



## Centre for Societal Risk Research (CSR): Self-evaluation

### Summary

The Centre for Societal Risk Research (CSR) is a knowledge and research centre at Karlstad University established in 2020. CSR conducts research, engages in communication and contributes to education about issues related to societal risks and risk management and how societal development affects these. Through research, the centre contributes to the development of society's ability to understand and manage different types of societal risks. Above all, CSR focuses on generating and communicating an in-depth understanding of underlying factors and processes that contribute to vulnerability at both the individual and societal level. An important tool in communicating CSR's research results and contributing to learning about societal risks are our well-developed and flexible teaching methods.

### 1. Long-Term Goals and Strategies

The Centre for Societal Risk Research (CSR) is a knowledge centre at Karlstad University that conducts research, engages in communication and contributes to education in issues related to societal risks, society's management of risks and how societal development affects them. CSR develops new knowledge through research and educates others based on this, as well as other researcher's, knowledge. This means that a central aspect of CSR is how we communicate research results and how this is linked to societal practice and policy formulation.

Through research, the centre contributes to the development of society's ability to understand and manage risk, with the aim of (1) reducing various types of societal risks and (2) developing an in-depth understanding of underlying factors and processes that contribute to vulnerability at both the individual and societal level. In terms of risk, this means that research focuses to a lesser extent on the threats that affect or potentially affect society and more on society's (in a broad sense) understanding of and ability to deal with these threats and in what ways society is vulnerable to these threats.

CSR was formed in 2020 through a merger of two established centres; the Centre for Public Safety (CPS) and the Centre for Climate and Safety (CCS). This means that CSR has only been active in 2020 during the current evaluation period. We therefore also include activities during 2018-2019 from the previous centres in this self-assessment.

The purpose of the merger was to create an organisation that improved our chances of participating and attaining in major research projects and an increased ability for international cooperation. In addition to this, a merger was also considered capable of providing synergy effects by strengthening the already significant collaboration between CCS and CPS prior to the merger, not least regarding administrative functions. Of course, the ongoing Coronavirus pandemic has been a significant obstacle to building the centre as we intended. This applies in particular to the central goal of being a cohesive centre where the members identify with the centre, feel a sense of belonging in research and where the benefit of working through CSR is clear. Due to the pandemic, there is an obvious risk that working online has reduced collaboration and reduced members' identification with CSR.

As the centre is relatively new and has been hampered by a lack of opportunities to meet or carry out joint activities, the following goals can partly be seen as future ambitions in CSR's development, given that CSR aims to become;

- A well-known and attractive knowledge resource for societal actors and students from a national perspective, known for high levels of knowledge and competence in understanding societal risks with a particular competence in connecting research and practice.
- A well-known and important research actor, both nationally and internationally, where our established and potential collaborators are well acquainted with our researchers, research areas and research results.
- A well-known and appreciated collaborative actor for social actors, students and researchers, making CSR an attractive party in various types of collaborative projects.

## 2. Organisation and Management

CSR is led by two directors; Finn Nilson and Mikael Granberg (the directors from the previous centre formations of CPS and CCS), and a coordinator; Emelie Hindersson. The centre's activities are coordinated by a management group consisting of the directors and the coordinator as well as CSR member Johanna Gustavsson. The management group holds regular meetings where anything from current issues to strategies are discussed and where CSR's regular working meetings (for all members) are planned. The responsibility for research management is on CSR's directors and through the project managers for externally funded projects that are part of CSR. The project managers meet regularly (as a project management group) with the management group.

Presently, a discussion is underway regarding the management structure and future focus. In particular, the leadership of the organisation. One factor in this discussion is that the current structure was seen as a transitional solution when the new centre was formed. Given that it was a merger of two centres, two co-directors (one from each original centre) were appointed in order to ensure a smooth transition from the previous centre formations to CSR. This transition period can now be seen to have passed and another type of management organisation seems more appropriate and will be finalised in the near future.

Centres at Karlstad University, such as CSR, do not employ staff and the centre's management team has no official responsibilities (e.g. staff). Instead, CSR works to bring together researchers from different fields and orientations in themes (which we consider to be under constant development and maturity): ***individual vulnerability; risk theory and risk perception; sustainable development and resilience; risk assessment; and crisis exercise, learning and preparedness*** (these themes are presented in more detail under heading 4 below). Importantly, it is also encouraged that jointly developed research ideas are created that overarch these themes, in particular interdisciplinary collaboration. The themes have been, and continue to be, developed through seminars, workshops, etc., both on the basis of research applications but also from a research communication perspective. As such, CSR is hopefully built and created through its research and outreach activities by everyone who is connected to, and active in, the centre.

