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# The trend of occupational injuries and fatalities in forestry, South Korea from 2010 to 2020

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**International Conference of COFE-FETEC, Flagstaff, AZ  
May 23 (TUE), 2023**

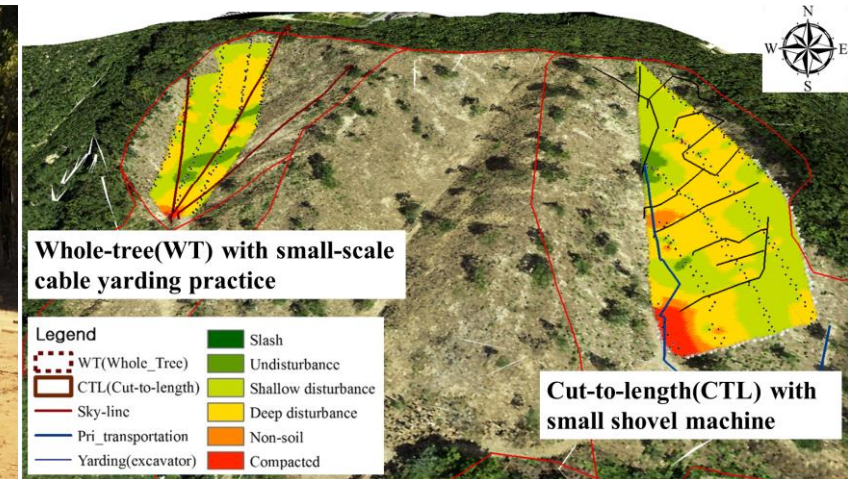
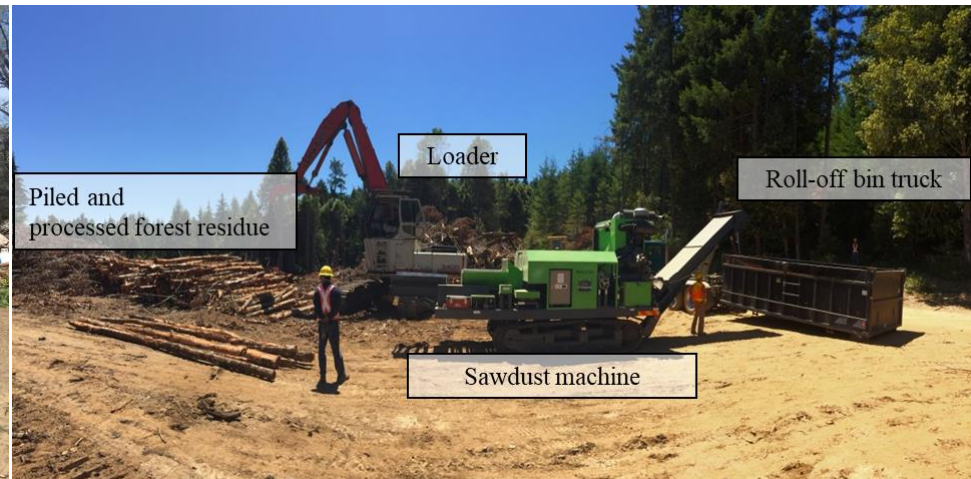
**Dr. Eunjai Lee**

**National Institute of Forest Science**

# About me..



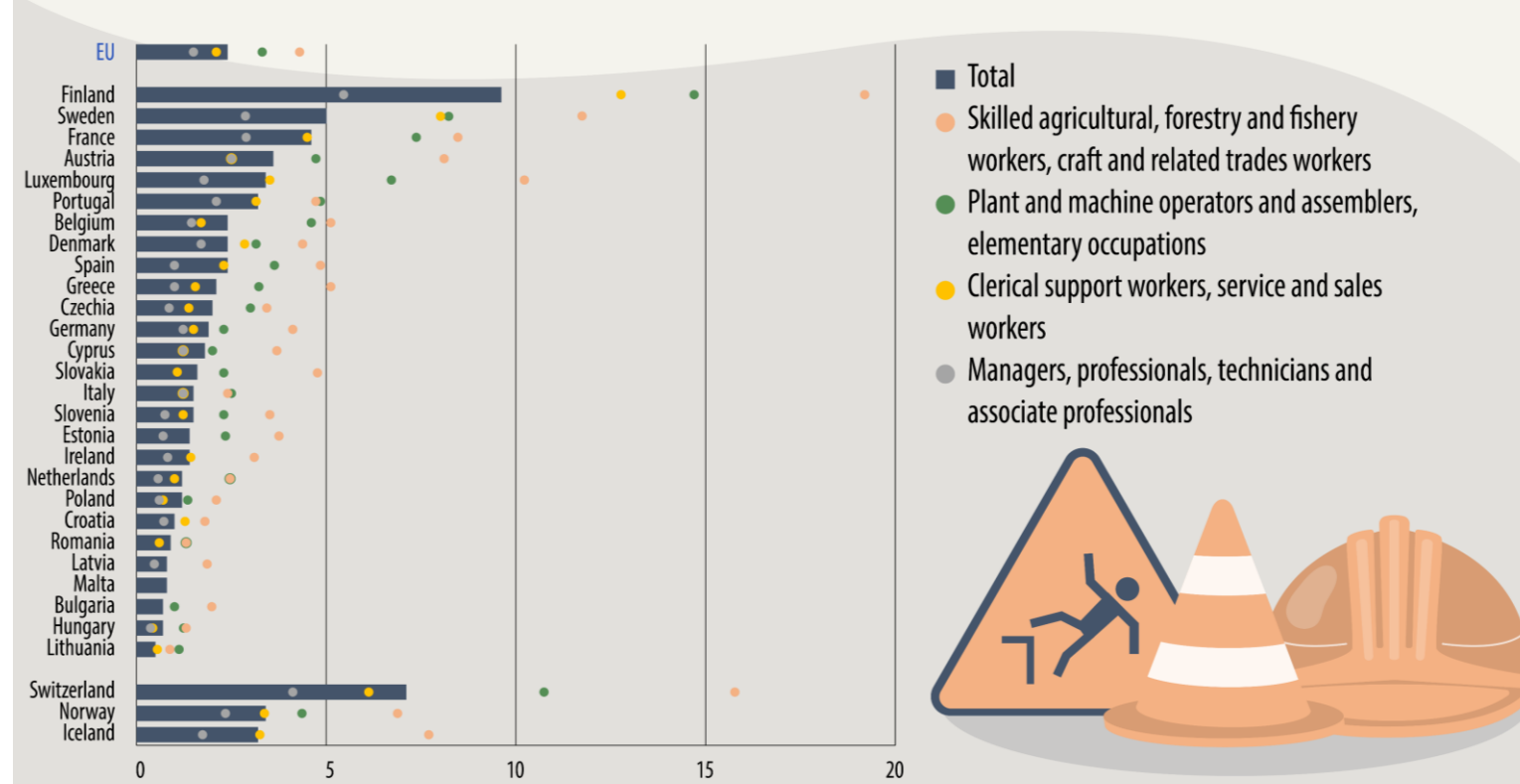
- Ph.D. degrees in forest engineering from Seoul National University
- To be responsible for **Forest Operation and Management**
- To achieve experience in timber harvesting, environmental impacts, and safety.
- My goal is to achieve **sustainable forest operations**.



# Introduction

## People reporting an accident by group of occupations (ISCO) and country, 2020

(% of people aged 15-64 working or with work experience in the last 12 months)

