vietnam, highlighted one of the main problems of the agricultural sector in Vietnam in his speech during the session of the Twelfth parliament seven. While referring to the achievements of marine and forestry, he noted almost all agricultural workers - about 80 % of all agriculture - has failed to achieve plan goals for 1986. He

blamed the Council of Ministers, the State Planning Commission, Ministry of Foreign Trade for the failure of the security issues "material" (Foundations to ensure adequate fertilizer and pesticides) for the development of agriculture. He blamed for the price of the system due to a bunch of allowing the "industrial crops" Vietnam's exports include sugar, jute, tea, peanuts, coffee and rubber. Additional output levels for crops, corn, tomato and cassava have been reduced in a few years, both related to the objectives and the output. It was unusual that cattle production (chickens, cattle and pigs) was reported by the government to be continued to develop to achieve goals, ignoring the price instability and the lack of food for cattle (Herod, 1987).

2.1.3. Overview of current agriculture situation in Vietnam

In spite of the weakness in the operations and policies for the agriculture, it is undeniable that agriculture is considered as the most important sector in the economy of Vietnam. To be specified, it was reported that agriculture accounts for about 20% of the GDP of Vietnam in 2012. However, agriculture's share of economic output declined in recent years, while other economic sectors increased. The contribution of agriculture to create jobs is greater than the contribution of this sector to GDP. Agriculture employs about half of the population of Vietnam; moreover, it is also the major source for raw materials in the industry and a big contributor for exports. In 2012, approximately 50% of the workforce was employed in agriculture, forestry, and fisheries. Agricultural production accounts for about 33.2 % of exports in 2012 (Thang and Linh, 2014)

Figure 1: Share of Agriculture in the GDP of Vietnam (2001 – 2012)

(Source: VN GSO, 2014)

The liberalization of agriculture production, especially rice production, has helped Vietnam to become one of the largest countries in the world rice exports (2013). In addition, the other important agricultural products are coffee, cotton, peanuts, high rubber, sugar, and tea (Coxhead et al., 2010).

2.2. Education system in Vietnam

Educational development in Vietnam is targeted to enhance general knowledge, give trainings to the workforce and foster talented people in order to achieve the State strategy of "Rich people, strong country, civilized and equal society".

The aim of education and training in Vietnam is to raise people's intellectual ability, training manpower, preparing a pool of workers full of knowledge and skills to contribute to nation development process. On the other hand, educational methodology should be linked with requirements of socio-economic development, applied scientific – technological advances and towards the national defense and security. (WDE, 2011).

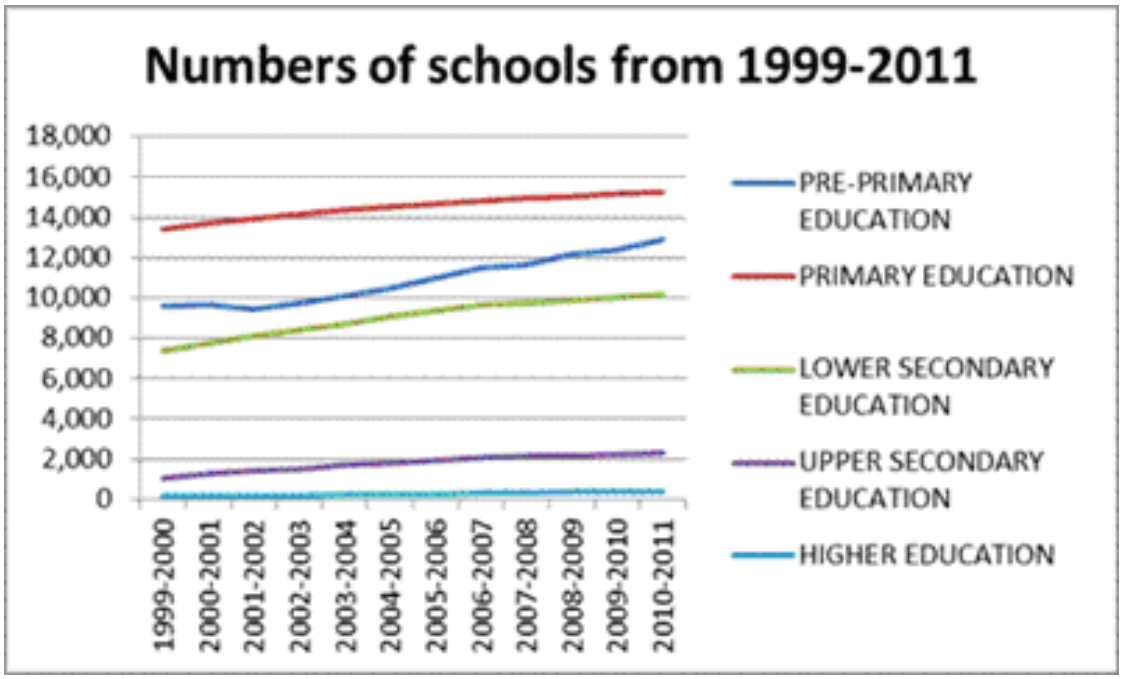
2.2.1. Current national education system in Vietnam

The national education system is divided into 5 major levels:

- Pre-primary education is provided with a network of nursery and kindergartens for kids from 18 months to 5 years of age, this level of education is not compulsory.
- Primary education is compulsory for 6 – year – old children and takes for 5 years, from grade 1 to grade 5.
- Lower secondary education (or secondary schools) lasts for 4 years and provided for students from grade 6 to grade 9.
- Upper secondary education (or high schools) takes learners 3 years, from grade 10 to grade 12.
- Universities and colleges, with the programs of bachelor, master and doctoral degrees provide higher education.

Formal education consists of 12 years of basic education (5 years of primary schools, 4 years of secondary schools and 3 years of high schools). Students reach the age of 18 when finishing this process of basic education, and then they can choose whether to continue higher education or work. The other choice for them is to participate in vocational schools for a short period of time (6 months to 2 years) before starting to work (OECD, 2010).

Figure 2: Numbers of schools in Vietnam in the period 1999 – 2011



(Source: IRED, 2014)

Schools in Vietnam education system are officially organized in 3 forms: public schools, private schools and people – funded schools.

2.2.2. Administration of the education system

Before 1987, the period of Renovation in Vietnam, there were 3 agencies sharing the responsibilities for educational services in Vietnam: the Ministry of Education, the Ministry of Higher and Secondary Technical Education and the General Department for Vocational Training. After Renovation landmark, from 1990, the Ministry of Education and Training (MOET) is the highest authority for managing the Vietnam education system, its main responsibility is planning and directing national education system. The Department of Vocational and Technical Education is responsible for vocational and technical education of the nation. The Centre for Curriculum Development and Methodology of General Education deals with curriculum research and development throughout Vietnam (WDE, 2011).

At the level of 61 cities and provinces, there are Departments of Education and Training, which are responsible for supervising schools and education issues within the region. These departments are under the control of the MOET and regional People's Committee. The Vietnam government also founded the National Council of Education as an advisory part for policy making and planning for the development of education. The MOET, the National Committee for Literacy, the Committee for Child – Care and Protection cooperate together for implementing National Plan of Action for Education (MOET, 2015).

2.2.3. Higher education in Vietnam

Higher and tertiary education has played a crucial part in modern economies nowadays, as the demand for skills has been grown dramatically. Employment opportunities for higher educational graduates increase, leading to the enrollment at tertiary level in Vietnam has gone up significantly over the last decade, with national gross enrollment ratio rising from 10% in 2000 to 16% in 2005, and to 25% in 2013 (Clark, 2014).

After 12 years of basic education, students may continue their study through tertiary education; the time period for bachelor degrees is 4 years, for master is 2 years and for doctoral degree is from 3 to 4 years. Admission to the university is restricted for students who pass high school graduation exam and then pass the national university entrance exam.

Universities in the top list receive the highest number of applicants; therefore, the score requirement for the entrance exam is high as well, which means most competitiveness. Tertiary education is offered at three main categories: multidisciplinary universities, senior colleges with narrow teaching concentration, and institutes, which provide narrow disciplinary focus, but with specialized research capacity (Clark, 2014).

2.2.4. Agriculture education in Vietnam

A strong agriculture is a key of economic development within a country; vice versa, agriculture productivity depends on education system and researches of scientific agriculture on a broad scale (Eicher and Haggblade, 2013). Being a country of agriculture, Vietnam government has invested significantly in agricultural education with several major universities specified in agriculture: Vietnam National University of Agriculture (the new name of Hanoi University of Agriculture), Thai Nguyen University of Agriculture and Forestry, Hue University of Agriculture and Forestry, Can Tho University and Ho Chi Minh city University of Agriculture and Forestry. Besides these major universities, agriculture is taught in some departments of many universities as well. Main majors taught in agriculture education of those universities are Plantation, Animal, Food Technology, Food Chemistry, Biology Technology, Environment Resources, and Agriculture Studies. In addition, with the taste of studying Economics and Finances in recent years to catch up with the modern trend of social development, these universities open some other departments such as Finance, Accounting, Economics and Information Technology to have a variety of choices for new students and to attract more students for the universities. However, the effectiveness of these new studying departments is still weak due to lack of qualified staff, equipment and teaching experiences in the new studying majors (VEF, 2007).

Vietnam government is also highly aware of the importance of agricultural education and has remarkable changes and investment in this sector; however, there are still a lot of obstacles and difficulties to achieve successes rapidly due to its shortages. The most popular methodology of teaching in those agriculture universities is presenting lessons for students and students remember lessons automatically, which is not a good way for students to raise their critical thinking in study (VEF, 2007). However, it is not easy to change this way of teaching method because of the shortage in teaching experiences and the overload number of subjects that students must study in their frame of study.

On the other side, the studying and teaching frame is regularly applied automatically the same in all study programs without any differences in local level. There is a fact that each region in Vietnam has a different feature of geography, land, climate, natural

resources, therefore, the education to each place needs to be suitable for the characteristics of that area, so that students can apply their knowledge and skills to their hometown. Each university should set up their own study program with a general frame, which makes programs more flexible and applicable to regional level.

Infrastructure and equipment play a very important role in the quality of education and training, especially for agriculture sector which needs a lot of experiments to do research. However, with the situation of Vietnam nowadays, there are not many funds or money for the studies as the economy is in a weak level and investment is not available. As the result, students are in need of equipment and tools for their purpose of studying and researching, which reduces the quality of education process in general (VGP, 2006).

The lack of money causes weakness in infrastructure, equipment and studying resources; besides, low teachers' salary is a matter of difficulty in attracting excellent people studying abroad to devote in national education. Teaching quality is a key to the success of studying career; however, there are not many teachers are trained well to have an excellent methodology, leading to low results of students when graduating (VEF, 2007).

Those shortages are not only the problems of Vietnam but also the issues of many developing countries all over the world because of their weak economy in comparison with the rich countries. The poor nations now are still based on the help and investment from foreign countries; therefore, it takes time to have a significant progress in agricultural education campaign. However, the concentration on agricultural education and training of Vietnam in particular or other developing countries in general is really good news for the citizens because it means that government at the moment is clearly aware of the significance in investing in human resources for the key sector towards an agricultural country like Vietnam. The issue now is only finding out weaknesses in education programs and enhancing positive solutions for the best achievements (VGP, 2006).

3. Objectives

There is a fact beyond doubt that agriculture has been always considered as one of the most important economic sector worldwide and nationwide. Furthermore, to be more precise, agricultural based country such as Vietnam, this sector has played an essential part, which contributes to the export quota and the Gross Domestic Products (GDP) annually (Khoi, 2008). Therefore, educational institutes for this particular sector has been established since the 1950s of the last century in order to study, research various majors in agricultural fields from Agronomy, Animal Science and Aquaculture, Environment, Veterinary Medicine, to Biotechnology and several others related. Additionally, it is the major target of those training institutions that to provide competent and effective labor force who work in agricultural related fields.

However, there has been raising critical issues including shortage of skillful and well-trained labor and the increasing unemployment of graduates from agricultural training institutions in agricultural field. Especially, after entering WTO in 2007, the productivity of agricultural industry has been fluctuating without proper practical and feasible solutions due to the ineffectiveness regarding to the training programs which has currently existed in training institutions (Vinh, 2013).

Thus, the overall objective of this thesis is to examine the current issues that are being occurred within agricultural higher education in Vietnam (the research objects would be randomly selected in 5 particular universities which are listed in previous part), which can be divided into specific objectives below:

- To investigate and analyze the performance and quality of students in 5 chosen universities regarding to their priority of choice, agriculture understanding, career and orientation, and expectations.
- To identify opportunities and challenges for 4 research target groups including students, graduates, teachers and employers, hence to have solutions for improving the shortages of acquired knowledge and skills for learners.

- To determine main requirements for graduated students from employer’s point of view.
- To scan through and revise the expectations and recommendations of 4 groups in order to come up with possible solutions for improving agricultural higher education performance.

Furthermore, from time to time in the research process, there appeared the proposed hypothesis that "There is a relationship between teachers' satisfaction at work and the effectiveness of agricultural education", in simple word, the more teachers are satisfied and happy at work, the more effective the training program will be.

4. Methodology

4.1. Research approach

The main objective of the research is to clarify the current critical issues of agricultural higher education regarding to five criteria including: priority of choices, satisfaction of research objects (students, graduates, teachers, and employers), and level of understanding about agriculture, career/orientations and recommendations.

The first step was to find out which universities are majored in agriculture education and what kinds of study programs they offer for students. The information about lists of agricultural education universities and study programs were found from the official webpage of the Ministry of Education and Training and detailed information from each university's webpage. Secondary data connected to agricultural education were found in different literature and scientific articles. The research uses information from some major sources such as (i) the article "The Evolution of Agricultural Education and Training: Global Insights of Relevance for Africa" by Carl Eicher and Steven Haggblade (2013); (ii) the book "Vietnam: A country study" by the Library of Congress, United State government (1989); (iii) the report "Observations on the current status of Education in the Agricultural Sciences in Vietnam" by the Vietnam Education Foundation (2007).

Table 1. List of Universities participated in conducting survey

Number	*Name of survey-conducted universities*
1	Vietnam National University of Agriculture
2	Thai Nguyen University of Agriculture and Forestry
3	Hue University of Agriculture and Forestry
4	Can Tho University
5	Ho Chi Minh city University of Agriculture and Forestry

The second step was to collect primary data from Vietnam. The questionnaires were designed as a tool for data collection. List of questionnaires was prepared for 4 different groups:

1. Students who are studying in agriculture field (current students)
2. Students who have graduated from agriculture major (graduates students)
3. Teachers who are teaching in agriculture universities
4. Employers in agriculture field

All respondents are coming from the universities mentioned above. Questionnaires were distributed and fulfilled directly to the conductor and also fulfilled online through the sending of email contacts.

Additionally, the deductive approach has been chosen to conduct the research, which can be referred to proposed hypothesis that explain the causal relationship between the concept of ineffective agricultural higher education and the variables such as: students' performance, students' engagement, students' satisfaction, teachers' satisfaction factors, and the expectations from students, graduates and teachers.

4.2. Data collection

The main research method for the survey was based on collecting primary data. The data were collected through questionnaires, which were conducted among 5 universities and personal meetings with some employers in agricultural field. The preparation of the survey and seeking for interviewees took place from April 2013. The first data collecting process was carried out for 7 weeks from the end of June to middle of August 2013. The second data collecting one has been carried out from middle January to middle March 2015.

The questionnaires were delivered to 234 people in total, however, there were only 80% responded (188 persons including 132 current students, 28 graduates, 15 teachers and 13 employers in agriculture employment field).

Table 2: Number of respondents in each university

Name of universities	Number of students	Number of graduates	Number of teachers
Vietnam National University of Agriculture	55	12	8
Thai Nguyen University of Agriculture and Forestry	32	6	2
Hue University of Agriculture and Forestry	19	4	1
Can Tho University	9	1	1
Ho Chi Minh city University of Agriculture and Forestry	17	5	3

4.3. Sample collection

The students and teachers for the survey were selected according to universities that were willing to participate in the research. The graduates and employers were chosen according to the introduction of universities and students as well. Most of selected people had a cooperative attitude towards survey maker and they responded in a positive way to support the research.

4.4. Questionnaire

The survey included 56 questions and was divided for 4 groups of interviewees. The questionnaire used two types of question: close-end questions that limit respondents with a list of available answer for interviewees to choose. These questions were in form of Yes/No questions or multiple choice ones. The second type of questions was open-ended ones to get different ideas from the respondents and achieve the valuable information from them.

(1) Questionnaire for current students: the first part was getting basic information about that student, the study program he/she is taking. The main part was student's evaluation about infrastructure, teaching quality and the last part was their opinion about the prospects after graduating.

(2) Questionnaire for graduated students: starting with their basic information about what they studied in the past and what they are doing now, their evaluation about agricultural education and suggestions for that system.

(3) Questionnaire for teachers: the survey aimed to know teacher's evaluation about the fact of student's quality after graduating, their satisfaction in job, the investment of government and their proposals to make agricultural education more effective.

(4) Questionnaire for employers: the survey focused on how employers evaluate students graduating from agricultural universities/ departments, and their comments about the shortages of graduated students.

4.5. Statistical analysis

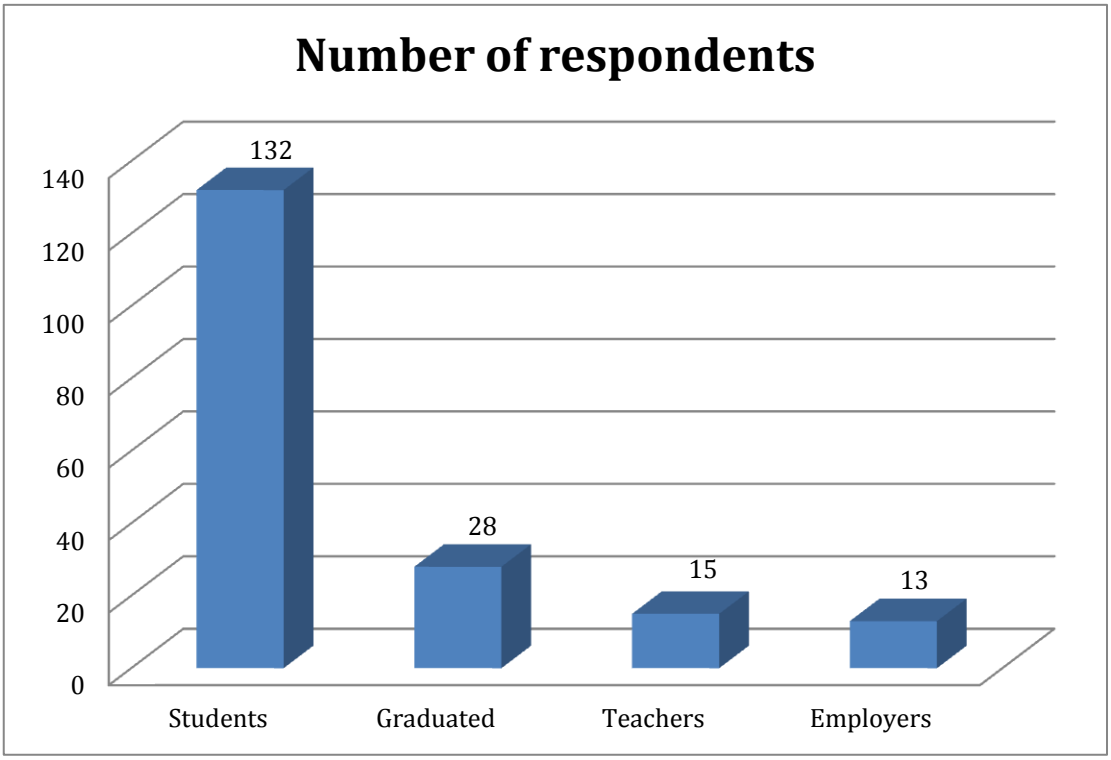
All of the responded questionnaires were collected and evaluated by the LimeSurvey program with the close-ended questions to get general information from interviewees, and open-ended questions to broaden views and opinions of respondents. Specifically, open-ended type of questions was put on special criteria to evaluate separately from close-ended ones due to its own characteristic.

5. Results

The preparation of the survey and seeking for interviewees took place from April 2013. The first data collecting process was carried out for 7 weeks from the end of June to middle of August 2013. The second data collecting one has been carried out from middle January to middle March 2015.

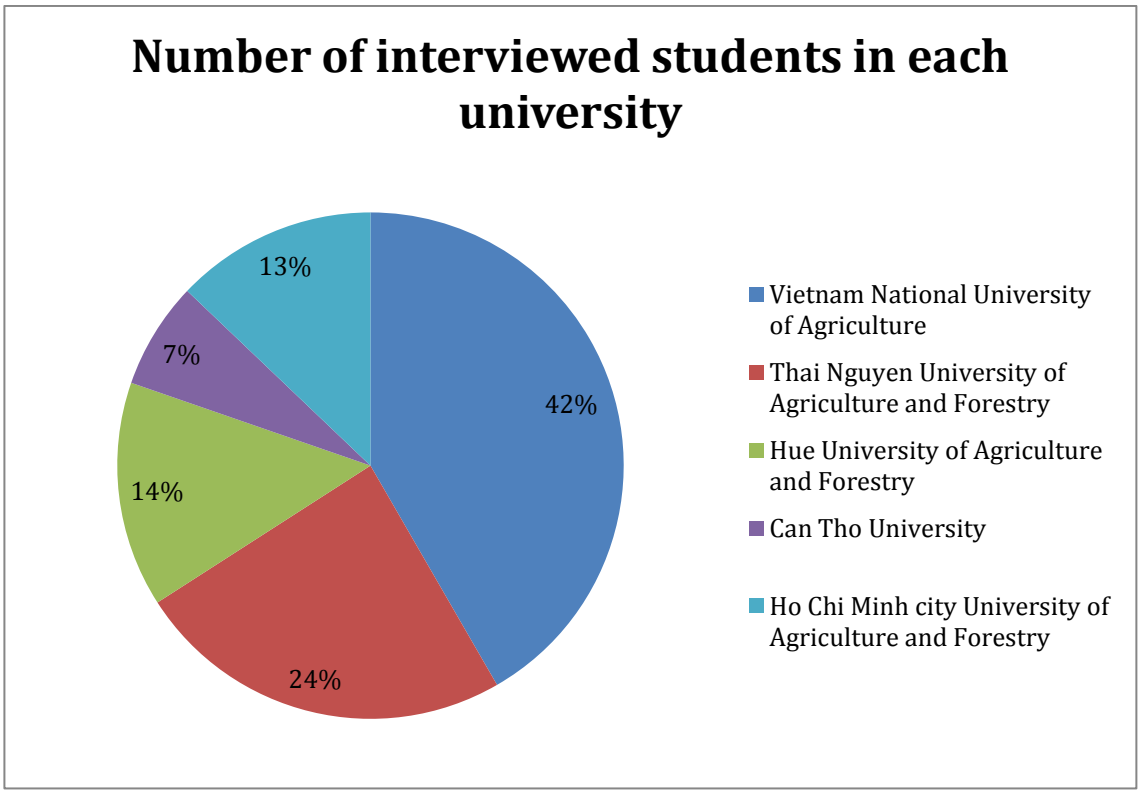
The questionnaires were responded by 132 students, 28 graduates, 15 teachers and 13 employers in agriculture employment field and graph 1 below illustrated the numbers distribution of interviewees in the survey.

Graph 1: The numbers of interviewees included in the survey



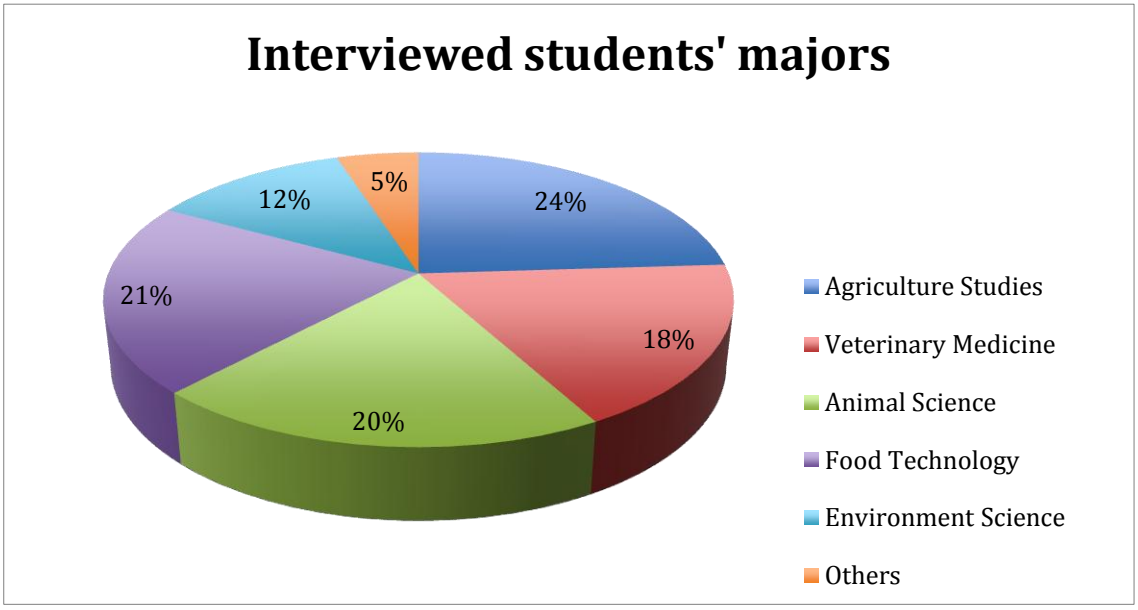
Additionally, graph 2 shows the number of students who were interviewed by specific different universities with the highest number from Vietnam National University of Agriculture (55 students), Thai Nguyen University of Agriculture and Forestry with 32 students, 19 students from Hue University of Agriculture, 9 and 17 respectively from Can Tho University and Ho Chi Minh city University of Agriculture and Forestry. Totally there were 132 students responded in the survey.

Graph 2: The number of responded students from 5 universities



The following question was asking about student's choice of study program, and the result showed that the most popular majors are Agriculture studies (32 out of 132 students chose this major), Veterinary Medicine with 24 students, Animal Science with 26 students, 28 interviewees studied Food Technology and 16 learners studied Environment Science. Besides that, 6 out of 132 students chose other programs such as Land Management, Economics, and Information Technology.

Graph 3: Student's choice of study program

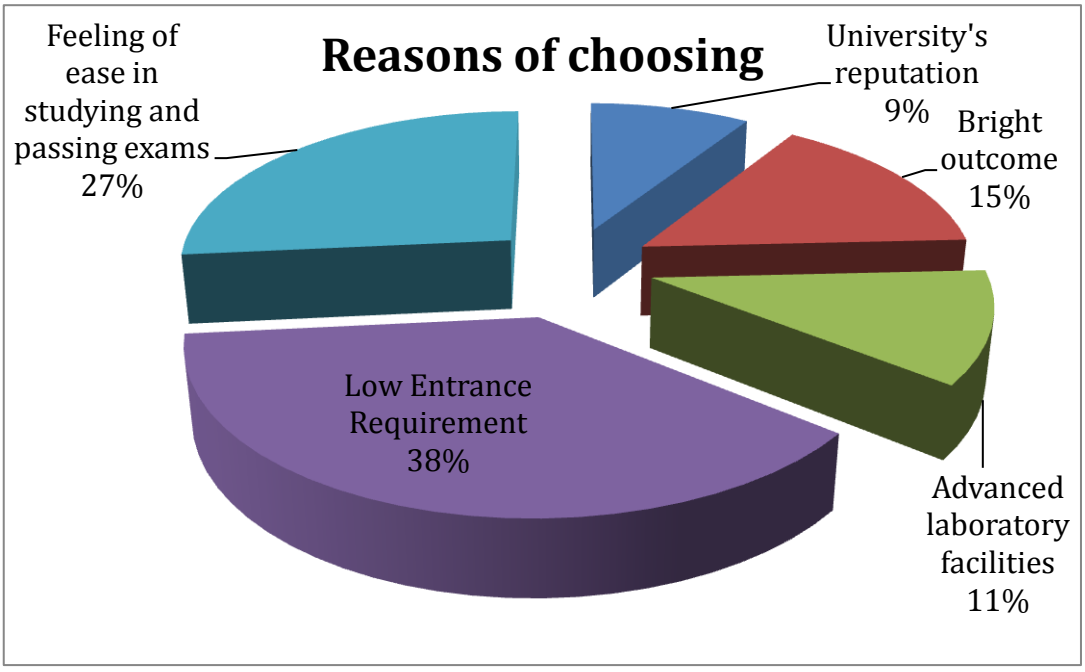


Most of students want to choose popular and traditional programs since they suppose that it would be easier for them to look for a job after graduating with these majors. Agriculture Studies, Animal Science or Food Technology are the departments which require the highest points from the entrance exam to universities of Agriculture in Vietnam due to the high number of enrolled students. Besides that, in recent years, with the increasing widespread of some new majors such as Information Technology, Economics, Finance, these universities of agriculture also open more departments for students to choose with the lower points requirements and less competitive. However, the quality of teaching these new majors are not certified yet, therefore, not many students want to enroll in for the reason of low opportunities for getting a good position after graduate.

Moving further, based on the research about reasons of choosing the listed universities at which current students are learning, it can be clearly seen that the major reasons are "low entrance requirement" and "feeling of ease in studying and passing exams", for example, the required mark to enter the university is rather lower than other universities. Those two major causes reached 38% and 27% respectively which was driven from the fact that 50 out of 132 students claimed that they chose their current universities for its "low entrance requirement" and 35 out of 132 students said they decided to enter universities because of "feeling of ease in studying and passing exams". Those reasons are clearly stated and illustrated in the graph 4 below. The rest 47 students whose reasons including "bright outcome", "advanced laboratory facilities" and "university's reputation" in total reached 35% of student's choosing factors.

Therefore, it is not subjective to say that the reasons of students for choosing universities have affected the engagement of students when they are at schools. Consequently, the engagement of students would be considered as one of the factor to reflect the effectiveness of agricultural higher education.

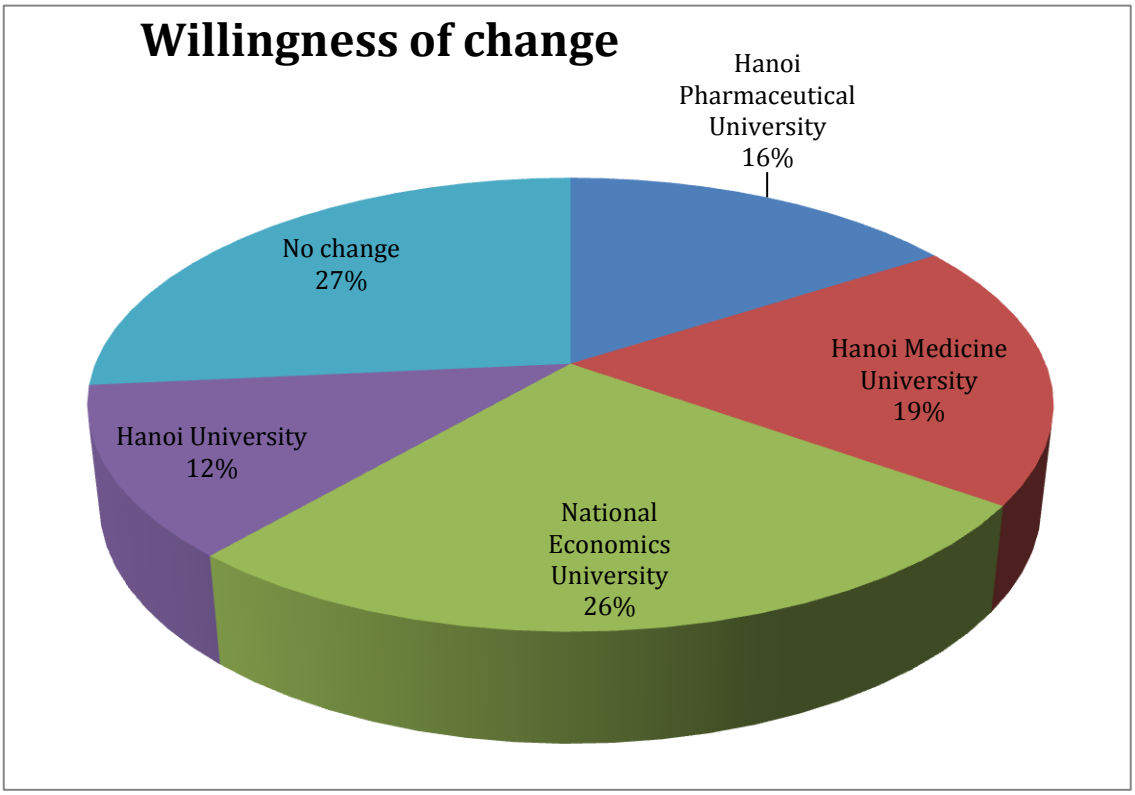
Graph 4: Reasons of choosing these universities by current students



Following the analysis from graph 4, it is illustrated in graph 5 that there is only 36 out of 132 students (27%) will not change their universities. In contrary, the rest 96 interviewed students (73%) stated that if they had had a chance to change their educational institutions, they would have changed, whether to Hanoi Medicine University (25 students), National Economics University (34 students), Hanoi Pharmaceutical University (21 students) and Hanoi University (16 students).

Therefore, it is possible to state that their engagement in that school may not be high then it also affected the effectiveness of agricultural higher education in general.

Graph 5: Students' willingness of switching university if possible



Moving further to the quality evaluation, the research, which was conducted, illustrated the evaluation of three groups about the experimental equipment and facility in the selected universities. It is true that agricultural studies require many practical lessons and experimental learning sessions for students to study further with in depth knowledge and insights about the subjects.

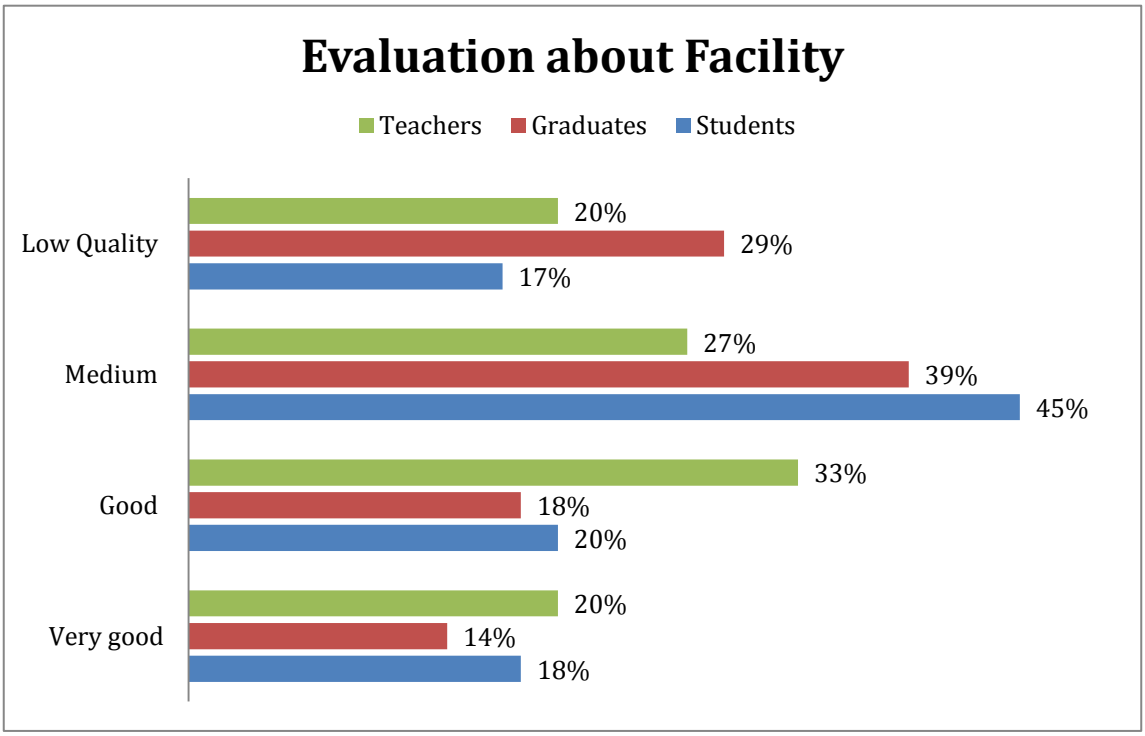
However, it can be clearly seen in the results that the majority of students and graduates claimed that the quality of experimental equipment and facility was at the medium and low quality level.

In students group, there were 59 out of 132 students rated medium and 23 students rated low quality. In 28 interviewed graduates, there were 11 people answered the experimental equipment and facility quality was medium and 8 graduates rated it low quality.

In the contrary, it can be viewed as a positive sign that 50 students rated the facility was good or very good (24 students rated very good, 26 students rated it good). Additionally, regarding to the rating of teachers about experimental equipment and facility in universities, there was only 3 of them rated the facility was low quality, 4 teachers rated medium and the rest 8 out of 15 teachers have the positive comments about experimental equipment (3 people rated very good, 5 people rated good).

In conclusion, the result, which has been found here, would have strong impact on the satisfaction of students, graduates, teachers and their expectations, which are the critical factors in the proposed hypothesis in the objectives.

Graph 6: Evaluation of students, graduates and teachers about facility

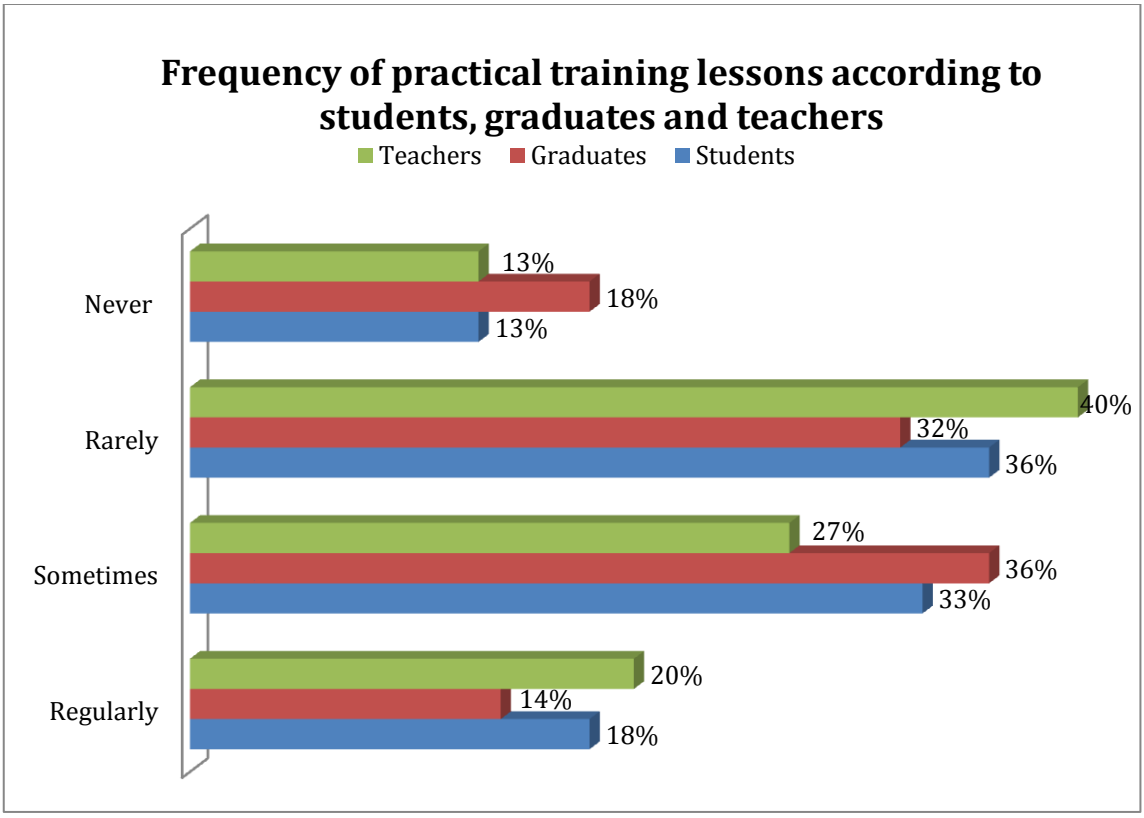


Moreover, scanning the results of how often students are taking part in practical training lessons, the majority of students, graduates and teachers claimed that practical lessons were not even usually operated.

For example in graph 7, the results dedicated that 6 out of 15 teachers said that they rarely took students to practical lessons, 9 out of 28 graduates claimed that they were rarely taken out to the real working field out of class and 48 out of 132 students commented about the rare opportunity to have practical trainings in their study time.

Therefore, the causes of lack practical lessons and low level of practical experiments have been proved to be highly influential to the effectiveness of agricultural higher education as the whole.

Graph 7: Frequency of practical training lessons according to students, graduates and teachers

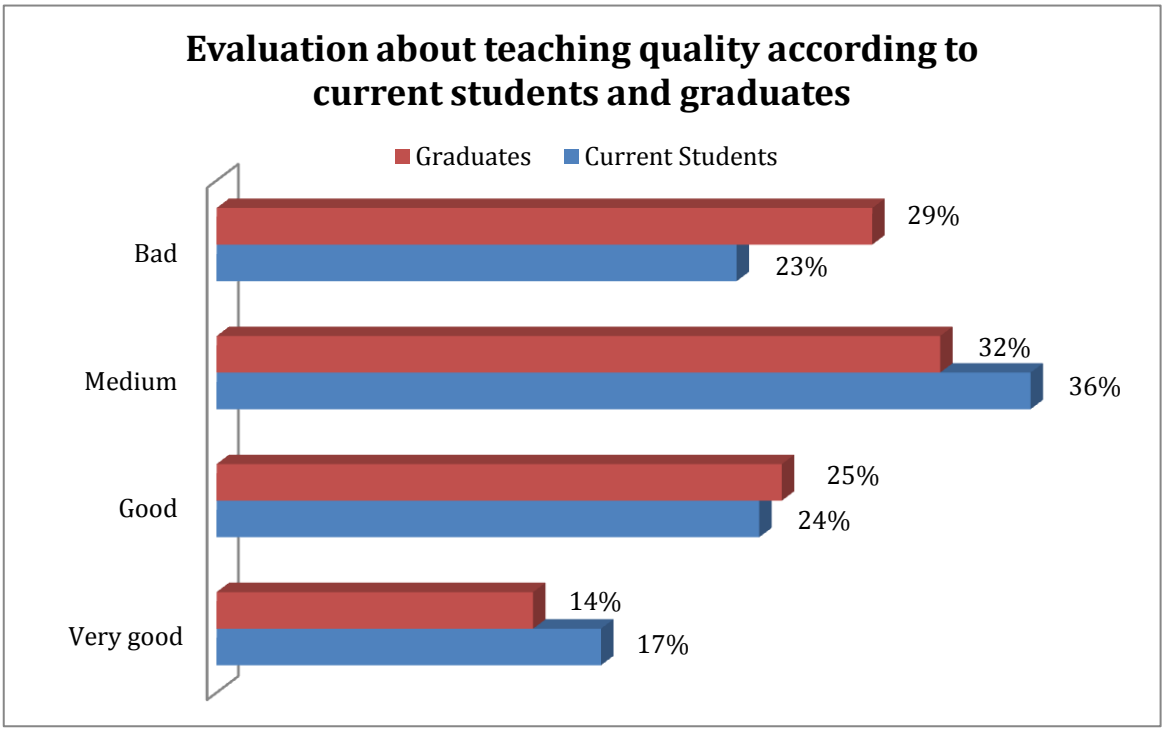


The graph 8 showed the results that were found about the evaluation of current students and graduates about the teaching quality in the universities that they are studying or from which they graduated. It can be viewed without doubt that majority of students and graduates claimed that the quality was bad or medium.

For instance, 48 students rated that their schools are providing medium training quality while there were 9 graduates stated so. Additionally, 8 graduates admitted to receive bad training in education quality and 30 students experienced that also. In the contrary, there were some people stated that the quality of training they have been received was good and very good.

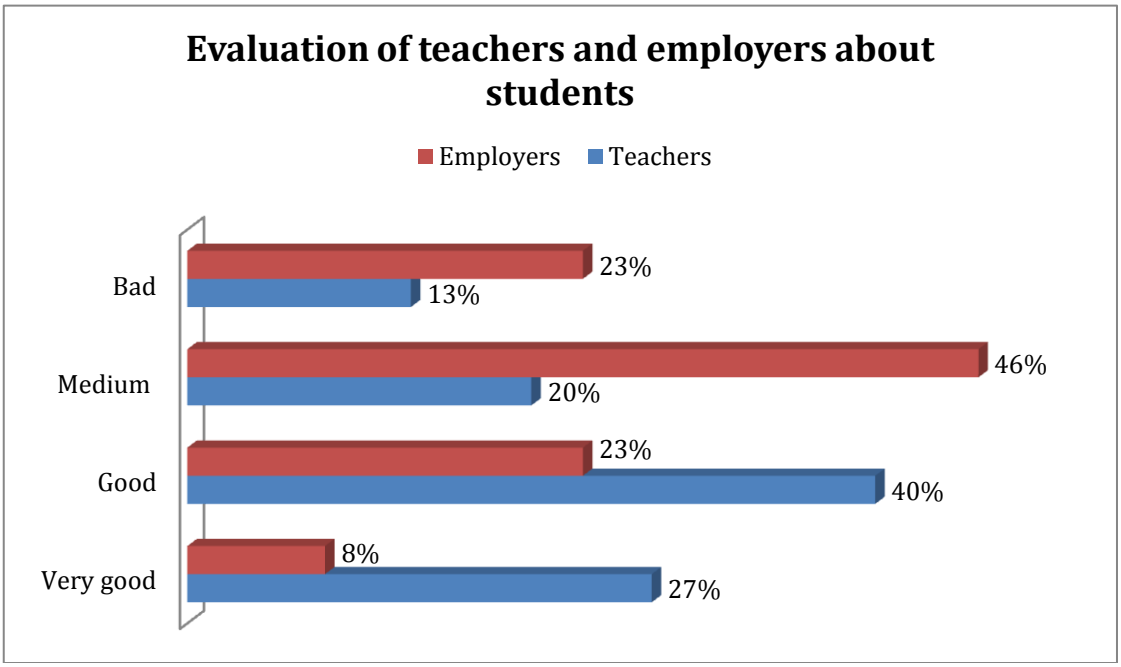
Therefore, the result here can reflect the incompetency in agriculture education and training regarding to the quality evaluation by students and graduates.

Graph 8: Evaluation about teaching quality according to students and graduates



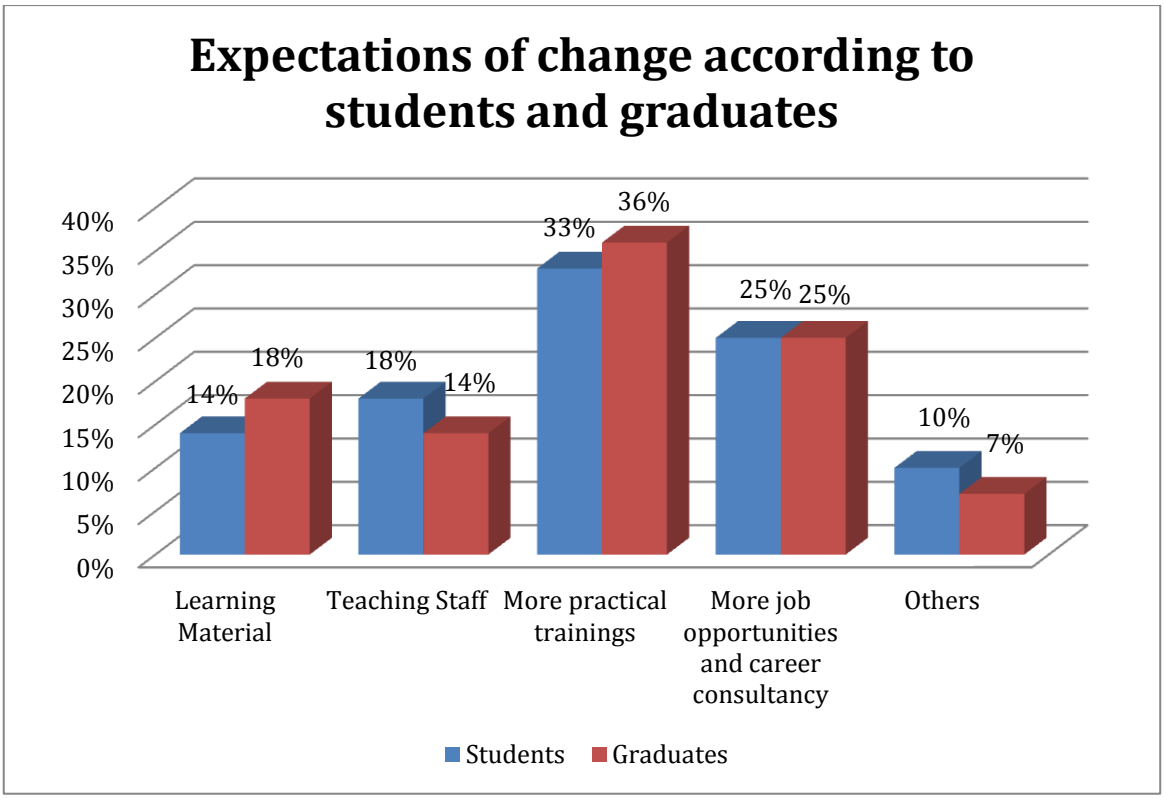
On the other hand, the evaluation of teachers about students' quality seemed to be brighter, majority of teachers (10 out of 15 people) stated that the quality of students and graduates was good and very good (6 people said good, 4 people said very good). However, the rate of employers about students and graduates who are applying and working for them was mainly medium, that were the answers from 6 out of 13 employers.

Graph 9: Evaluation about quality of students and graduates by teachers and employers



Based on the research on expectations of students and graduates, there have been some suggestions and recommendations of changing including: learning material, teaching staff, more practical trainings, more job opportunities and career consultancy and others.

Graph 10: Expectations of change according to students and graduates



The result which has been found that current students seemed to have more demands that needed to be changed regarding to teaching staff (24 students voted for that), more practical trainings (44 students chose that) and more job opportunities and career consultancy (33 students stated so).

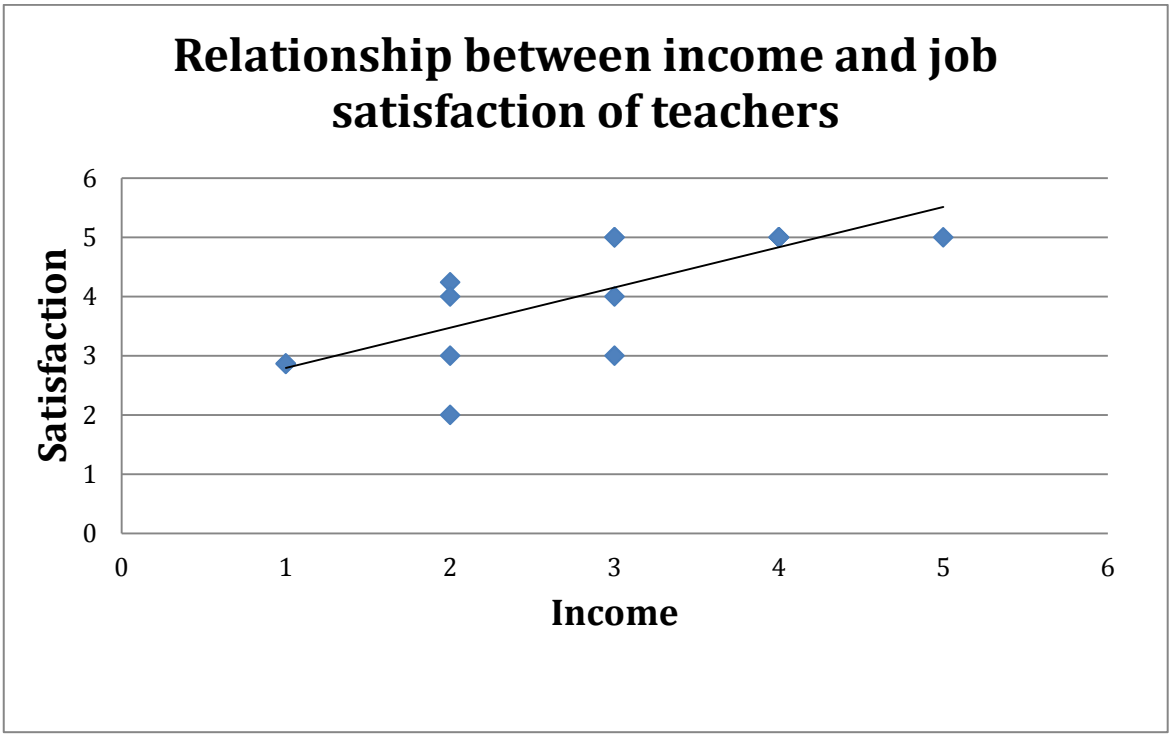
Meanwhile, graduates seemed to witness the changes of learning material, more practical trainings and also more job opportunities. 5 out of 28 graduates thought there should be changes in learning material, 10 graduates wanted to have more practical trainings and 7 people voted for more job opportunities and career consultancy.

To sum up, more practical trainings is the most important aspect that both students and graduates expected to be improved.

TESTING THE HYPOTHESIS WHETHER THERE IS A RELATIONSHIP BETWEEN INCOME AND JOB SATISFACTION OF TEACHERS

According to the objectives of research that was mentioned in previous part, the proposed hypothesis to be tested here "Is there any relationship between income and job satisfaction of teachers?". There is a critical relationship between the teachers' job satisfaction and the performance of them in training, in other words, if teachers are satisfied with their job, their training performance are believed to be much higher and vice versa. Therefore, this hypothesis testing which was conducted in order to find major causes that can affect the job satisfaction of teachers and the indirect influence of those causes to the ineffectiveness of agricultural higher education.

Graph 11: Relationship between income and job satisfaction of teaching staffs



In order to conduct this hypothesis testing, interviewees (teachers) were requested to rate their level of income per month from 1 - 5 scale, in more details the income of teachers has been encoded as below:

1. Less than 150 USD
2. 150 – 199 USD
3. 200 – 249 USD
4. 250 – 300 USD
5. More than 300 USD

Thus the result of income rate, which appeared in the graph, would vary from 1 to 5 and their satisfaction from 1 - 5 accordingly.

1. Very satisfied
2. Satisfied
3. Average
4. Dissatisfied
5. Very dissatisfied

After the hypothesis testing completed, the results above has shown that there is a quite strong positive linear relationship between the income and job satisfaction of teachers.

Furthermore, the similar hypothesis testing about "Relationship between investment and recognition and job satisfaction of teachers" in graph 12 would also proved that there is a positive relationship between investment from authority and recognition and teachers' satisfaction at work and from that, it can be said that the major satisfactory factors of teachers are income, investment from authority and recognition, then these factors contributed to the finding of possible solutions to increase the effectiveness in agricultural education to some extent.

To explain more about how the result in graph 12 was achieved, 15 teachers were asked to rate their satisfaction at work from the scale (1 to 5) as illustrated above, and they were also asked to rate the investment and recognition that they received in scale from 1 - 5.

1. Very poor

2. Not enough

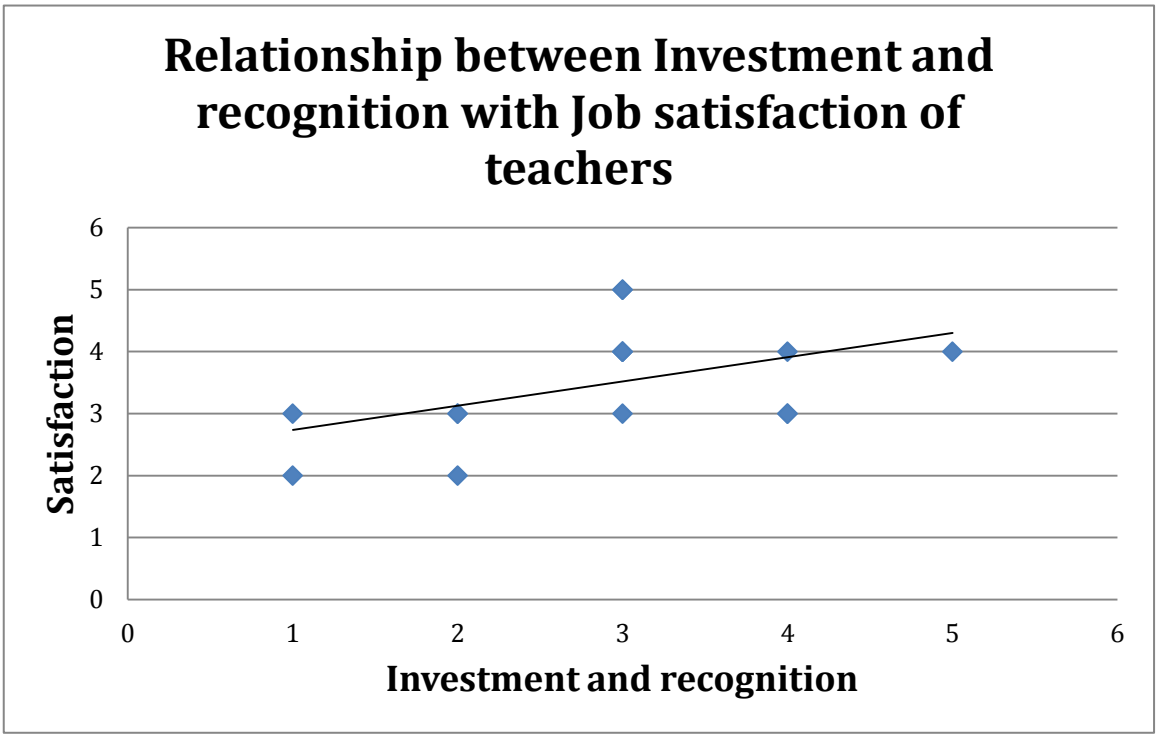
3. Closed to the requirement

4. Sufficient

5. Generous

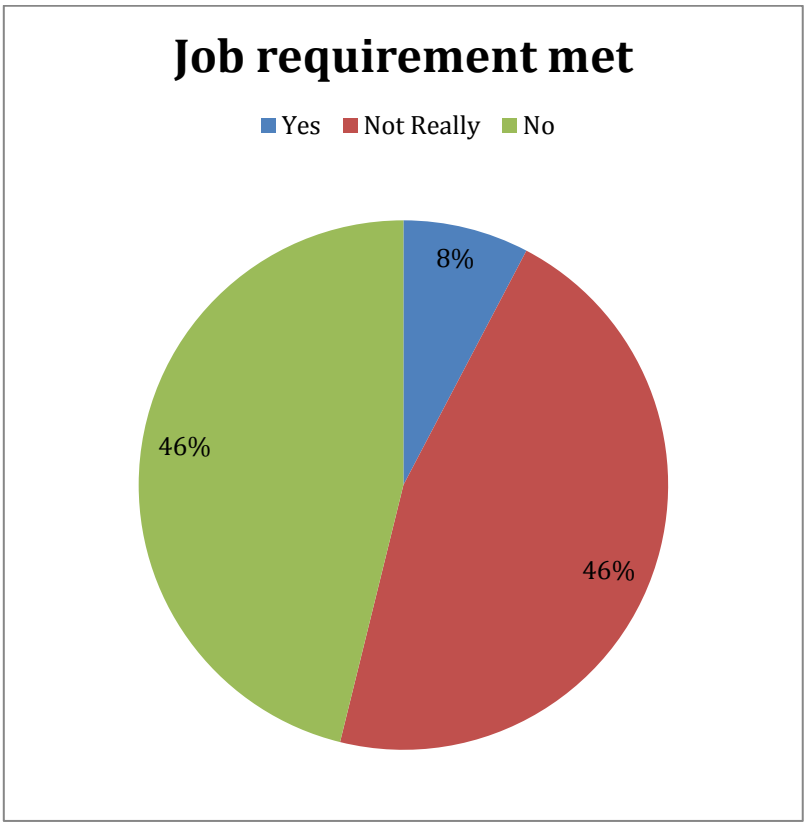
Then, the result in graph 12 dedicated that there is a positive linear relationship between the Investment and Recognition received and the teachers' satisfaction at work.

Graph 12: Relationship between Investment and Recognition with Job satisfaction of teachers



Moving forward to employers group, according to 13 employers who has been interviewed about "job requirement met" of graduates who apply and work for their companies, 6 out of 13 employers claimed that the candidates have not met the job requirements (46%), 6 out of 13 recruiters said that applicants "not really" fit for the positions (46%) and there is only 1 employer seemed to be satisfied with employees who graduated from agricultural education background.

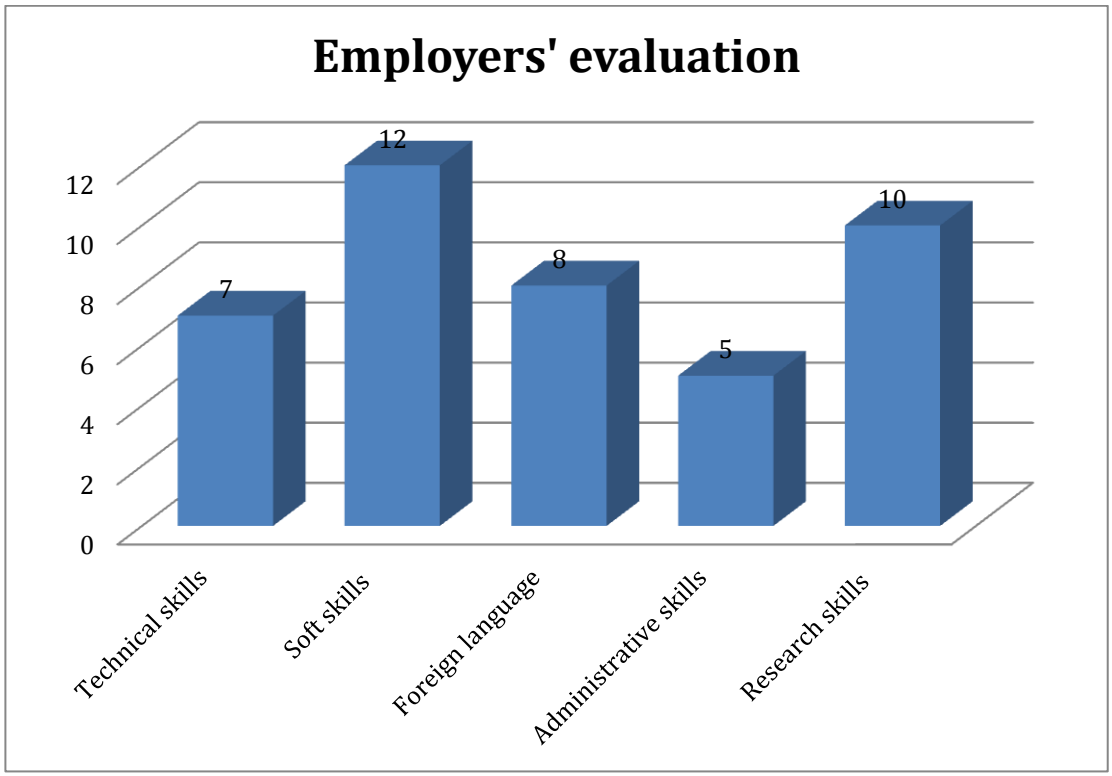
Graph 13: Employer's evaluation about Job Requirement met of graduates



Furthermore, in the total of 13 employers from different companies, 7 people supposed that their employees are not good at technical skills, 12 employers thought students lack of soft skills, foreign language weakness was the idea of 8 respondents, only 5 people said graduates are weak in administration, and research skill shortages were the comments from 10 employers.

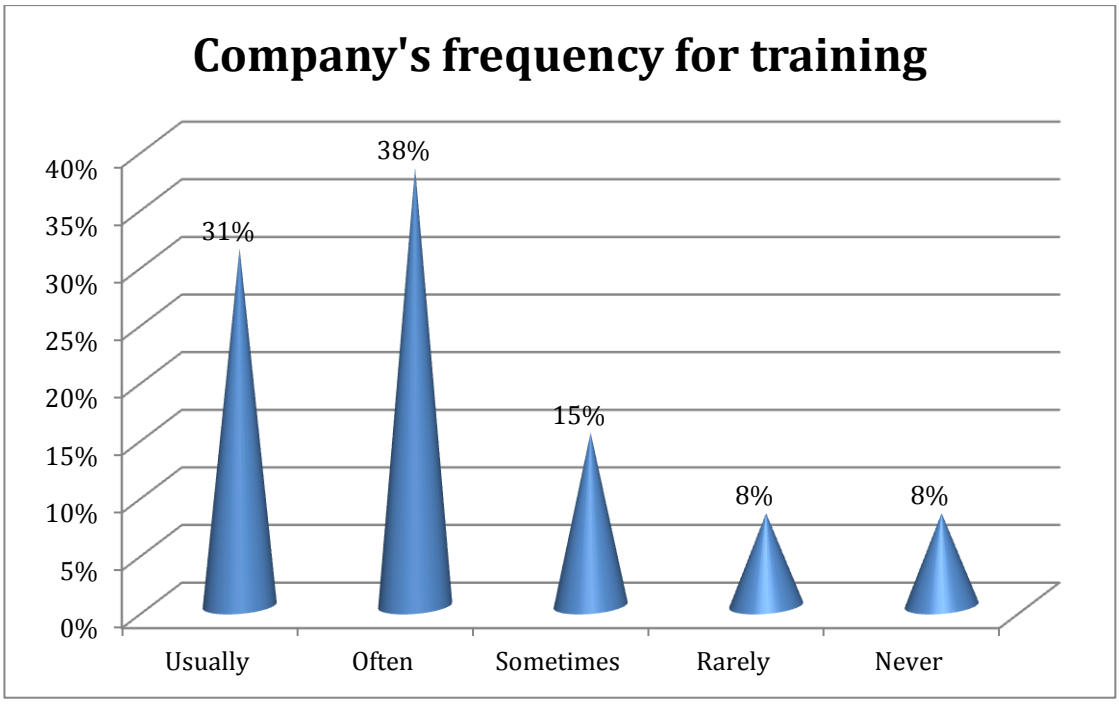
The sharing of employer's view should be the suggestions for universities to more focus on those weaknesses of students, and then find out solutions to improve these shortages.

Graph 14: Employer's viewpoint about weakness of graduates



In some companies, graduates are trained when they start working, but the frequency of training depends on the investment of each entrepreneur in training their new employees.

