

**COST Action CA16123**  
**Safety Culture and Risk Management in Agriculture (SACURIMA)**  
**Working Group 2 Workshop on Safety Culture Definitions and Tools for Agriculture**  
**COST Office, Brussels, Belgium**

Time: Thursday, January 31, 2019  
Place: COST Association, Avenue Louise, Brussels

### **Participants**

Stephan Van den Broucke, Belgium – WG 2 leader  
Jose Rato Nunes, Portugal – WG 2 vice leader  
Madalina Coman, Romania – Workshop speaker  
Dejan Bugarski, Serbia – WG2 member  
Martina Jakob, Germany – Workshop participant  
Risto Rautiainen, Finland – Action Chair  
John McNamara, Ireland - Action Vice Chair  
Jarkko Leppala, Finland - Scientific Representative  
Peter Lundqvist, Sweden – Workshop participant  
Joze Staric, Slovenia - Workshop participant  
Aurelie Berthet, Switzerland - Workshop participant  
Anne Marie Heiberg, Norway - Workshop participant  
Helle Birk Domino, Denmark - Workshop participant  
Dov Zohar, Israel – Workshop speaker (online)

### **Review of definitions and measures of safety climate, safety culture and safety behaviors/Applying definitions and measures on safety culture to agriculture**

Stephan and Risto opened the workshop and we had a round table introduction.

Presentation by professor Dov Zohar, Israel. He has studied safety culture and safety climate in many industrial fields. There are some new strategies for safety climate improvements as a part of safety culture studies. It is also connected to right (safe) ways of thinking and acting.

Culture research study patterns of shared beliefs and values. How we recognize right behaviour from wrong behaviour? Culture research uses deep – level values and basic assumptions that are shared in an organization.

Safety climate is another concept, where climate concerns cognitive appraisals of culture artifacts. Measuring priorities of workers or experiences to identify positive/negative consequences. Safety climate has proved as stronger behaviour based indicator in organizations or organization safety culture than simple hazard risk check. It has been measured by safety climate surveys, expected rewards for risk behaviour, strategies for

improving safety climate level, safety leadership. Workers who working their own may have their own individual values.

Pat Griffin (Ireland) commented that farmers in Ireland has shared belief that farming is dangerous. Does individual level still have differences in safety beliefs compared to organizational levels for example farmers unions?

Stephan Van Den Broucke (Belgium): We could basically search dimensions on both sides, individual and organizational.

Jose Rato Nunes (Portugal): It is a challenge that farmers does not see very well safety problems as their own (it will not happen to me). Farmers do things in different ways and use different words. The culture is not very coherent in agriculture safety issues..? They would do more safety improvements if they would get subsidies.

Risto Rautiainen (Finland): Or other rewards like insurance bonus.

Anne Marie Heiberg (Norway): In Norway they have a risk rates for farmers which have an effect on their insurance costs (punish/reward system > challenges?).

Pat: Reward is difficult system but bonus scheme might be possible (if there is basic payment like CAP, which farmers rely on). Then using farmers social systems, perceptions, norms and beliefs to improve safety culture/climate.

Risto: Safety competitions have been used in Finland sometimes as reward system. 10 golden rules campaigns...

Jose: Five star farms rate system (certain safety rules).

Stephan: The basic questions are that we should understand what drives unsafe behaviour in agriculture and how to make prevention effective...evidence based prevention.

Jarkko Leppälä (Finland): Self management or leadership competence is needed more in the future. We can make smart systems which are rewarding for both farmer safety and their business.

John McNamara (Ireland): There is always good guys and bad guys.

Jose: New technology innovations are coming via farmer leaders or areal pioneers, who everybody follow.

Madalina Coman (Romania) have had STSM visit in Belgium, UCL hosted by Professor Stephan Van den Broucke on November 2018. Madalina was invited to present her STSM report and study. WG 2 will produce innovative tools and measure safety culture in agriculture, quantified as Safety Culture Index which can be used for benchmarking national performance. Madalina proposed a literature study using meta-analysis. The study is aiming to assess the effectiveness of farm safety education interventions for agricultural workers that have the improvement of health and/or safety literacy as an outcome. Risto mentioned that he have done this kind of study in year 2000. It has been difficult to find relevant studies to prove the education effects on health without long term injury statistics or monitoring.

Usually there are biases in injury outcomes included on many survey results but also statistics.

Safety culture in farming seems to be heterogeneous including different angles.

WG 2 workshop goal was to find relevant definitions and means for safety culture development on farms. One goal and tool is to do literature study but also farm safety culture survey to find more about safety culture or cultural factors in farming.

### **Pilot testing safety culture survey for farms with and without employees - discussion on sampling and data collection strategy**

Discussed behavioural factors and theories related to farmer injuries and health. Factors connected to farm accident prevention are psychological (cognitive, motivation, attitudes) and environmental (physical, social). Should notice what are current utility patterns and expected utility. Unlearning away from bad safety habits is also challenging. Motivational theories of factors which are influencing risk behaviour. Adopting the theory of planned behaviour is one option and it has been applied to some farm accident studies.

Anne Marie: Is it effective if farmers analyse or identify their own bad behaviour or attitudes. Does it make respondents to feel more positive for safety?

Jarkko: In every safety management training we learn that accident analysis or close call analysis is a positive thing for a company. Does farmers' think this way? I think not, but why it is so?

Risto: There are long cultural roots in farming...

In the survey we should consider environmental factors. We could find activating methods, internet based campaigns in positive way.

Stephan: Only small number of programmes are really based on behavioural models. We could investigate conditions for successful implementation methods and sustainability (Madalina's study).

John: I would like to note about how long time it takes for doing questionnaire (for farmers). About max 40 minutes have still had good response rates. It depends also for questionnaire format.

What are modular structure of the inquiry?

Martina Jakob (Germany): Farms with children have different kind of attitude to risks.

Aurelie Berthet (Switzerland): It is difficult to have universal model? We can understand the behaviour but making a fixed model is difficult.

Stephan: It is always better to progress a little bit than going back. We can do priority setting in a new way, using rewards, safety as asset value itself... we can find ways to describe value of safety better.

Anne Marie: Farmers save also lot of money if they do things in a safe way. Safety could be connected to long and short time goals > measurements needed.

Stephan: Farmers life expectancy?

Pat: We can take the critical factors what has found in Stephan's article and add comments to that.

Jose: Farmers have on their mind that accident will not happen to me. When they do their work there is two different goals. What is technically way correct and what is correct way in safety. These must be connected, not separated ideas. But they do not like regulations and instructions and like to use common sense. But whose common sense it is? My grandfathers and his granfathers > traditions?

Where these behaviour patterns come from?

Risto: Then there are farmer and fam employees viewpoints. Different professional cultures and local cultures. Safety regulations in a country. Different measurement tools, different concepts to know. We should modify the questionnaire categories and what to measure. We may do a safety culture survey tool.

Is the questionnaire face to face, phone or internet inquiry? Using existing questionnaires as a base.

Natasa Janev (Croatia): We have done inquiries in PPE's, tractor safety, work environment, safety education etc..

Anne Marie: We have done inquiries also in Norway.

Stephan: Categories we have used in inquiries have been Attitudes, Norms, Behavioral controls. Safety culture improvement as main goal and safety climate as a tool on farms. We can use questionnaire used in Ireland. There were categories like attitudes, intentions and perceived norms. in Stephan's inquiry there were also machinery use. We can adopt and mix parts of different inquiries.

Helle Birk Domino (Denmark): Also farmer competences, motivational factors? What barriers there are?

We may need to shorten the questionnaire and then choose the main questions?

Stephan: As a conclusion we can compile the ideas of other safety culture surveys and safety climate studies. I will share my inquiry and then we circulate the survey questions with the meeting participants. Then we translate the questions to do some tests (1-3 farmers) for the questionnaires in few different countries. Share the results to every member of WG2 participants. . So, we will discuss in Novi Sad about this survey and inquiry. We will get some pilot survey tests probably done in summer and present the results in Milan. Also Madalina's literature study we may have some preliminary results.

Minutes documented by Jarkko Leppälä.