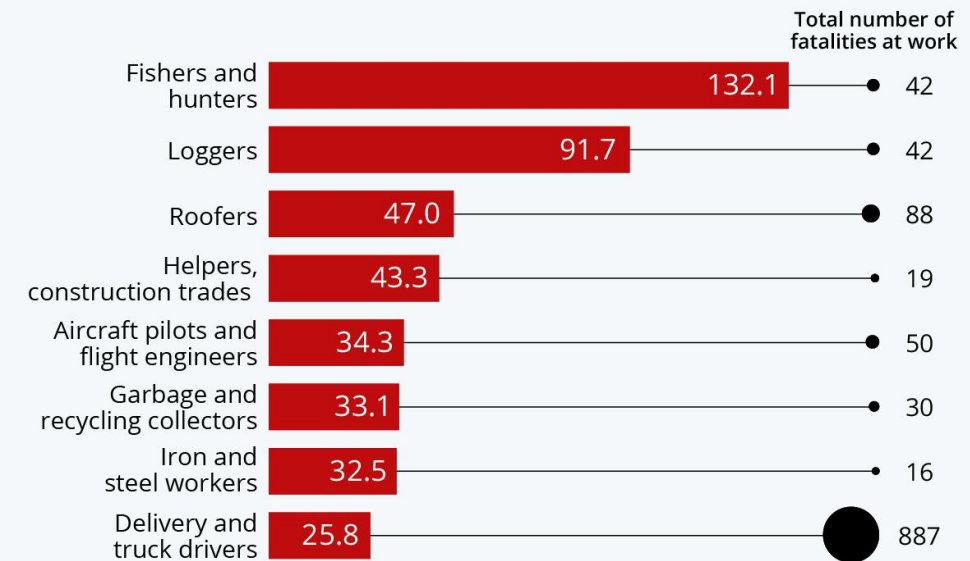


Provisional data: Germany  
 Low data reliability in some occupational groups: Bulgaria, Estonia, Ireland, Croatia, Cyprus, Latvia, Lithuania, Hungary, Malta, Romania, Slovenia, Slovakia, Iceland and Norway. Consult the dataset for further details.

ec.europa.eu/eurostat

## The Most Dangerous Jobs in the U.S.

Number of deaths on the job per 100,000 workers in 2020



Source: U.S. Bureau of Labor Statistics



statista

- **High accident frequency in Forestry industry** is well known all over the world.
- Uncomfortable working conditions

# Introduction

- The number of occupational accidents in forestry can be reduced and prevented by **a high-tech mechanized logging operation**, such as winch-assist harvesting system and automation in forest harvesting.
- In addition, **intensive, proper, and continuous health and safety training** can help to mitigate the risk of occupational injuries and fatalities.



Source: Falcon winch assist



Source: Teleforest



Source: NYCAMH

# Introduction

- In South Korea, modern timber harvesting equipment has been introduced and developed since 1990s, but **labor-intensive logging system has been preferred.**
- Forest training institutes specialize in providing annual training for over 50,000 individuals in forest operations and timber harvesting.
- However, the **health and safety training program** within this curriculum is significantly **insufficient.**
- For these reasons, the objectives of this study were to determine **the trend** and **risk factors related to work-induced injuries.**

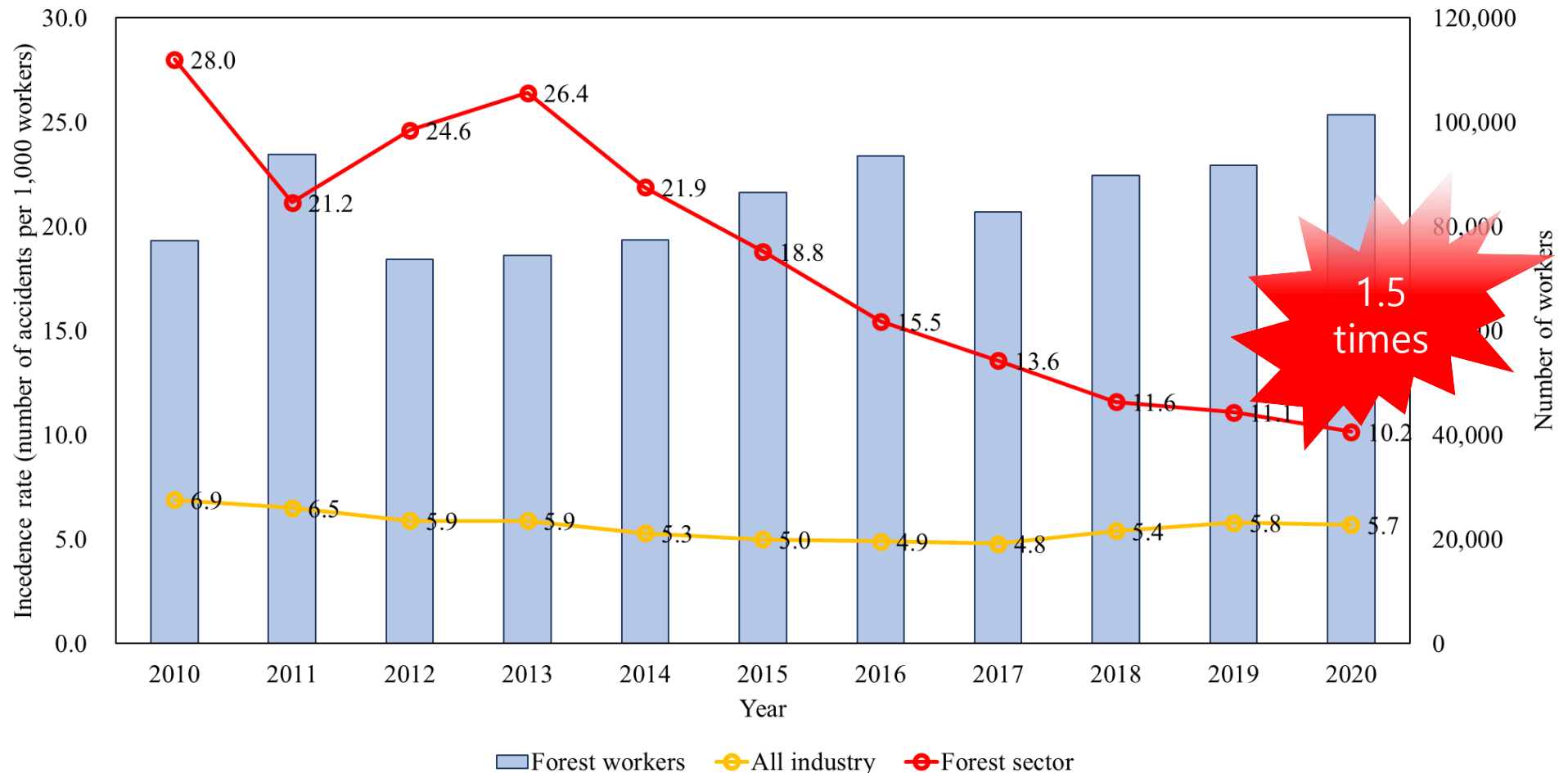


# Materials and Methods

- The data related to occupational accidents in the forestry sector collected from **Korea Occupational Safety and Health Agency (KOSHA)** and **Korea Forest Service (KFS)** websites, and it is published annually.
- KOSHA's data for various industries, including the forestry sector, is published the number of forestry workers and occupational accidents.
- On the other hand, KFS provides more detailed information on occupational accidents level, type, and reason.

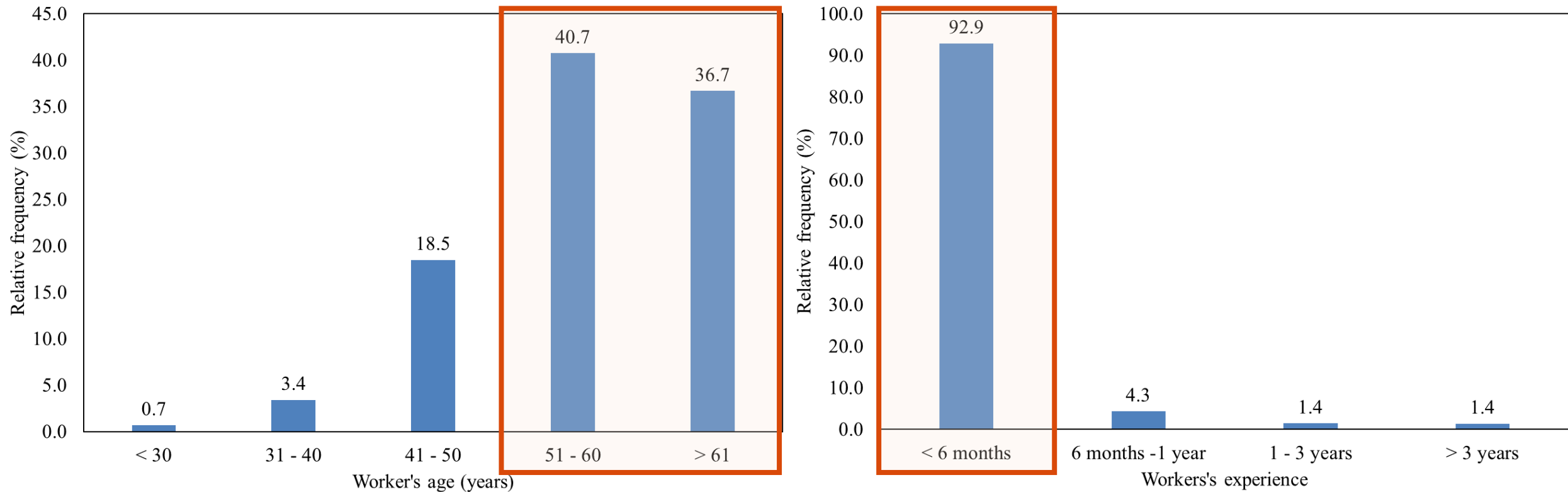


# Results



- The accident rate in the forestry industry has been decreasing.
- This industry is 1.5 times higher than the overall industry average accident rate.

