Safety in Copenhagen Port

Danish title: Sikkerhed i Københavns Havn (SIKHA)



World Conference on Drowning Prevention

Durban, 2019

Copenhagen Risk & Safety Group

CORS

Port of Copenhagen

Approximately 40 km of wharf



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Background for the SIKHA project

- Copenhagen port has gone from being an industrial/commercial port to be a port with a high focus on recreational activities and facilitating many different events, such as:
 - → Swimming in the port, with more than 10 dedicated open water swimming areas, <u>https://www.visitcopenhagen.com/copenhagen/islands-brygge-harbour-bath-gdk482346</u>
 - → Stand Up Paddling (SUP) World Cup 2017, <u>http://www.copencoldhawaii.com/</u>
 - → Red Bull Cliff diving (from the roof of Copenhagen Opera), <u>https://www.visitcopenhagen.com/copenhagen/red-bull-cliff-diving-gdk1007092</u>
- Thousands of **new homes** are constructed right next to the water of Copenhagen Port
- In 2018 Copenhagen Port was placed as the number one swimming city in the World by CNN, <u>https://edition.cnn.com/travel/article/worlds-best-swimming-cities/index.html</u>



Objectives for the SIKHA project

Objectives for SIKHA:

- A. Developing a customised and systematic approach to safety in Copenhagen port and thereby minimise the number of critical incidents in the Port of Copenhagen
- B. Aligning expectation to safety in the Port of Copenhagen both internally in the CPH City & Port organisation, and also with CPH City & Port's external stakeholders
- C. Development of cost-effective safety solutions





CORS Copenhagen Risk & Safety Group The Statistical Value Chain-a Benchmarking Checklist for Decision Makers to Evaluate Decision Support Seen from a Statistical Point-Of-View. Herrmann, I.T., Henningsen, G., Wood, C.D., Blake, J.I., Mortensen, J.B. and Spliid, H., 2013. International Journal of Decision Sciences, 4(2), pp.71-83

Data and information collection

- (Statistical) data collection from various sources
- Site survey of Copenhagen Port
- More than 50 interviews with different stakeholders:
 - a. Police, rescue and fire departments
 - b. The City of Copenhagen/Town Hall
 - c. CPH City & Port
 - d. Various user groups of Copenhagen Port
- Online questionnaire for users of Copenhagen Port

Risk analysis & picture (1 of 3)



Based on data from Southern university of

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Risk analysis & picture (2 of 3)



Data is from Copenhagen fire department Assuming that there is **one million users of port of Copenhagen*** then the likelihood for dying in Port of Copenhagen:

□ ~5/1.000.000 (including suicides)

□ ~3/1.000.000 (without suicides)

*Yearly and guessed based number



Risk acceptance level

CORS Scale for Ranking of Accepted Risk Level		
Level	Description	Meta level
0	Zero acceptance of any risks	Theoretical
1	Lowest (technical) possible accepted risk level	
2	Very low accepted risk level	Risk averse
3	Low accepted risk level	
4	Just below average accepted risk level	
5	Average accepted risk level	Risk neutral
6	Just above average accepted risk level	
7	High accepted risk level	
8	Very high accepted risk level	Risk taker
9	All risks are accepted	

Risk management & recommendations (1 of 3)

KPI 1: Number of serious critical events with fatal outcome/yearKPI 2: Number of serious critical events without fatal outcome/yearKPI 3: Cost of safety

KPI 4: Activity level in the port (e.g. total hours spent in the port)KPI 5: Safety feelings for port users

KPI 1 and 2 can also be calculated per user or per mill. hour

In principle there can be objectives for all the KPIs

KPI: Key Performance Indicator

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Risk management & recommendations (2 of 3)



Kunreuther H., Useem M. 2009, *Learning from Catastrophes - Strategies for Reaction and Response*, Pearson Education, p. 352

Risk management & recommendations (3 of 3)

- Safety policy for the Port of Copenhagen
- Training in risk management
- Budget for safety
- Safety Officer
- Safety organisation, including:
 - Safety steering committee
 - Cross-institutional knowledge and experience sharing group



Summary

- Background and objectives for the SIKHA project
- Method: The Statistical Value Chain
- Risk analysis & picture
- Risk assessment
- Risk management & recommendations

This presentation can be downloaded from: www.cors-group.com/references

