



## IDENTIFYING FACTORS AFFECTING VOCATIONAL TRAINING NEEDS IN PHUNG HIEP DISTRICT, HAU GIANG PROVINCE IN 2015

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### ABSTRACT

The research, conducted in Phung Hiep district, Hau Giang province, aims to identify impact factors on the vocational training needs in rural areas in order to understand the labor forces and how these factors affects labor's needs in vocational training. Seven main factors included Age ( $X_1$ ), Gender ( $X_2$ ), Education ( $X_3$ ), Household's size ( $X_4$ ), number of labor in household ( $X_5$ ), household's total income ( $X_6$ ) and availability of information about vocational training ( $X_7$ ). The seven factors were analyzed by Binary Logistic Regression with the likelihood of 83.5% in which significant differences were found in  $X_1$ ,  $X_2$ ,  $X_3$ ,  $X_4$ ,  $X_5$ ,  $X_6$  while no significant difference was found in  $X_7$  (Sig. = 0.371). Besides, households having 4 labors accounted for the highest ratio (38.5%).

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## 1 INTRODUCTION

Mekong Delta has been considered the key economic zone of Vietnam with large labor force, around 17.5 million in which 13.8 from rural areas (Chi and Thanh, 2012). Since 2009, vocational training in rural areas has been stimulated with the project 'vocational trainings for labors in rural areas to 2020' according to Decision 1956/QĐ/TTg signed by the Vietnamese Prime Minister dated November 27, 2009. In the scope of the project, from 2010 to June 2013, there were 1,294,608 labors receiving the vocational trainings in which 79.8% has higher paid (either found better job or received higher salary); 44.1% works in agricultural sector, 23.5% hired by enterprises (General Department of Vocational Training, 2013). Through vocational training courses, trainees can access to basic knowledge on farming, then they would earn more, know how to cut costs and develop econom-

ic activities. However, a number of labors in rural areas cannot find jobs even after being trained or migrated into big cities to look for jobs. Also, few people roll up for non-agricultural training courses as needs for this non-agricultural labor are small.

It is also a matter of fact that, even after vocational training, labors still face difficulty in finding new jobs. For many of them, vocational training courses could not help them find new ways in agricultural manufacturing. Many labors do not pay much attention to the vocational trainings as they often choose to migrant to big cities to look for jobs. The reason is that, even after vocational training courses, labors cannot apply the new knowledge and skills into their current jobs as lacking of capital and outputs. Furthermore, courses are often too short to have impacts on trainees. So far, big budget has been invested in projects on the vocational trainings; however, these projects still had limited

impacts as the courses often go without consideration of the vocational training needs. Therefore, researches on factors affecting vocational training needs in rural areas are essential. Based on researches' results, local government bodies and vocational training centers may find solutions to enhance the quality of local vocational trainings.

## 2 RESEARCH TOOLS AND METHODS

### 2.1 Data Collection method

The secondary data were gathered from the Department of Labor, Invalids and Social Affairs of Phung Hiep District, Hau Giang Province.

The primary data were collected by stratified sampling and probability sampling methods to ensure the precise. The data was from three communes with different social economic status, including Hoa An (n = 65 labors), Phuong Binh (n = 65 labors) and Cay Duong (n = 65 labors). Hoa An commune has the least developed economy among the three communes and in this commune, rice is the main crop. In recent years, the commune has taken its own advantage to develop handicrafts for supplement of incomes. For Phuong Binh, the economy relies mainly on growing sugarcanes and fish. Cay Duong has the most developed economy as its location is in the center of Phung Hiep Dis-

trict. Apart from agriculture, business is relatively developed in Cay Duong. The total labors interviewed in the research are 195 and all are in their labor age.

Before taking, researchers have conducted several pre-test interviews to check the suitability then made some changes to match with local conditions if necessary.

### 2.2 Data analysis

Data were put in Microsoft Excel, SPSS 16.0 then analyzed by descriptive statistics method. Also, Binary Logistic regression was used to analyze factors which have impact on labor's needs in vocational training.

## 3 RESULTS AND DISCUSSION

### 3.1 Sample

#### 3.1.1 Age

In the research, the labor's age is divided into 4 groups in which group 1 is of labors under 25 years old, accounted for 7.7%; group 2 of labors from 25 to 35 years old, made up 19.5%; group 3 of labors from 36 - 45 years old, 23.1% and group 4 of labor above 45 with 49.7% (Fig. 1). Group 4 has the largest labors who attended the training course.

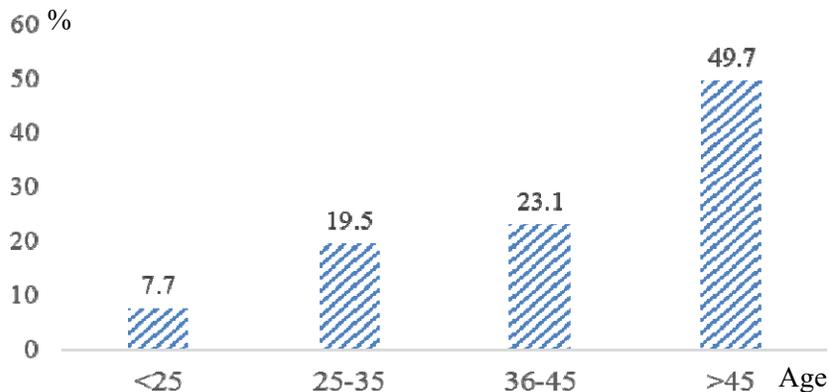


Fig. 1: Age ratio of rural labors

#### 3.1.2 Gender

Male labors interviewed in the research are 104 accounted for 53.3% while female are 91, equivalent to 46.7%. The ratios show that, due to traditional custom in agricultural manufacturing and characters of households in rural areas as male is often the household's head; therefore, male labors have much knowledge about agriculture than fe-

males. However, through data collection process, researchers realize that female labors also have high demands in study to acquire new skills and technologies in farming and manufacturing.

#### 3.1.3 Education

All of the interviewed labors are literate in which 100 people attended primary school (Grades 1 to 5) accounted for 51.3% and this is the biggest group.

Whereas, for secondary school level (Grades 6 to 9) there are 74, made of 37.9% and for high school level (Grades 10 to 12), the ratio is just 10.8% (21 people). According to Son (2008), trainees with better education background would have the ability to acquire knowledge better during the training courses. Education background is an important factor that influences directly to the quality of vocational training courses, especially courses for young people who are soon to join the labor force.

3.1.4 Young labor force in researched area

Table 1 shows the number of labor in each household in Phung Hiep district. Every household has at least 1 labor while the maximum number is 7. Household having only 1 labor makes up 2.6% that is the smallest proportion. Households with 4 labors are 75 (38.5%) which is the largest, households having 3 labor are 44, accounted for 22.5%. According to Ba (2006), population in rural areas of Vietnam is relatively young as a result; labor force in these areas keeps growing, adding to 0.5 labors per year. The consequence is that needs on jobs are also bigger.

Table 1: Number of labor at household

Type of HHs with number of labors	Quantity (Household)	Ratio (%)
HHs with 1 labor	5	2.6
HHs with 2 labors	6	3.1
HHs with 3 labors	44	22.5
HHs with 4 labors	75	38.5
HHs with 5 labors	40	20.5
HHs with 6 labors	17	8.7
HHs with 7 labors	8	4.1

In Table 2, at household level, the ratio of unemployed labors is relatively high ratio. 66 households have unemployed labors, in which, households having only 1 unemployed labor is the highest 63.6% (42 households), households with 2 unemployed are 21, accounted for 31.8% and 4.5% is the ratio of households with 3 unemployed labors.

Table 3: Variable description in the model

Categorical variable	Name	Meanings/Unit	-/+
Personal information	X <sub>1</sub>	Age (Year)	-
	X <sub>2</sub>	Gender (1 = male, 0 = female)	+/-
	X <sub>3</sub>	Education (grade)	+
Household's information	X <sub>4</sub>	Household's size (person)	+
	X <sub>5</sub>	Number of labors in household (person)	
	X <sub>6</sub>	Household's income (million VND/year)	+/-
Government policies on vocational training	X <sub>7</sub>	Information on vocational training (1 = yes, 0 = no)	+

Outcomes by Binary Logistic regression are shown in Table 3

Table 2: Statistics on unemployed labors at households

Type of household with unemployed labors (HHs)	Quantity (households)	Ratio (%)
HHs with 1 person	42	63.6
HHs with 2 persons	21	31.8
HHs with 3 persons	3	4.5

3.2 Factors affecting needs in vocational trainings

The research uses Binary Logistic Regression to analyze the impact of X<sub>i</sub> to probability of I when X occurred. Binary Logistics Regression is one of the methods that often used in models that have dependant binary variables by David R. Cox. In Logistics Regression model, outcomes are analyzed by binary variables while independant variables are analyzed by continuous variables, binary variables or categorical variables, inverse of probability distribution function or linear association of explanatory variable.

In this model, the Logistic equation has dependant variables on the left that have two outputs: 0 (if labors have needs in vocational training) and 1 (if labors have not). On the right, there are 3 groups of variables including labor's information, household's information and government policies about vocational training.

The equation is as following:

$$\log_e P(Y=1)/P(Y=0) = a_0 + a_1X_1 + a_2X_2 + a_3X_3 + a_4X_4 + a_5X_5 + a_6X_6 + a_7X_7$$

Each variable explains the needs of labors in vocational trainings in the model. The model has 3 groups of variable: (1) personal information of labors (age, gender and education), (2) information of households (income, number of labors in household) and (3) government policies on vocational trainings and jobs (information on vocational training)

**Table 4: Outcomes by Logistic regression analysis**

Factors	B	S.E.	Wald	Sig.	Exp
X <sub>1</sub> Age	-0.136	0.023	36.295	0.000	0.872
X <sub>2</sub> Gender	-0.17	0.393	0.187	0.036	0.844
X <sub>3</sub> Education	0.182	0.075	5.89	0.013	0.834
X <sub>4</sub> Household's size	0.547	0.157	12.188	0.000	1.728
X <sub>5</sub> Number of labor in household	0.234	0.298	0.62	0.015	0.791
X <sub>6</sub> Household's total income	0.228	0.317	1.452	0.028	1
X <sub>7</sub> Information on vocational training	0.366	0.409	0.8	0.371	1.442
Constant	3.546	1.08	10.773	0.001	34.674

According to Table 4, in the model the independent variables including X<sub>1</sub>; X<sub>3</sub>; X<sub>4</sub>; X<sub>5</sub>; X<sub>6</sub> are statistically significant while X<sub>7</sub> (Information about vocational training) is not.

– X<sub>1</sub> (Age) with Sig. = 0.000 and B = -0.136 is in inverse ratio to rural labors' needs in vocational training. That means, the older the labors are the more reduced their needs in vocational training are.

Based on the results, we can see that the local vocational training policies should put targets on young labors. If so, the vocational trainings would help build skilled labor forces, reduce unemployment among young labors and help prevent young labors from migrating into big cities for jobs. Besides, the older the labors are the more difficult they get to learn new knowledge; for elder labors who have much experience in manufacturing through practice, it's less likely for them to change their jobs after attending the training courses; it's also hard for the elder labors to look for new jobs as the matter of health. However; as the ASEAN Economic Community opening soon, job opportunities will be bigger for Vietnamese labors. Then the Age variable will not be much significant as elder labors may still find job in agricultural and non-agricultural sector.

– X<sub>2</sub> (Gender) is an independent variable and is in inverse ratio to labor's needs in the vocational trainings at statistically significant level 0.036 ( $\alpha < 0.05$ ). The variable in the equation means that gender does have impact on labor's needs in the vocational trainings. The results match with these by Chi and Thanh (2012) that means gender affects needs in the vocational trainings as male labors outnumber females in the vocational training courses. However, the impact may be hard to understand as the vocational training needs depend on which types of jobs there are.

– For X<sub>3</sub> variable of Education with Sig. = 0.000 ( $\alpha < 0.05$ ) and B = 0.182, we can see that Education background has positive impact on the

vocational training needs. Higher education means higher needs in the vocational trainings. Besides, labors with high education background will easily acquire new knowledge in vocational training classes, especially technology related courses.

– The variable Household's size (X<sub>4</sub>) has Sig. = 0.000 ( $\alpha < 0.05$ ) and B = 0.547. It shows that, for households, which are big in size but lack of resources for agricultural manufacturing, or the household's members in labor age are unemployed or are seasonal workers who may have higher needs in the vocational trainings. Besides, the bigger size the household are, the more income they have to earn for the family. As the result, they would need high paid jobs and local vocational training courses may help them.

– The variable of Number of labor in Household (X<sub>5</sub>) has Sig. = 0.015 ( $\alpha < 0.05$ ) and B = 0.234. We can see that the more labors as well as the more unemployed labors the households have, the higher needs in the vocational trainings they have as after training courses labors who may find suitable and better jobs. Besides, they also have to face the income pressure, then they do need supports from local authorities and unions via vocational training courses.

– There are two ways of explanation for variable X<sub>6</sub> (Household's total income): (1) households with low income may have smaller needs in the vocational trainings as they don't have enough expense to cover the cost; (2) while households with high income would have bigger needs in the vocational trainings as they may think the expense for training course is a type of investment. However, within the scope of this research and from the authors' opinion, the matter is rather complicated and depends on each household's condition and their points of view whether the use of money for young labors to follow vocational training courses is a good investment or not. In this model, variable X<sub>6</sub> has  $\alpha < 0.05$  ( $\alpha = 0.028$ ).

– The variable  $X_7$  (Information of vocational training) has Sig. = 0.371 ( $\alpha > 0.05$ ) and  $B = 0.366$ . Within the research, the avariable is not statistically significant. In recent years, a number of vocational training programs and centers have been opened up nationwide. However, it is a fact that the quality of the vocational trainings has not been adequate to needs. During interviews within the research’s scope, the labors suggest that the

information about courses and jobs (for labors after vocational training courses) has not helped them much. In reality, these relections are true as indeed the local authorities as well as the vocational training centers have done little to help trainees to find jobs after the courses. As a result, the labors would not believe that the vocational training courses could help them find better jobs.

**Table 5: Likelihood ratio test of the model**

Observation	Needs in vocational training		Likelihood ratio	
	Labors without needs in vocational training	Labors with needs in vocational training		
Vocational training needs	Labors without needs in vocational training	113	11	91.1%
	Labors with needs in vocational training	22	49	70%
<i>The Likelihood through Binary Logistic Regression</i>				<b>83.5%</b>

Through linear analysis, we have the equation as following:

$$\text{Log}_e P(Y=1)/P(Y=0) = 3.546 - 0.136X_1 - 0.17 X_2 + 0.182X_3 + 0.547X_4 + 0.234X_5 + 0.228X_6 + 0.366X_7$$

Under model summary (of Binary Logistic Regression), we see that 2-log likelihood is 166.292. The Cox& Snell R Square reaches 0.363 while Nagelkerde R Square is up to 0.497. These statistics once again re-affirm that about 49.7% of variables in the model was explained by logistic regression and this is a relatively high coefficient. Hosmer and Lemeshow test shows that the Chi-square reaches 87.418 with Sig. = 0.000 ( $\alpha < 0.05$ ). According to Table 5, the likelihood is 83.5% which is relatively high that means the Binary Logistic regression used in the research is suitable.

**4 CONCLUSIONS**

Through Binary Logistic regression, the likelihood is 83.5%, in which variables including Age, Gender, Household's size, Education, Number of Labor in Household and Total income of Household are all statistically significant. Besides, variable of Vocational Training Information is not statistically significant. Also, results show that, variables of Age and Gender are in inverse ratio to labors' needs in the vocational trainings, which are  $B = -0.136$  và  $-0.170$  respectively, while other variables are in direct to the needs.

The results by the regression model show the likelihood of the theory to the needs of rural labor in the vocational trainings. That also means, the theory has practical meanings to the policymakers in the governmental bodies and other researchers as well. Based on the research’s results, policimakers and researchers may propose solutions to enhance the quality of vocational training or in other words, to stimulate agriculture. The final targets of these are to increase income of rural labors, hand-over new techniques as well as meet all labors' requirements in vocational training.

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