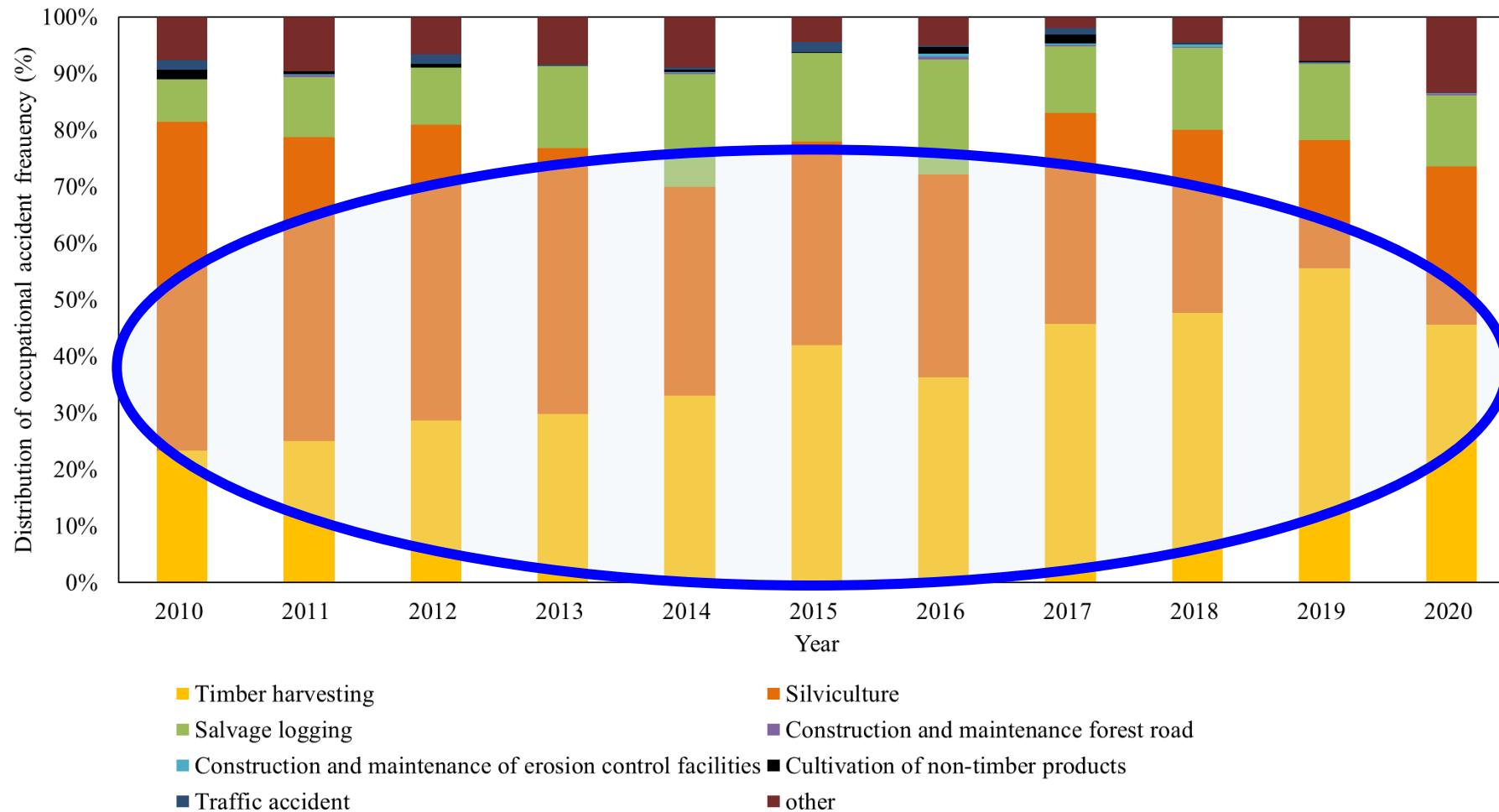
# Results



- Based on our dataset, the accident frequency in age ranges 50s and 60s is higher than other.
- The largest number of accidents of forest workers occurs at the beginning level.
- Occupational accidents shows more frequently as worker's experience decreases.

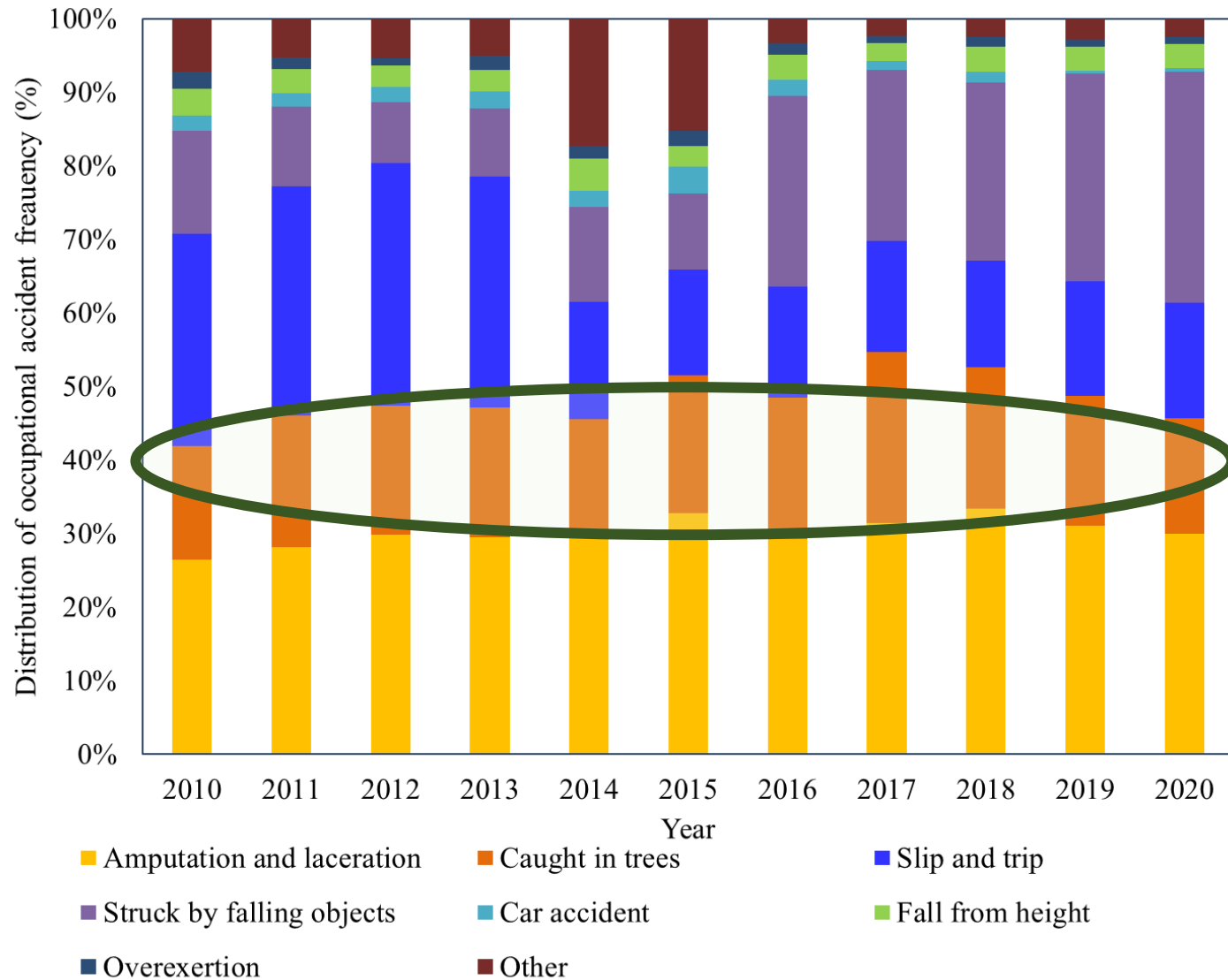


# Results



- The timber harvesting and silviculture activities have recorded the highest accident frequencies.

# Results



- “Amputation and laceration”, “caught in trees”, and “slip and trip” are the most frequent accident category.
- In addition, the category of “caught in trees” has a significant impact on the occurrence of lethal accidents.

# Conclusions

- In South Korea, **forest sector** continues to be one of the **most dangerous industries**.
- The profitability of accidents may be increasing with **insufficient education and training workers in timber harvesting activities**.
- The frequency of lethal and fatal accidents is higher in the “**caught in trees**”.
- To reduce the risk of accidents during forest operation, **forest workers must be properly trained**.

**Thank you for your attention!**

