

## **PRESS RELEASE**

Groningen, 31 January 2018

### **Induced earthquakes damage health and perceived safety**

**The Groningen gas field is Europe's largest and is densely populated. In the province, more than 85,000 people's homes have been damaged several times by earthquakes induced by gas extraction. Three studies examine the consequences for people in the region. More than half of those with repeated damage no longer feel safe at home. The research shows that, over time, damage causes stress-related health problems for an estimated 10,000 people. Health problems have increased over the past two years. These are the conclusions research leaders Prof. Tom Postmes and Dr Katherine Stroebe of the University of Groningen reach in their final report of *Gronings Perspectief* which they present to the *Nationaal Coördinator Groningen*, who commissioned the research, today.**

*Postmes: 'For the past two years we have monitored the consequences of the gas extraction for people in the region. The results are alarming. When we started this research in 2016, there was little attention for the consequences of induced earthquakes for inhabitants. We now have a clear picture of the impact. We conclude that the damage to people's homes has knock-on consequences for safety perceptions and health. By objective standards, this is a serious problem. We recommend developing an integral and coordinated plan of action for this region.'*

#### **Stress and acute health problems**

The problems for those with damage, in particular those whose house was damaged multiple times, are quite severe and mounting. 170,000 people have damage to their homes. 85,000 have suffered damage twice or more often. Of the people with repeat damage, less than half feel safe in their own home. About 10,000 have now developed a range of stress-related health problems that can be traced directly to that damage. The main reasons why damage causes distress are the lack of perceived safety and struggles surrounding damage claims procedures.

Postmes and Stroebe point out that this 'group of 85,000' is not well looked after yet. They advise that an integral plan of action is required. Implementing such a plan requires good coordination. Stroebe: *'These people are not treated or known at present. There is now a concerted effort to improve the damage claims system. But the residents who already went through the previous system and whose problems have mounted over time must not be forgotten. A sizable number of them struggle to lead a normal life because of the damages to their homes. To better understand why these people struggle so much, we interviewed 64 of them in depth. Some can cope with the uncertainty and stress really well, but there are also*

*many who can not.'*

### **Take charge**

Postmes: *'Someone needs to take charge of an integral and centrally coordinated action plan that focuses not just on the health of residents, but also on their safety, the lack of trust and perceived injustice. This plan needs to be developed in collaboration with the residents.'*

### **Consequences of the most recent earthquake in Zeerijp (8 January 2018)**

The researchers conducted a survey among approximately 2000 residents immediately after the latest earthquake of Zeerijp on January 8th of this year. There is a striking resemblance between the geological "shakemaps" computed by the Royal Netherlands Meteorological Institute and observations of the respondents on an adapted version of the US Geological Survey's "did you feel it" questionnaire. This suggests that respondents reported quite accurately what they felt. Averaged across many respondents, the average resident appears to be a good seismometer, who reports their observations truthfully. The earthquake appears to have been felt up to 25 km from the epicentre.

After the earthquake, respondents indicated that they wanted government to recognize the severity of the issue and to take swift action.

The University of Groningen researched the health, perceived safety and perspective for the future in all municipalities in the Province of Groningen. The *National Coördinator for Groningen* commissioned the research. A sample of residents of the entire province (filled in by 2150 respondents or more) completed five measurements. The results were replicated with a second sample of respondents drawn from the LifeLines panel (2,912 respondents). Finally, the report cites results from the Public Health Service's (GGD Groningen) health monitor (16,284 respondents). The results have been published in three academic and two interim reports (all in Dutch), which can be found on the [groningsperspectief.nl](http://groningsperspectief.nl) site.

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### **Note for the press:**

*For more information, please contact Justin Richardson, tel. 06 - 46294540. Alongside the final report, you will find other information on the [groningsperspectief.nl](http://groningsperspectief.nl) website.*

*Appendix: Gronings Perspectief – Summary of academic report #4, University of Groningen, January 2018.*

### **Research report**

*Gronings Perspectief is a collaboration between researchers from the University of Groningen, GGD Groningen and Onderzoek & Statistiek, Municipality of Groningen. The researchers were supported by a supervisory committee consisting of a number of municipalities, the GGD,*

Groninger Bodembeweging, the Nationaal Coördinator Groningen, the Province of Groningen, Veiligheidsregio, Vereniging Groninger Dorpen and academic experts.

*The researchers from Gronings Perspectief reported their first results in interim report #1 in April 2016. An extensive academic report followed in July 2016. Interim report #2 consists of a summary of the most important results of the second measurement. The second extensive academic report contains detailed analyses of results from measurements two and three. The researchers published their third extensive academic report in July 2017. The fifth and final survey was conducted in the autumn of 2017. The researchers are now publishing their fourth extensive academic report, which is also the final report. The findings from the extra survey on Zeerijp are appended to this last report. The researchers will publish a complete report of the Zeerijp findings at a later date. There is a verbal agreement between the National Coordinator for Groningen and the University of Groningen that this research project will be continued from 2018-2021.*

*All reports are public and are available on the [groningsperspectief.nl](http://groningsperspectief.nl) website to residents and anyone else who wishes to read them. The research ran until the end of 2017.*