CSR's activities are characterised by knowledge-building through research, joint learning, collaboration in projects and tailor-made training. As we are a research and knowledge centre, we consider the centre as having two important roles. The first is to conduct research and be a research partner with those who work with our issues in different ways within academia, in municipalities, at county administrative boards, at various central authorities and in private businesses. The second role is to be an important voice in the public debate, both by disseminating research results but also by contributing our knowledge in relation to the ongoing societal development and debate.

Societal risk management and society's understanding of risk are highly topical issues. As the issues are clearly multidisciplinary, organisation in a research and knowledge centre is a natural way to approach these issues. In addition, we believe that this form of organisation creates common benefits; a strengthened research culture and disciplinary openness. This is achieved by:

- A lively academic conversation at the forefront of research and a peer review of scientific texts and applications that also contribute to individual researchers' ability to compete for external research funding and contribute to the ability to publish research results.
- The production of cutting-edge research by the centre as a whole or via its members in different constellations and the participation of the centre and its members in national and

international academic networks that contribute to future opportunities in obtaining research and/or investigative assignments both for the individual and for CSR as a whole.

- Building a solid reputation as a research and knowledge environment (e.g., through the above-mentioned strategies but also by attracting active and successful researchers to the centre) increases the opportunities to reach out in the public debate and media noise and, through this, influence societal development.

In order to achieve this, a clear individual responsibility is required, a strengthening of common structures (management, communication, joint activities, etc.) and a consensus on common goals. We have not yet reached this point and we currently see a clear development potential in the continued construction of this common platform.

### 3. Competence Profile

CSR's area of expertise is research and communication on societal risks, potentially harmful events and society's vulnerability, based on the present and future societal structure and climate. CSR is therefore a platform for researchers who actively choose to conduct research, collaboration and communication on societal risk. Given that one cannot be employed in the centre and that all members are also affiliated to other research groups, centres or disciplines, there is sometimes a grey area as to whether specific research is conducted within the centre or if results are communicated or used within CSR despite funding being placed somewhere else. CSR wants to be inclusive and take the view that administrative routines and demarcations should not constitute obstacles. However, administrative routines and demarcations can sometimes be challenging to manage: For example, in the comparison of background data in this evaluation process some projects and personnel are not included despite the fact that these individuals or projects would think differently.

CSR is constantly working to increase the centre's competency in various ways, both internally and externally. Internally at Karlstad University, this is done by continuously searching for new and relevant opportunities for collaboration, being open to researchers who want to be a part of CSR and striving to cultivate and strengthen collaboration over time. Externally, we work in a similar way with Swedish and international colleagues (collaboration on research applications, publishing, etc.) but also by inviting external guests to workshops/seminars/joint events, guest research, etc. For example, during both 2021 and 2022 internationally-renowned researchers have been offered financing as guest researchers. We constantly reflect on how we can be attractive as a centre to our members and strive to make affiliation with CSR beneficial. A central component of this is our RiskLab and its associated operations, which have clear development potential in the future.

CSR's members (see <https://www.kau.se/en/csr/about-csr/co-workers>) consist of people employed in various academic disciplines at Karlstad University or at other universities who are involved in the centre's activities and development but who do not necessarily, at present, have funding through the centre's projects (hence discrepancies may arise in relation to the formal list that is part of the background data in the evaluation). Today the members consist of 15 women and 21 men. CSR has challenges in gender equality and diversity like many other academic environments and works proactively to promote equal conditions, gender equality and measures to prevent discrimination, harassment and other abusive treatment in accordance with Karlstad University's common values and tools. Importantly, the centre is more multidisciplinary than the membership list indicates. Many members are employed in the academic discipline of Risk and Environmental Studies. Within this discipline the academic backgrounds are extremely varied, including health, nature and technology but also the humanities and social sciences.

Accordingly, researchers connected to the centre come from a wide range of subject backgrounds, mainly at Karlstad University but also from other universities in Sweden and internationally. Several advisers with a background in business and public or private administration have also been or are connected to CSR. Furthermore, CSR's board constitutes an interface with

both academia and societal actors in the area of societal risk and CSR endeavours to utilise the board as a resource in the centre's ongoing and future development.

Board members:

- Thomas Gell, former Brandskyddsöreningen (chair)
- Misse Wester, Lund University
- Maria Kraft, Swedish Transport Administration
- Martin Kristiansson, Karlstad University
- Sara Brunnberg, Civil Contingencies Agency, MSB
- