Innovative approaches to managing safety culture in agriculture

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Jarkko Leppälä[1], Stephan Van den Broucke[2]

[1]Natural Resources Institute Finland (Luke)

[2]Université catholique de Louvain, Psychological Sciences Research Institute

[3]University of Nebraska (UNMC)/Natural Resources Institute Finland (Luke)

Sacurima COST Action - Background

Towards better safety culture in agriculture

Photo: David Preston

Sacurima COST Action - Background

Agriculture has one of the worst fatal accident records of any major employment sector

- Over 550 fatal accidents in farming across the EU each year
  - **fatal accident rate**, for the EU 15 in 2000, was 12.6 per 100 000 workers
  - **Rate for accidents with more than 3 days absence** is over 6000 per 100 000 workers

- UK: agriculture accounts for 1.5% of the workforce, but is responsible for 15-20% of workplace fatalities

- Ireland: agriculture accounts for 5% of the workforce but experiences up to 50% of all reported workplace fatalities

  8 times more likely to die working on a farm in Ireland than in the general working population

Sources: Health & Safety Executive 2013; OSHA

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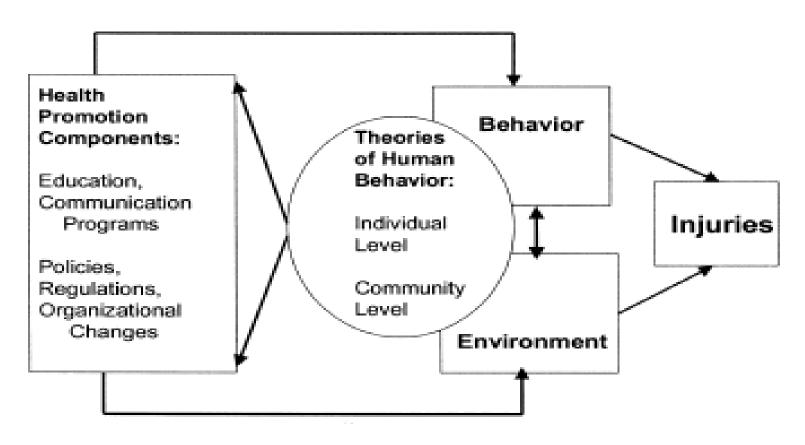# Building the evidence base for effective farm safety programmes

1. Identify behavioural risk factors

2. Analyse the determinants of unsafe or unhealthy behaviour

3. Develop and test interventions to influence health related behavior

4. Investigate conditions for successful implementation and sustainability

Analysing the determinants of unsafe/unhealthy behaviour

Application of **theoretical frameworks** explaining risk behaviour

Source: Gielen & Sleet, Epidemiol Rev 2003;25:65–76

Sacurima COST Action – Working Group 2 objectives

- Understand the determinants of safety behavior in agriculture
  - Individual determinants (knowledge, attitudes, perceived risks, perceived norms, "safety literacy")
  - Contextual/environmental determinants (safety culture)
- Identify ways to measure knowledge, attitudes, perceived risks, norms and behaviours among farmers regarding safety, health and risk management and to measure safety culture on farms.
- Produce innovative tools to measure determinants of safe behavior among farmers, be used for benchmarking national performance.

Working Group 2 methods

- Literature reviews of
  - Conceptualisation of safety culture on farms
  - Tools to measure safety related knowledge, attitudes, perceived risks, norms and behaviours among farmers and to measure safety culture on farms
  - Interventions to promote safety culture in agriculture
- Set up a survey on safety culture on farms
- Formulate recommendations for practice and policies

Definitions of safety culture

Definitions used in other industries

- "Those aspects of the organisational culture which will impact on attitudes and behaviour related to increasing or decreasing risk."

   (Guldenmund, 2000)

- "Safety culture … forms the environment within which individual safety attitudes develop and persist and safety behaviours are promoted."

   (Mearns et al., 2003)

- "The enduring value and prioritization of worker and public safety by each member of each group and in every level of an organization."

   (Von Thaden & Gibbons, 2008)

Definitions of safety culture

"The way in which safety is managed in a workplace. It is the combination of beliefs, perceptions and attitudes of employees toward the safety of workers and the overall safety of the work environment. Cultivating a safety culture is a key aspect in maintaining workplace safety."

"A positive safety culture is the culture of a workplace in which all the employees think of safety as an important thing and behave in a way that prioritizes their own safety as well as the safety of those around them. This includes using proper personal equipment, following the safety laws and just generally being conscious of safety and safe practices at all times."

(Safeopedia, 2018)

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Elements of safety culture

- The safety culture of an organisation is the product of
  - individual and group values, attitudes, perceptions, competencies, and patterns of behaviour
  - that determine the commitment to, and the style and proficiency of, an organisation's health and safety management.

- Organisations with a positive safety culture are characterised by
  - communications founded on mutual trust
  - shared perceptions of the importance of safety
  - confidence in the efficacy of preventive measures."

ACSNI Human Factors Study Group: Third report - Organising for safety. HSE Books (1993)

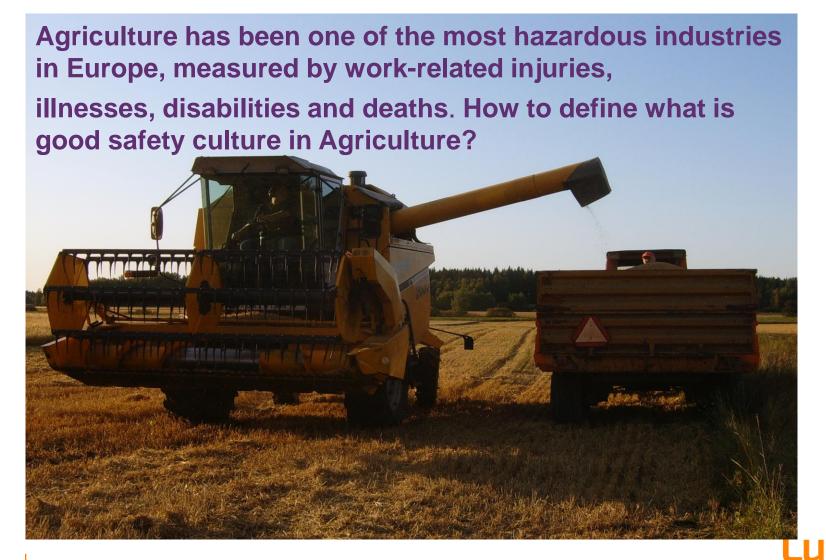# Implementing an effective safety culture involves

- Management commitment

- Visible management

- Good communications between all levels of employee

- Active employee participation

- Training

- Inspection

- Specific documents

- Learning organization - Enforcement and advice

ACSNI Human Factors Study Group: Third report - Organising for safety. HSE Books (1993)

Safety Culture in Agriculture?

Agriculture has been one of the most hazardous industries in Europe, measured by work-related injuries,

illnesses, disabilities and deaths. How to define what is good safety culture in Agriculture?

Motives for safety and risk management on farms?

Photo: Säästöpankki.fi

Photo: Murtolan maatila

Photo: Jaredlendlerpoker.com

OVERCONFIDENCE
This is going to end in disaster, and you have no one to blame but yourself.

Photo: MTV.fi

Photo: Norman Bradley

Photo: Jarkko Leppälä, Luke

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Is this good Safety Culture?

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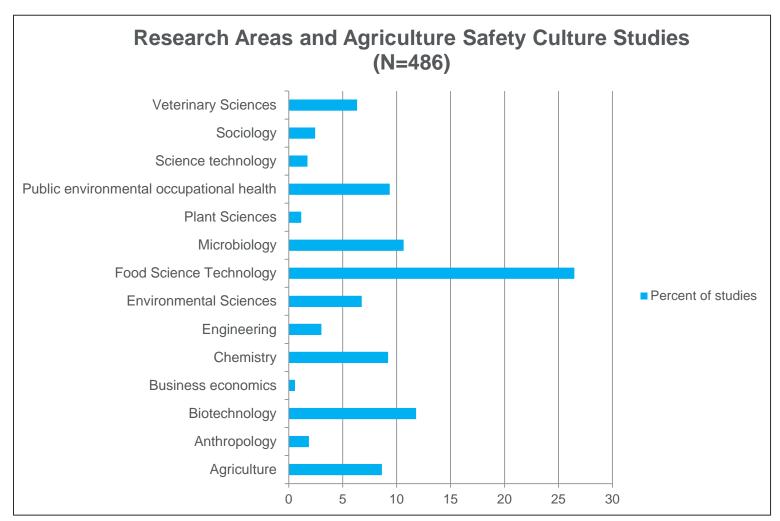
Is this good Safety Culture?

Literature study on safety culture in agriculture

Aims:
- to analyze the way safety culture is defined in agricultural settings
- to identify the main themes considered in agricultural safety studies

Keywords	Date range: 1997- 2017, Scope: Title, abstract, keywords, journals, books	Farm/agriculture safety culture studies applicable to (European?) agriculture
	Web of Science	Total
	Search results	Included articles
"Agriculture" AND " Safety Culture"	124	14
"Farm" AND "Safety Culture"	266	24
"Farm" AND "Safety Culture" AND "Health"	91	15
"Agriculture" AND "Safety Culture" AND "Health"	38	18
"Agriculture" AND "Safety Culture" AND "Knowledge"	10	5
"Farm" AND "Safety Culture" AND "Knowledge"	20	11
"Farm" AND "Safety Culture" AND "Attitude"	9	6
"Agriculture" AND "Safety Culture" AND "Attitude"	3	2
"Agriculture" AND "Safety Culture" AND "Behaviour"	2	2
"Farm" AND "Safety Culture" AND "Behaviour"	9	6
"Farm" AND "Safety Culture" AND "Legislation"	3	1
"Agriculture" AND "Safety Culture" AND "Legislation"	3	3
"Agriculture" AND "Safety Culture" AND "Regulation"	11	9
"Farm" AND "Safety Culture" AND "Regulation"	13	7
"Farm" AND "Safety Culture" AND "Risk Perceptions"	5	5
"Agriculture" AND "Safety Culture" AND "Risk Perceptions"	3	3
	486	131

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Literature study on safety culture in agriculture

Research Areas and Agriculture Safety Culture Studies (N=486)

Literature study on safety culture in agriculture: Thematic analysis

Change in agriculture	Factors in farm safety culture	Safety culture interventions
- Social sustainability in a food system - New business models - New production - Internet technology - New technology - Automation, robots in agriculture - Policy changes - Different cultures - OHS policy in agriculture - OHS approaches on SME/Farms - Future generations - Cultural changes - Needs of change	- Biological risks - Machinery risks - Falls from highs - Bureaucratic control cynicism - Poor perceptions/ identification of risks - Use of illegal pesticides - Myths behind safety culture on farms - Safe work habits - Upbringing of youth – permissive parents - Safety behavior among young farmers - Uncertain culture vs. Knowledge culture - Contamination risk routes - Young farm workers - Negative work safety culture - Free rider culture - Pressure for farmers to change - mental health - What is really important - Alertness to avoid careless attitude - Negative attitudes - Knowledge on farms - Poor education is a risk	- Safety culture – Risk management - Integrated analysis of risks - Human center design - Prevention measures - Safety culture extension - Safety networks - Psychosocial Health Promotion - Raise awareness of risks - Giving tools to manage risks - Use of safety equipment - Discipline strategies among parents - Modeling safe farm behavior - Intervention techniques - Publicity of risks and management tools - Precaution principles in human and animal behavior - Preparedness – safety plans - Verification/control tests - Socially ethical production - Community based participation - Workshops and panel discussions - Herd health plan – Farm health plan - Toolbox of management measures - Good life practices for farmers - Risk control strategies - Innovative public policy and practices - Target risk education - Stop bad risk cycles - Near misses reporting - Accident investigation - Emerging sustainability models

Literature study on safety culture in agriculture:

Safety focus in study articles

Farm workers

Farm family members

Next generation

Farmers

Consumers, community, people in society

Animals

Environment

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Literature study on safety culture in agriculture: Thematic analysis

Environment

Public policy and safety culture on next farm generation

Technological, business or production changes > effects on working culture and safety on farms

Different cultures, different attitudes, perceptions or behavior

Food safety, business demands for safety culture in agriculture

Individual deteminants

Poor knowledge vs. good knowledge

Work safety risks and risk management on farms

Negative attitudes, models, risky behavior vs. safety attitudes, models & behavior

Pressures on farmers, mental health, self management/free rider culture

Interventions

Safety culture education, communication, upbringing of children

Safety culture and risk management tools, preparedness, safety plans

Anthropology culture and psychology studies explaining the reasons of safety challenges

Psychosocial health promotion, risk controls, safety networks, good life practices, stories

Discussion

So far we have found:

Safety is a high priority in organisations, which have good safety culture. How it is seen that safety is a high priority on farms?

Good safety culture sets safety as high priority on farms. It is seen in farm people behavior, attitudes, practices and work activities, which are adopted to farm and farm work in a safe manner.

However:
Safety culture on farms is the way things are and how things are done on farms. Safety culture values can be written, but still people practices and behavior on farms shows the culture in the last place. This is why we need measures and indicators, which are pointing out how good the safety culture really is. If there are lot of accidents, then the safety culture may not be in a right track

Conclusion

" An ounce of prevention is worth a pound of cure"

- Benjamin Franklin

Thank you !

Further information:

Jarkko Leppälä, Natural Resources Institute Finland (Luke),
Maarintie 6, Espoo, 00076 Aalto, Finland
frontname.lastname@luke.fi, tel. +358 29 532 6326

Stephan Van den Broucke, Université catholique de Louvain,
Psychological Sciences Research Institute,
frontname.lastname@uclouvain.be

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