



Occupational accidents related to gender in the village of La Xuyen wood handicraft

Truong Thi Ly

Affiliate : Social work Faculty, Trade Union University, Ha Noi, Viet Nam

Correspondence : lytt@dhcd.edu.vn

Abstract

One of the main craft groups in Vietnam is carpentry. According to research conducted in the La Xuyen wood handicraft village, accidents at work—from minor mishaps to serious and serious accidents—are quite common in the wood industry. Fatal workplace incident According to research, there are numerous hazards that could result in work accidents for both male and female employees in La Xuyen craft village. Men and women differ in that men experience more workplace accidents, and men also experience a higher rate of occupational accidents than women. This is because men frequently take on heavier tasks and use potentially flimsy machinery. Whereas women frequently take on simple, creative jobs that call for ingenuity and use few machines.

Keywords: Occupational accidents, occupational accidents related to gender, occupational accidents in the village wood handicraft

Introduction

In Vietnam, carpentry is one of the fourteen main groups of handicrafts (Tran Thi Kim Que, 2017; Think Vu, 2020). However, occupational accidents often occur in these villages like woodcrafts. The activities performed in the lumberyard are varied and all carry many risks that can lead to serious injury, illness, and even death. According to the International Labor Organization (ILO), the wood processing industry has been one of the occupations with the highest frequent accident in the manufacturing industry.

Researches about occupational accidents in woodcraft villages in Vietnam are still limited, especially, since the focus is on occupational accident related to gender inequality. Therefore, the article aims to analyze occupational accident injuries for workers in woodcraft villages are related to gender. The findings of the article may spur the development of future studies such as qualitative research or longitudinal assessments of gender-related issues or specific occupational accident prevention measures about gender.

Methodology

This article is carried out with a quantitative survey of 385 workers and in-depth interviews with five workers who work in La Xuyen wood handicraft village, Yen Ninh commune, Y Yen district, Nam Dinh province, Vietnam. The author chose La Xuyen as a case study because this is a long-standing traditional craft village. Carpentry in La Xuyen village has prospered to this day for more than 1,000 years of history, from the Dinh-Le dynasties (Nguyen Van Duc, 2020; Tran Thi Kim Que, 2017).

Definition of Occupational Accident:

According to the 2015 Law on Occupational Safety and Health, (Vietnam National Assembly, 2015) “occupational accident is an accident that causes injury to any part or function of the body or causes death to an employee, occurring in the working process, associated with the performance of work and labor tasks”. Thus, it is easy to see that the recognition point of occupational accidents is those that occur during the working process, associated with the work and tasks that the employee performs. In La Xuyen woodcraft village, occupational accidents are considered to be accidents that occur during workers jobs associated with woodworking activities.

According to Vietnamese laws, occupational accidents are classified into 03 types: occupational accidents that cause the death of employees, occupational accidents that cause serious injuries to employees, and occupational accidents that cause employees to suffer slight injury. However, in this study, the actual status of occupational accidents will be considered in each specific occupational accident such as Injury to the neck; Injury to the shoulder; Head trauma; Broken arm, broken leg; Stamping or breaking fingers, toes, hands, and feet; Injuries affect the movement of hands and feet; Damage to bones in other areas of the body; Damage to the tendons; Medial ligament; Eye damage; Loss of fingers and toes; Soft tissue damage in hands and feet; and other injuries, ...

Data Analysis

Quantitative survey results were entered using Epi data software, version 3.2, and processed with SPSS software version 22.0. With descriptive statistics, the results are described by calculating frequencies and percentages. Chi-Square test with significance level $\alpha = 0.05$, 95% confidence level is used at important points to assess the difference between men and women.

Research Limitations

Occupational accident in the wood craft village is a new topic, which has not been studied by many authors. Therefore, the article only stops at exploratory research, not an in-depth explanation and understanding of the causes of the problem. The research was only carried out on a small scale in a handicraft village producing wooden handicrafts. Therefore, the conclusions are not generalized but only stop at discovering and clarifying the research problem.

