Risk and the use of safety technologies
Quad bike riders and the use of roll-over protection structures (ROPS)

B. Edlund, E. Andersson, T Nordfjell & O. Lindroos

Department of Forest Biomaterials and Technology, Swedish University of Agricultural Sciences, Umeå, Sweden
Department of Forest Resource Management, Swedish University of Agricultural Sciences, Umeå, Sweden
Phd-project

Evaluation of chainsaw education

Quad bike safety and ROPS
• Increase in average annual deaths from 3.8 (2001-2005) to 6.6 (2006-2010)

• Roll over accident accounts for > half all fatal accidents

• In about half of all roll over accidents the rider is struck, crushed or pinned by the quad bike as it rolls
Number of over-turning fatalities with farm-tractors in Sweden and the proportion of farm tractors with ROPS or safety cabin
Our research goal was

• firstly, to explore the underlying reasoning behind the decision to acquire a ROPS for Quad bikes

• secondly, to examine Quad bike riders general understanding of Quad bike injury prevention and the use of ROPS.
Method

To study the Quad bike riders reasoning and understanding. We used interviews

First set
• Quad bike riders (59)
• “street intercept” interviews on forestry fairs
• Quantitative threaded

Second set
• Quad bike rider ROPS owners (11)
• Phone interviews
• Qualitatively threatened
Interview guide - questions

1. Describing of the respondent
2. Personal experience of related accidents
3. ATV safety and prevention
4. Personal experience of safety technologies (PPE, ROPS)
Table 1. Classification of the respondents’ (interview set 1) views of what are the main reasons for Quad bike-related injuries and deaths. Respondents could suggest several different reasons and thus be represented in several categories.

<table>
<thead>
<tr>
<th>Intervention targeting problem</th>
<th>n</th>
<th>%</th>
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<tbody>
<tr>
<td>Rider recklessness (e.g. Speeding, excessive risk-taking in recreational riding, drunk driving)</td>
<td>36</td>
<td>61</td>
</tr>
<tr>
<td>Rider lacking in skill (e.g. Uniformed riders, uninformed parents, lacking skill)</td>
<td>25</td>
<td>42</td>
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<tr>
<td>Poor vehicle design (e.g. Roll-over, jackknifing, emergency ignition switch, excessive engine size)</td>
<td>18</td>
<td>31</td>
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<tr>
<td>Lack in use of PPE (e.g. Helmet, boots)</td>
<td>9</td>
<td>15</td>
</tr>
<tr>
<td>Don’t know</td>
<td>4</td>
<td>7</td>
</tr>
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</table>
Results – Second set (ROPS owners)

“I got so scared [after the roll-over accident] that I said to myself; I will not sit on that machine until I get a ROPS mounted“
Results – Second set (ROPS owners)

“Well, it is nothing wrong with Quad bikes as long as you think ahead, as long as you’re careful”
Results – Second set (ROPS owners)

“The main reason [for Quad bike fatalities] is that they just aren’t capable [enough]”
Results – Second set (ROPS owners)

“They [ROPS] are really great, especially when you have grandchildren who are going to ride, which they of course are... ...I feel much safer now when we have the ROPS [mounted], before I had to be on them [the grandchildren] all the time to make sure they rid safely”.
“My son has no sense when it comes to speed. So I said to myself: I want a ROPS for that one”
Conclusion

Problem of quad bike accidents are seen (in this study) as a problem of rider:

Recklessness and
lacking of skill

Thus
Not all are at risk
Conclusion

Quad bike riders (in this study) don’t have the feeling of being at risk thus:
Don’t see the need to improve their own safety (e.g. by ROPS)

The care of others is a powerful motivator
Questions?

Björn Edlund
bjorn.edlund@slu.se