Graph 15: Employer's shares about their company's frequency for training

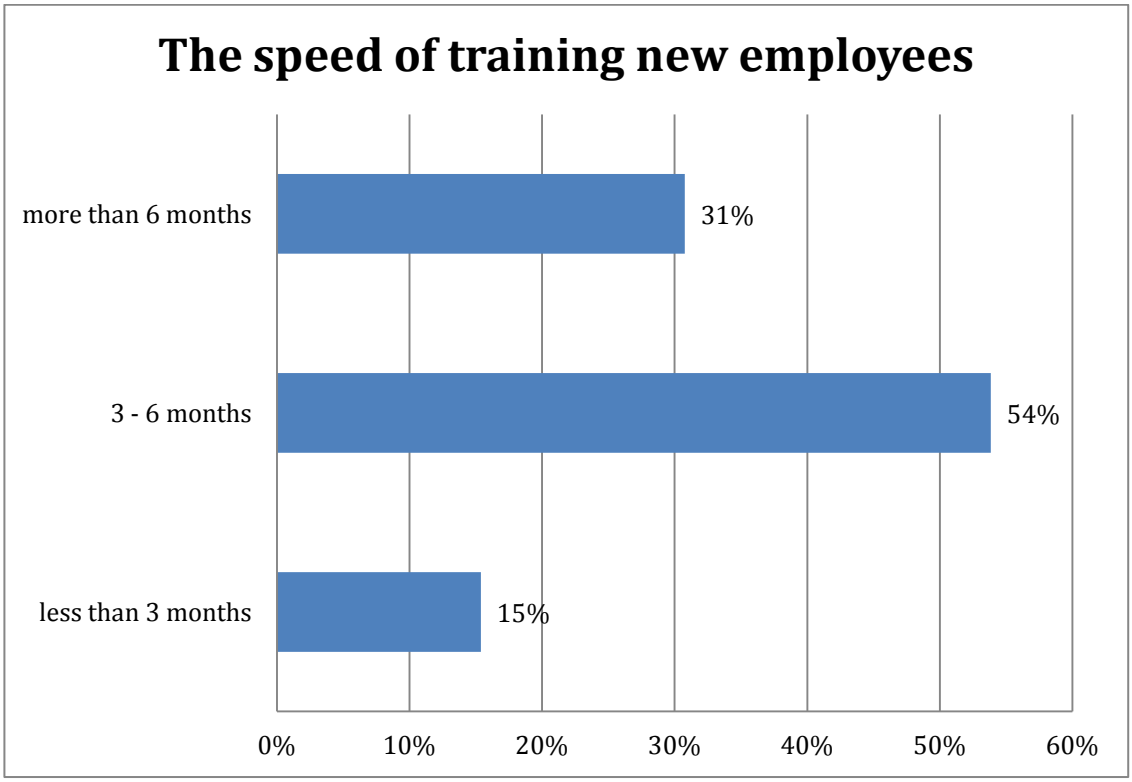


It is positive information for students that almost all of companies in the survey give trainings for graduate when they begin to work for the company. 5 recruiters said that their companies often have training for new employees, 4 people stated they usually give training and 2 employers answered that they sometimes have training in case of necessity. Only 1 interviewed company do not provide any training for employees, which means that candidates would face up to a number of difficulties and obstacles if they want to be employed due to strict requirements from the companies.

On the other hand, the length of training also illustrated the ability and quality of employees. In graph 16, according to the employers, 4 out of 13 employers stated that it takes more than 6 months to train new employees, 7 employers considered 3 to 6 months, and only 2 employers said the length of training new employees is less than 2 months.

From the result which is shown in the graph 16, it can be translated that majority of employers considered to be time consuming to train new employees even if they were from specialized training institutions in the agricultural field.

Graph 16: The length of training new employees



6. Discussion

In accordance to the results and findings above after analyzing the collected data, it was summarized that the agricultural education activities in five selected universities of Vietnam was not effective at all, which was measured by (i) the little engagement of students into their choice of study, (ii) the poor investment in facility and experimental equipment, (iii) the lack of practical training lessons for students, (iv) low satisfaction of teachers in their job and (v) the employer's time – consuming for retraining new graduates. Since then, there would be some learnt lessons from other countries which could be applied to improve the effectiveness of agricultural higher education of Vietnam and also develop the agriculture situation of the whole country.

6.1. Japan's agricultural transformation

In 1872, Emperor Meiji decided to import agricultural technology from Western Europe and the USA in order to raise domestic food supplies, which aimed to stabilize the cost of living for Japanese workers. To use up effectively the technology borrowing, authorities of the country visited Europe and the USA for 22 months; as a result, they got full of information and they learned a lot from the farming system, mechanized farms and experiences from these countries. When they came back, Japan began to launch the "technical superiority of Western agriculture and the use of fertilizer and machines", the government set up a research center for agriculture to test new products and farm equipment borrowing from the foreign countries (Eicher and Haggblade, 2013). On the

other hand, government sent students to study abroad in advanced nations to attain more knowledge applied for their home country.

In 1893, Japanese government founded an experiment station for national agriculture with six agricultural colleges which were based on technology developed for American farming, however, this experiment failed due to the differences in average size between American and Japanese farm. Since that failure, the Ministry of Agriculture successfully developed a new strategy focusing on growing up yields on small farms by applying chemical fertilizer and improved seeds, which was suitable for Japan's agrarian structure and climate.

Moreover, the government pointed out successful farmers in the country as extension agencies, paying them to go around the country to give trainings and practices for other farmers, persuade farmers in the whole country to join in National Agricultural Association to achieve technical information and exercise political influence (Eicher and Haggblade, 2013).

From the lesson of Japan's transformation in agriculture, Vietnam may follow the strategy of small size farm development for farmers, due to the fact that the average size farm of family in rural areas of Vietnam is not big as well. In addition, Japan government is a good model in delivering political lessons to farmers, through compulsory seeds spreading and collective activities, which put political influence for farmers. Vietnam authorities also need to develop organizational capacity and increase influence towards citizens to improve agriculture in a large scale way.

6.2. The Land Grant University model of the United States

Land Grant colleges or universities are institutions of higher education, which have been established by the State to receive the benefits of Morrill Acts of 1862 and 1890.

The key component of this system was the creation of agricultural experiment station program in 1887 by Hatch Act. This act authorized money of Federal grant funds to each state to designate agricultural experiment station linked to the Land Grant institution in that area. The Land Grant model integrates financed agricultural education, research and extension in each particular institution, and these three different components would be linked through a political process (Eicher and Haggblade, 2013).

In case of Vietnam, it is difficult to develop such a same system of Land Grant because it requires decades and strong domestic political commitment to implement. In the USA, farmers and agricultural business lobbies have significant influence in political power; they can support and raise funds for agricultural education. In contrast, Vietnam's small farmers have little influence on political issues; therefore, there is almost no political pressure for the public investments into agricultural education. In the future, Vietnamese farmers and agricultural businesses need to raise the opportunities to access political system of agricultural lobbies of the nation.

6.3. India – concentration on agricultural education

The process of changing India from being called a "soft state" in 1968 to a country that has economic growth at the rate of 9% currently and also has grain in storage is from the introduction of State Agricultural University (SAU) originally in 1876. It also followed the USA's Land Grant University model, with the investments in agricultural education, research and extension. In 1920s, India opened the Indian Agricultural Research Institute (IARI) to begin postgraduate agricultural education programs, allowing both Master and Doctoral degrees in major of agriculture. The great contribution of IARI was its education and training to provide human resources to teach in the State Agricultural University, increasing the teaching quality in agricultural education (Mahadevan, 2003).

The next step was creating an India – American team, in which Indian delegation visited the USA under Land Grant Universities contribution to absorb knowledge and experiences. As a result, there was the establishment of at least one State Agricultural University in one state, which aimed to spread agricultural education to the whole nation. To achieve the effectively massive buildup of human resources for agriculture, India sent more than 1,000 Indians to the USA during the 1960s and 1970s for agricultural advanced training. Today, there are 42 State Agricultural Universities in India which link together to set up a national system of agricultural education; most of universities provide postgraduate programs to increase quality of human capital (Eicher and Haggblade, 2013).

India has shown an example of how a poor nation can create a productive and effective agricultural education system from the beginning. To achieve these positive results, it is obvious that India had a lot of support from international organizations such as the Ford

Foundation in funding a large – scale extensions system, the USAID in financing State Agricultural Universities, the Rockefeller in strengthening agricultural research. It is a good experience for Vietnam's government to improve agricultural situation now. According to the results of this thesis, the investment of Vietnamese authorities into agricultural education is still very low, and the attraction of investment from outside is in the shortage. Therefore, Vietnam government should follow India strategy in the process of cooperating with international organizations to get funds for agricultural education, and with international universities to have education and technology transfer.

6.4. Denmark – growth of agricultural education

Historically, Denmark was a successful exporter of butter and grain with the main market is Great Britain. However, the USA's development in transcontinental railway led this nation to become the main exporter of wheat to Great Britain and Europe. As the result, Denmark's butter prices decreased significantly by 15% and wheat prices by 40%, which made the economy of this nation going down (OECD, 2014).

Early investments in rural and agricultural education helped to transform Denmark from a grain-dependent country to an agriculture exporter. In 1814, this nation introduced compulsory education that developed a system of rural and agricultural school, focusing on spreading literacy among peasantry. This strategy enabled farmers to close together to cooperate and develop agribusiness enterprises in 1880s. Moreover, it was emphasized that significant public investments in higher education of agriculture played an important role as well, especially investments in technology (Eicher and Haggblade, 2013).

Denmarks' small farmers are invested in rural literacy, agricultural education, and farmer organizations that help to deliver research, advices so that farmers can follow success of each other.

Once again, the lesson learnt from Denmark concentrates on rural education investments in scientific institutions and technical innovations, that is a shortage in agricultural education system of Vietnam at present. At the macro level, the investments should be supported from the State and cooperation among States. In the other side, at micro level, each university or each faculty of in agricultural education major should engage in cooperative projects, increase coordination with foreign universities or NGOs to have their own investments for the faculty or university in particular.

6.5. Nigeria – performance of the Land Grant Model

In 1960, Nigeria had only one faculty of agriculture education at Ibadan, which basically consider as a teaching institution. After that, the USAID awarded four universities of the USA (Kansas State University, the University of Wiscosin, Michigan State University and Colorado State University) to assist Nigeria to set up Land Grant Universities in four regions and support them to strengthen agriculture extension and research.

The adaption of Land Grant model in the Eastern Region under the support of Michigan State University had been failed in operation step to set up a national system of interactive agricultural support among institutions. In contrast, that adaption in the Northern part of Nigeria in the period from 1960s to 1970s was a success (Eicher and Haggblade, 2013).

In 1962, Ahmadu Bello University (ABU) was established at Zaria under the legislation of Northern region in Nigeria. The agriculture faculty started in 1962 with only 2 teachers and 6 students, therefore, the nation's authorities decided to transfer the entire staff of Research Institute of the Northern Ministry of Agriculture to ABU. In addition, the Ministry of Agriculture transferred five senior researchers to the new research department of ABU to enhance "two way flowing" of information from farmers to researchers and technology flow from researchers to extension agencies and to farmers. This transfer together with the adaptation of Land Grant University model was a successful and helpful milestone to serve almost 25 million farmers in the Northern part of Nigeria (Eicher and Haggblade, 2013).

The experience of ABU expressed the cooperation among Nigerian political leaders, Nigerian and American scientists to create a functioning system of agricultural education and training. It is a creative idea to engage scientists and researchers doing together in agricultural education, research and extension process. However, the key point of this success is that Nigerian authorities could combine education and research in one institution (ABU) and transfer the research staff to ABU for working.

In case of Vietnam, because of the separation between education (by the Ministry of Education and Training) and agricultural research (by the Ministry of Agriculture and Rural Development), it is a big challenge to apply the lesson of Nigeria. Due to the separation of these two aspects, the question is how to harmonize these two different Ministries of the State, and this question is only resolved by the government renovation of regime.

7. Conclusions and Recommendations

It is obvious that education is an important foundation for a good life and a high quality of education is said to be the prerequisite for a successful career. In particular case of developing countries, the role of education has more influence in developing the economy and increasing social conditions for the citizens. Especially, the agricultural education is very significant because it could be considered as the most powerful weapon against hunger and poverty, which is also one of the Millennium Development Goals (UN, 2010).

Achievements in knowledge and technology innovations are the main pillars for agriculture development, under an effective agricultural education system. An idea for improving agricultural education may be the introduction of this subject as a compulsory one from the elementary schools, which helps students broaden their minds in the importance of rural development and agricultural education as soon as possible. Since then, it is necessary to motivate students' interest in agriculture studies to meet the demand of graduates working in agriculture fields of work (World Bank, 2005).

In the case of five selected agricultural universities of this thesis, there are some existing issues which decrease the effectiveness of agricultural higher education in general, for instance, (i) job satisfaction of teachers is low, (ii) the graduates are not able to meet the requirements of employers, (iii) expectations of students have not been fulfilled, (iv) career path for students after graduating is still not clear, (v) support and investment from government and from foreign donors are still low. Solutions for improving agricultural

higher education in particular and for agriculture situation of Vietnam in general, would be addressed based on the reality context of this country.

(1) Mobilizing political and financial support for agricultural education

Mobilizing and sustaining political and financial support is said to be the most important and most difficult step to focus on creating a system of agricultural development institutions. The other countries case studies show that there are many ways to mobilize political support for agriculture education and training, for example, the establishment of National Agricultural Association of Japan in 1884 to strengthen political influence of farmers in that country. If Vietnamese farmers can increase their influence towards government, it is forecast that authorities would put significant concerns on agricultural education investments.

(2) Closing the gap between the Ministry of Agriculture and Rural Development and the Ministry of Education and Training of Vietnam

For the time being, Vietnam's agricultural research and extension are under the management of the Ministry of Agriculture and Rural Development, while higher education in agriculture remains under the control of the Ministry of Education and Training. Because of this separation, the development of agricultural innovations in Vietnam has been narrowed, as there are limitations in scientific collaboration among agricultural education, research and extension. If the separation between these two Ministries could be resolved, the agriculture situation in Vietnam would definitely improve significantly.

(3) Increasing research contributions of agricultural universities in Vietnam

The research in agriculture education system is not effective since the poor investment for equipment, experiments in laboratories of universities. The key to get bigger research output is to invest public resources in strengthening agriculture programs and research facilities to motivate students to have more achievements in agriculture researches. Cooperation with foreign agricultural universities and support of joint research activities would definitely improve the present situation. As an example can be mentioned the development project coordinated by the Czech University of Life Sciences Prague together with Hue University which is oriented to support research activities at the Hue University, organize "Day of Sciences" and motivate the research teams to cooperate with Czech experts in selected research topics.

(4) Applying successful models of other countries into Vietnam

The lesson learnt from those country studies is promoting one model of agricultural higher education, typically the Land Grant model, which manages three aspects of agricultural knowledge triangle: education, research and extension. However, it is not easy for Vietnam to apply these combinations into agricultural education system; therefore, authorities should flow from the vision of the priorities for agricultural research, training and extension together step by step.

(5) Increasing international mobilities of students

The projects and exchange programs are necessary for students to go overseas in order to broaden their knowledge and have practical experiences from the model countries. The

high opportunities of Erasmus Mundus students in working, for example, have been proved to be a good frame for exchanging students.

To conclude, the agricultural higher education system of five selected universities in size of this diploma thesis is not effective at all, it takes time for Vietnam to improve this situation by following the success of other countries and putting each case study in the context of Vietnam. The most highlighted solution is concentrating on investments from both government and foreign donors, meanwhile promoting coordination through cooperative projects and exchange programs to increase the quality of human capital for agriculture.

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9. Annexes: *Map of Vietnam*

(Source: Vietnam geography, 2010)

Questionnaire

I. For students who are now studying in Agricultural Universities

1. Which university you are studying in?

2. Which is your major?

3. Which year you are studying now?

a. 1st year b. 2nd year c. 3rd year d. 4th year e. Master degree

4. Why did you choose this university?

a. University's reputation	b. Bright outcome	c. Advanced laboratory facilities	d. Low Entrance Requirement	e. Feeling of ease in studying and passing exams

5. If you had a second chance to change your university, what would you have changed?

1. Hanoi Pharmaceutical University	2. Hanoi Medicine University	3. National Economics University	4. Hanoi University	5. No change

6. What is your evaluation for teaching quality of your university?
a. Very good b. Good c. Medium d. Bad

7. What is your evaluation for study equipment (machine for lab, experiments) in your university?
a. Very good b. Good c. Medium d. Low quality

8. How often do you get practical study besides theoretical lesson in class?
a. Regularly b. Sometimes c. Rarely d. Never

9. Do you receive aid and facility support from school authority?
a. A lot b. Normal c. Little d. No

10. Please rate your understanding about agriculture in general?

1. Very low	2. Low	3. Average	4. High	5. Very high

11. What do you think about the opportunity of employment related to your major?
a. Easy b. Difficult

12. Do you like to work in Agriculture field? Please rate

1. Strongly dislike	2. Dislike	3. Normal	4. Like	5. Strongly like

13. If you have any recommendation for school, what would that be in the list below?

1. Learning materials.
2. Teaching staffs.
3. More practical trainings
4. More job opportunities and career consultancy
5. Others

14. If your recommendation is not in the list above, please verify in few words

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II. For graduate students from Agricultural Universities

1. Which university you studied in before?

2. Which major you studied in before?

3. When did you graduate?

4. Are you working in agricultural – related field?

a. Yes b. No

5. In your year of university entrance, are there many candidates?

a. Too little b. Little c. Normal d. Many e. Too many

6. What is your general evaluation for your study at your selected university?

a. Very good b. Good c. Average d. Bad

7. What is your evaluation for teaching quality of your university?

a. Very good b. Good c. Medium d. Bad

8. What is your evaluation for study equipment (machine for lab, experiments) in your university?

a. Very good b. Good c. Medium d. Low quality

9. How often do you get practical study besides theoretical lesson in class?

a. Regularly b. Sometimes c. Rarely d. Never

10. Do you receive aid and facility support from school authority?

a. A lot b. Average c. Little d. No

11. What about your income now? (If applicable)

a. > 1000$
b. 500$ - 1000$
c. 200$ - 499$
d. < 200$

12. *(For people who are working for agricultural major):*

12a. Are you satisfied at work? Please rate

1. Very satisfied	2. Satisfied	3. Average	4. Dissatisfied	5. Very dissatisfied

12b. Do you intend to work in this career in a long-term?

a. Yes b. No c. I don't know

12c. If yes, please specify your expectations:

a. Higher income

b. More investment from government and foreign investors

c. Further education and training by studying abroad exchange programs

d. More practical trainings

e. Others (please specify)

13. *(For people who are working in other majors):*

13.a. Reasons you do not work in agricultural?

1. Low income
2. Low Recognition
3. Boredom
4. Less promotion chance
5. Others (please specify in few words)

13.b. Do you believe Agriculture Education in Vietnam would increase? Please rate

1. Strongly believe	2. Believe	3. Average	4. Doubtful	5. Very Doubtful

14. What should be changed in your previous university?

6. Learning materials.
7. Teaching staffs.
8. More practical trainings
9. More job opportunities and career consultancy
10. Others

15. If your recommendation is not in the list above, please verify in few words

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III. For teachers of Agricultural Universities

1. What is your teaching subject?

2. How many years have you taught in this major?

3. What is your evaluation for teaching quality in Agricultural education in Vietnam?

a. Very good b. Good c. Medium d. Bad

4. Do you have opportunity to go for further study and how often?

1. Frequently	2. Often	3. Sometimes	4. Rarely	5. Never

5. How many times have you gone to the real agricultural field with your students?

1. Never	2. Rarely (2 times per year)	3. Sometimes (every quarter)	4. Regularly (every month)

6. What is your evaluation for equipment for laboratory/experiments in your university?

a. Very good b. Good c. Medium d. Low quality

7. What is the number of student studying in your major now?

a. Very high b. High c. Medium d. Low e. Very low

8. The fact of number of student registering for agricultural education?

a. Increasing b. Decreasing c. Stay remain

9. What is your evaluation of student's quality in your university?

a. Very good b. Good c. Medium d. Bad

10. Are you satisfied with your current job? Please rate

1. Very satisfied	2. Satisfied	3. Average	4. Dissatisfied	5. Very dissatisfied

11. Please rate your salary from 1 - 5?

1. < 150 USD	2. From 150-199 USD	3. From 200- 249 USD	4. From 250-300 USD	5. > 300 USD

12. What's your opinion about income of teacher in this field particularly? Please rate

1. Very good	2. Good	3. Enough	4. Not enough	5. Bad

13. When you have a proposal or any idea, how is it processed?

1. Very fast with encouragement	2. Fast with open-minded	3. Average with acceptable manner	4. Doubtful with constructive feedback	5. Refused or very slow processed

14. How do you think about government's investment and recognition in Agricultural education?

1. Very poor	2. Not enough	3. Closed to the requirement	4. Sufficient	5. Generous

15. What sector should be improved regarding the list below?

A. Higher teacher's income
B. More practical and applicable training program
C. More investment
D. Further study and exchange with foreign countries
E. Others (Please specify in few words)

16. Do you have any proposal to develop the quality of Agricultural education in Vietnam?

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IV. For employers in Agricultural Sector

1. How long has your company been established?

2. How many employees are there in your company?

3. How many graduated students of Agricultural Universities working in your company?

4. What is your evaluation for your employees in general?
a. Very good b. Good c. Medium d. Bad

5. What is your evaluation for your employees who graduated from Agricultural Universities in particular?
a. Very good b. Good c. Medium d. Bad

6. Do graduated students of Agricultural Universities meet your company's requirements in working?

a. Yes b. Not really c. No

7. Do you have to re-train your employees who graduated from Agricultural background?

a. Yes	b. No

8. What about the frequency of training for new employees?
a. Usually b. Often c. Sometimes d. Rarely e. Never

9. How long does it take to train your employees? Please rate

a. Less than 3 months	b. 3 - 6 months	c. More than 6 months

10. Which skills the employees are missing?
   a. Technical skills
   b. Soft skills
   c. Foreign language ability
   d. Administrative skills
   e. Research skills

11. How much are you paying for your employees?

	Positions			
	Managers	Researchers	Technical staffs	Administrative staffs
Amount				
> 1000$				
500$– 1000$				
200$ - 499$				
< 200$				

11. Do you have any proposal for the education of Agriculture in Vietnam?