Since statistics on the accident situation in the study area have never been done, no data is available. Therefore, the conclusions made based on the survey came from respondents' recollections related to occupational accidents.

Results

1. Characteristics of the respondents

Table 1: Characteristics of the respondents

	Frequency	Percentage
Total	385	100.0
Sexuality		
1. Male	198	51.4
2. Female	187	48.6
Literacy		
1. Primary	7	1.8
2. Secondary	291	75.6
3. High school	74	19.2

4. Bachelor	13	3.4
Place of occupational training		
1. Home	297	77.1
2. Neighbor	86	22.3
3. Vocational training center	2	0.5
Age		
1. <=30	95	24.7
2. 31-40	149	38.7
1. 41-50	79	20.5
2. 51-65	62	16.1
Age of occupational training		
3. <=15	76	19.7
4. 16-20	294	76.4
5. >20	15	3.9
Career Age		
<=10	69	17.9
11-20	127	33.0
>20	189	49.1

(Source: The research's survey)

The study was conducted based on survey results of 385 people aged 18 to 65 years old who are currently doing carpentry work in La Xuyen wooden handicraft village, Yen Ninh commune, Y Yen district, Nam Dinh province. The average age of survey participants was 38.74 years old. In which, 24.7% of survey participants are aged <=30 years, accounting for the highest rate with 38.7% in the age group 31-40 years old, 20.5% in the age group 41 to 50 years old, and, 16.1% in the age group 51-65 years old.

Regarding gender, there is not a big difference between the ratio of men and women. Females accounted for 48.6% and males accounted for 51.4%. Therefore, it is entirely possible to use gender as an independent variable to analyze gender differences in occupational accidents in handicraft villages.

With the characteristics of a traditional craft village, people were born and raised in the profession, so the age to start learning carpentry is very early. The average age for starting an apprenticeship is 16.66 years old. Some people start their apprenticeship when they are 10 or 12 years old. People start their apprenticeship at the latest when they are 28 years old. The most common age of apprenticeship is 16-17 years old. If divided by group, 19.7% said that they started vocational training when <=15 years old, up to 76 and .4% said that they started vocational training when they were 16-20 years old. Only 3.9% said they started vocational training when they were more than 20 years old.

Due to it being a traditional craft village with hereditary nature, up to 77.1% of respondents said that they learned the trade in their own family. Besides, up to 22.3% of respondents said that they learned a trade at another household in the village. Only 0.5% said they learned a job at a vocational training institution.

Regarding education, the survey results show that the education level of workers in La Xuyen carpentry village is relatively low. The results of the in-depth interviews of the people here said: "Children here just let them finish secondary school. Those who like to learn and learn are allowed to

continue studying, but not allowed to stay at home to learn a trade. Some children have a lot of work to do when they come home from school, they also have to use sandpaper or help their parents” (PVS, Nam, 63 years old). Statistics of the survey results show that 75.6% of the survey respondents said that their education level is at the lower secondary level, 19.2% said that their education level is at the intermediate level, some attended a high school education, 1.8% have a primary education level and only 3.4% occupied bachelor degree.

Regarding the age of the respondents, the highest percentage with 49.1% said that they have more than 20 years of experience in carpentry. Next, 33.0% said that they have 10-20 years in carpentry. Occupy the lowest percentage with 17.9% saying that they have <= 10 years of age as a carpenter.

2. The occupational accidents in La Xuyen wood handicraft village

Research results show that an ongoing situation in La Xuyen wood handicraft village is that workers have to be exposed to many risk factors that can cause frequent occupational accidents.

Table 2: Risk factors that cause risks in the workplace

Risk Factors	Male		Female		Total	
	No	%	No	%	No	%
High-stacking material, easy to pour	53	26.8	3	1.6	56	14.5
Smooth background, easy to slide	51	25.8	33	17.6	84	21.8
An untidy workplace is easy to stumble	47	23.7	22	11.8	69	17.9
Sharp details are not covered	34	17.2	52	27.8	86	22.3
Dangerous parts of the machine that are not covered (for example Saw blades, belts, etc.)	191	96.5	178	95.2	369	95.8
Splinters	181	91.4	164	87.7	345	89.6
Heat source causes burns	4	2.0	4	2.1	8	2.1
Opened power lines, bare power lines	0	0.0	0	0.0	0	0.0
Machines without lightning protection, no ground wire	157	79.3	148	79.1	305	79.2
Risk of fire	5	2.5	11	5.9	16	4.2
Loud noise	75	37.9	44	23.5	119	30.9
Dust	194	98.0	178	95.2	372	96.6
Lack of light	154	77.8	135	72.2	289	75.1
Toxic chemicals	17	8.6	0	0.0	17	4.4

(Source: The research's survey)

03 risk factors are reported by many workers at their workplace as wood dust, dangerous parts of the machine that are not covered, and splashes. One of the characteristics of the handicraft industry is that the stages in the production of fine-art furniture from the first stages such as sawing, valve, skewing, etc., to the final stages such as planning and sanding, are also uniform and generate a lot of dust. Dust in general and wood dust in particular, are dangerous factors that greatly affect workers as well as their production activities. Dust can cause fire or explosion in suitable places, reduce the insulation ability of insulators, cause short circuits, cause premature wear of equipment, damage to respiratory organs, and scratches, inflammation, ... Depending on each type of dust, it can lead to pneumonia, lung cancer, skin diseases, eye damage, etc. The survey results showed that up to 96.6% of respondents said their workplace has a lot of wood dust which 98.0% of male workers agreed in comparison with 95.2% of female workers. Wood dust flying everywhere is also easy to causes slippery factory floors. Therefore, up to 21.8% of respondents said that at their workplace there is a risk factor that is slippery and easy to fall down in which, the proportion of men is 25.8% and the rate of women is

17.6%. This factor is especially dangerous when workers have to carry heavy loads or move while working.

Next, one of the dangerous but quite common factors in craft villages, including La Xuyen wood-art craft village, is that the production machine is not covered, ensuring the safety of workers. The survey results showed that 369 people, accounting for 95.8%, said that the machines at their workplace are often not covered with dangerous parts such as saw blades, belts, etc. The gender ratio is 96.5% and the female proportion is 95.2%. Because the machine is not covered, even a small mistake or a small collision with the parts of the machine can cause danger or accidents to workers.

The next risk factor that is also recognized by many workers is the splinter situation in the workplace; up to 89.6% of workers said that there is a splash element (the percentage of men is 91, 4% and women 87.7%. From solid pieces of wood, through the hands of craftsmen in the craft village, they are transformed into high-class fine art wooden products with carved motifs. Therefore, these products have to go through many stages of trimming such as sawing, chiseling, planning, etc. In the process of performing these stages, fragments of wood will appear. These fragments can be splashed and dangerous to workers.

In addition, there are also 2 other risk factors that many workers mentioned, they are no lightning protection and no ground wire: 79.2% percentage; of which the proportion of men is 79,3 % and the percentage of women is 79,1 %. In addition, 75.1% said that their workplace is poorly lit with the result of 77.8% of men and 72.2% of women.

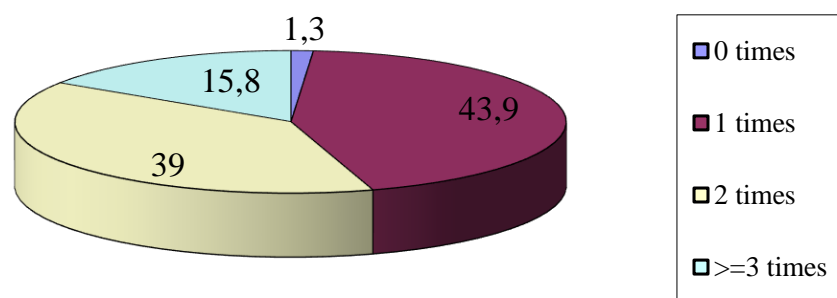
Other risk factors that workers in La Xuyen said they had to be exposed to, such as 30.9% stated there was a loud noise at their workplace, 22.3% mentioned that their workplace have unprotected sharp parts, 17.9% reported that their workplace is untidy and easy to trip and 14.5% said that there are high stacked materials that easy to pour.

.Other factors have a low percentage: recorded that 4.4% workers said that there are hazardous chemicals at their workplace. 4.2% stated that there are hazardous chemicals at their workplace with risk of fire and explosion. 2.1% said that there is a source of heat which can cause burns. The only factor that no one worker mentioned was the open power line, the bare power line.

Thus, it can be seen that, in the process of working, both male and female workers in La Xuyen wooden handicraft village are exposed to many risk factors. Which can cause occupational accidents for them.

3. Occupational Accident at the village

Chart 1. Frequency of occupational accidents



(Source: The research's survey)

Among 385 survey participants, the mean is 1.80, showing that each worker has an accident 1.8 times on average. With a median of 2.00, it shows that 50% of the survey respondents had 2 or more work accidents and 50% had 2 or fewer occupational accidents. The survey results also showed that only 5 people, accounting for 1.3%, said they had never had an occupational accident. Meanwhile,

up to 380 people, accounting for 98.7%, reported that they had at least one work accident or more. There were 43.9% of workers participating in the survey said that they had experienced an occupational accident once. Next, 39.0% stated that they had had 02 work accidents and 15.8% said they had had 03 or more occupational accidents. In particular, some people have had 07 labor accidents.

Table 3. Frequency of occupation accidents based on gender

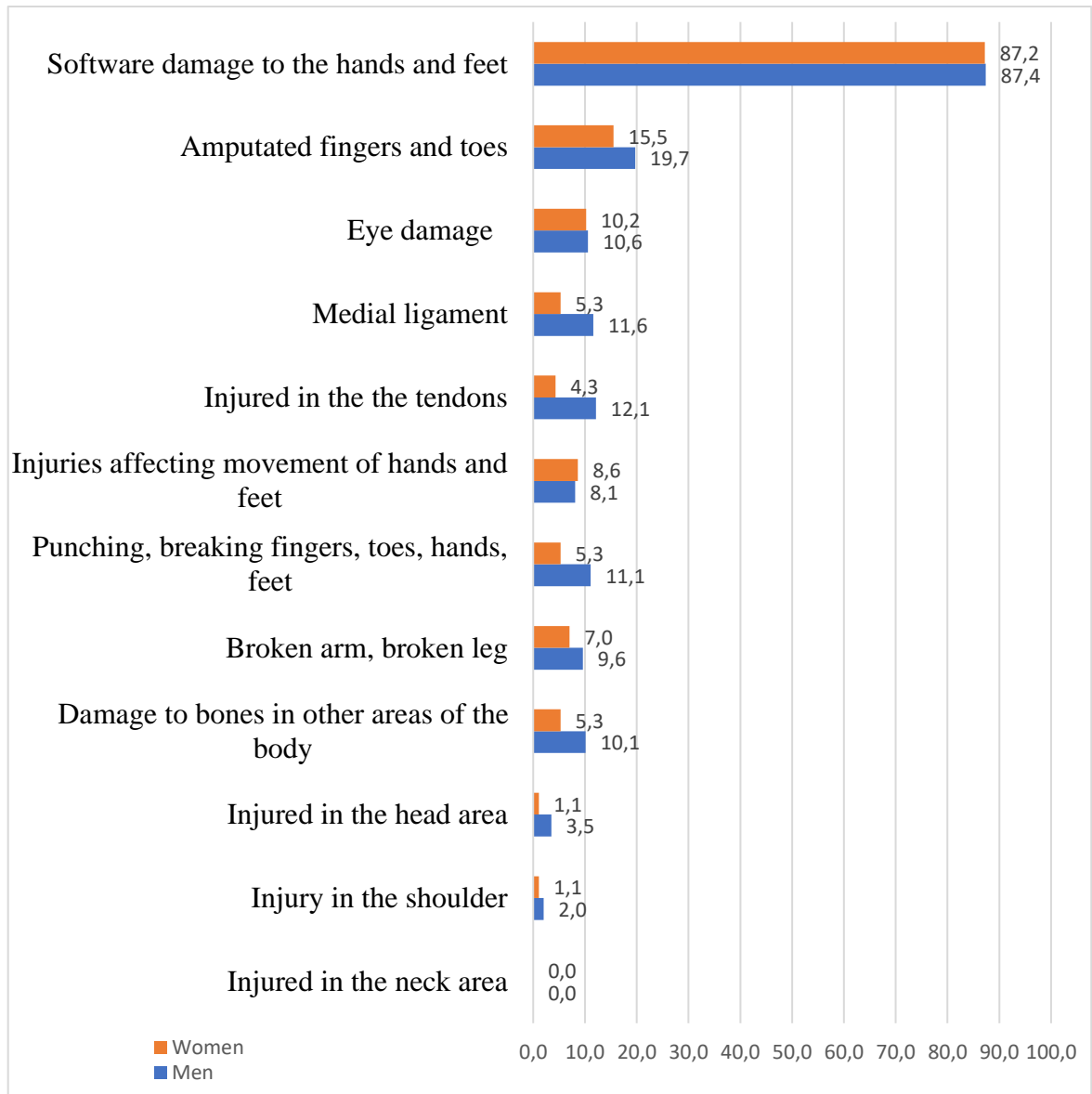
		Gender			
		Male		Female	
		No	%	No	%
Frequency of occupational accidents	0 accident	2	1	3	1.6
	1 time the accident	70	35.4	99	52.9
	2 times of accident	81	40.9	69	36.9
	>= 3 times accident	45	22.7	16	8.6
	Total	198	100	187	100

(P=0.000; Cramer's V= 0.226)

(Source: The research's survey)

With $P=0.00 < 0.05$, the results of testing the relationship between two sex variables and the number of occupational accidents show that there is a difference in gender with the number of occupational accidents. With the Cramer's V value of 0.226, it shows that the two variables sex and the number of times of work accidents have a moderate relationship. With a mean of 1.98, it shows that on average, each man has 1.98 work accidents while this number in women is 1.6 times. Specifically, the percentage of women who have never suffered any type of work accident accounts for 1.6% while only 1.0% of men have never had any work accidents. The rate of women having only one occupational accident is 52.9% while this figure for men is 35.4%. In contrast, for those who have had a work accident twice, the proportion of women accounted for only 36.9% while men accounted for 40.7%. In particular, the rate of women having 3 or more occupational accidents accounts for 8.6% while in men this rate is 2.6 times higher at 22.7%. Thus, it can be seen that the frequency of occupational accidents in La Xuyen wood handicraft village has a gender difference in the direction that men have more occupational accidents than women.

Chart 2. Types of occupational accidents



(Source: The research's survey)

Looking into each type of occupational accident that employees have ever been shown, the most common type of occupational accident that workers here encounter is software damage to the hands and feet with 87.3% of percentage. In this type of occupational accident, the proportion of men and women is quite similar with 87.2% of women and 87.4% of men reporting having had this type of accident.

In La Xuyen, due to the nature of carpentry work, the workers mainly use their hands and feet, so the number of people who got injuries in the neck, shoulder, and head areas was less. No one was injured in the neck area, and the number of people who had an accident that caused injury to the shoulder area only accounted for 1.6%, of which the rate of men injured in the shoulder area was 2.0%, and the rate of women with injuries to the shoulder area. The shoulder injury was 1.1%. The percentage of workers injured in the head area is higher than in the shoulder area at 2.3%, the rate of men injured in the head area is 3.5% and the rate of women injured in the head is 1.1%.

Meanwhile, up to 17.7% of workers with 19.7% of men and 15.5% of women said that they had lost fingers and toes due to occupational accidents. One of the more typical risks that often happen to workers here is falling wood on them. Due to the frequent need to carry heavy wood and limited measures to prevent risks, the number of people suffering from occupational accidents due to falling wood is relatively high. The survey results also showed that 32 people, accounting for 6.5%, stated they had ever broken their fingers, toes, hands, and feet which affected their movement, and damaged their tendons. Although both male and female workers often contact with wood but male is physically stronger than female. As a result, male is selected to do harder works. Therefore, in these types of accidents, the proportion of men is always higher than women.

A typical feature when coming to carpentry workshops in craft villages is that wood dust and wood chips are quite common, these hazardous factors are the main cause of eye injuries for workers. The survey results also showed that up to 10.4% of respondents said that they had ever suffered eye damage due to wood dust and wood fragments. Eye injuries were common in both men and women, with 10.6% of men and 10.2% of women reporting having had eye injuries.

In addition, 7.8% of workers said that they had at least 1 bone injury in other areas of the body and 3.1% said that they also had other types of injuries due to accidents caused by labor accidents.

In general, through statistics and analysis of survey data on occupational accidents, it is shown that in La Xuyen wood handicraft village, woodworking accidents are quite common ranging from slight to serious accidents. In particular, the results of in-depth interviews show that in La Xuyen, there was also a case of a fatal occupational accident: "In the past, there was also a girl in the village who was electrocuted to death while scrubbing wood. Just earlier this year, a man was knocked over by wood from a forklift died immediately" (In-depth Interview, male, village leader).

Discussion

This article presents that gender inequality in the Vietnamese labor market stems from traditional social norms, cultures, and ways of organizing businesses common in both the public and private sectors, as well as from the lack of women's voices in the workplace (ILO, 2021). Women belong to the disadvantaged group and face gender inequality from many different angles (World Bank, 2012; UN Women, Ministry of Labor, Invalids and Social Affairs, DFAT, 2021). However, the results of research on occupational accidents in a wood handicraft village show that men are facing more risks and accidents than women.

It is found that both male and female workers in the craft village of La Xuyen have to face many risks that can cause occupational accidents. Which, the proportion of men exposed to risks is higher than that of women in 10 factors out of 14 risk factors: High stacking materials, easy to pour; Smooth background, easy to slide; Untidy workplace is easy to stumble; Hazardous parts of the machine are not covered; Fragment's splash; Machines without lightning protection, without ground wire; Loud noise; Wood dust; Lack of light; and harmful chemicals. The proportion of women exposed to risks was higher than that of men in 4/14 risk factors: Unshielded sharp details; Heat source burns; Opened power lines, bare power lines; and fire hazards.

In general, woodworking accidents are quite common, from light occupational accidents to heavy and serious occupational accidents, even fatal occupational accidents. In La Xuyen as well as other carpentry villages, most workers' awareness of occupational safety is still limited. Employees working with the habit of "3 nos" are not trained and guided on occupational safety and health; do not have a labor contract with the establishment's owner and do not receive periodic health checks. The

lack of awareness and understanding of employees about occupational safety due to the lack of communication and training activities on occupational safety and health. Due to not being campaigned and not participated in training courses on occupational safety and measures to prevent occupational accidents, the level of understanding of workers' safety procedures at work at La Xuyen still has many limitations that lead to unfortunate labor accidents.

There is a difference between men and women in the number of occupational accidents. Although men work in the same profession as carpentry, they often take heavier jobs and use machines, especially machines with potentially dangerous factors. Meanwhile, women often take lighter works jobs, more sophisticated, need more dexterity, and less use of machines, especially those with potentially dangerous factors, so they are less susceptible to injured occupational accidents.

Occupational accidents that suffered by male workers are often more serious, and more severe than women. Among the 14 types of injuries given, the proportion of men injured more than women in 12/14 categories such as shoulder injury; head trauma; bone damage in other areas of the body; broken arm, broken leg; stamping, breaking fingers, toes, hands, and feet; Damage to the tendons; Medial ligament; Eye damage; Loss of fingers and toes; Soft tissue damage in hands and feet; and other Injury.

Conclusion and Suggestions

It can be seen that, because of the characteristics of woodwork, both male and female workers have to be exposed to hazards and face risks that can lead to occupational accidents at different levels. Occupational accidents that suffered by male workers are often more serious, and more severe than women. Therefore, it is necessary to implement occupational accident prevention measures to prevent and limit the possible occupational accident for both men and women. The authorities at all levels should massively campaign to raise the awareness of workers about the implementation of preventive measures to ensure occupational safety; organize training courses to help employees know how to take safety measures at work. Additionally, woodworkers must also actively take measures to prevent occupational accidents and actively comply with regulations on occupational safety to be able to protect themselves.

Author/Authors Brief Bio

Vietnam-native Truong Thi Ly was born in 1987, and in 2009 and 2012, she earned sociology bachelor's and master's degrees, respectively. At the Vietnam Academy of Social Sciences, she is presently a social work PhD candidate. The thesis is "Group social work in preventing occupational accidents in wood craft villages."

The fields of sociology and social work have been the focus of Ms. Ly's research and teaching for the past 12 years. At the Institute of Sociology, Vietnam Academy of Social Sciences, Ms. Ly conducted research from 2009 to 2014. Ms. Ly began lecturing at the Faculty of Social Work of Trade Union University in Vietnam in 2015. The four majors that Ms. Ly is presently researching and instructing are Family Studies, Scientific Research Methods, Research Methods in Social Work, and Social Work with Employees.

REFERENCE

1. Hoang Trọng. Chu Nguyen Mong Ngoc. (2008). Research data analysis with SPSS. *Hong Duc Publishing House*.

2. ILO. (2021). Gender inequality is not right and not good for Vietnam. https://www.ilo.org/hanoi/Informationresources/Publicinformation/newsitems/WCMS_775480/lang--vi/index.htm
3. ILO. Safety and hygiene at the wood workshop. <http://www.hse.gov.uk/woodworking/index.htm>
4. World Bank. (2012). World Development Report- Gender Equality and Development. <https://documents1.worldbank.org/curated/en/432021495176101905/pdf/64665-v2-VIETNAMESE-BAOCAOPH-PUBLIC.pdf>
5. Nguyen Van Duc. (2020). La Xuyen wooden handicraft village: Status and brand development. *Vietnam craft village electronic magazine*.
6. Vietnam National Assembly. (2015). Law on Occupational Safety and Hygiene 2015. Law No: 84/2015/QH13
7. Thinh Vu. (2020). Occupational safety and health management for informal workers in craft villages in Vietnam. <https://www.researchgate.net/publication/339842693>
8. Tran Thi Kim Que. (2017). Craft village culture in Nam Dinh. Tradition and change-case study of La Xuyen wood carving craft village and Tong Xa bronze casting village, Y Yen district.
9. UN Women, Ministry of Labor, Invalids and Social Affairs, DFAT. (2021). Report on reviewing the implementation of the national strategy on gender equality for the period 2011-2020. https://cwg.vn/public/media/files/tai_lieu/mien_phi/bc_ra_soat_17x25cm_vie.pdf

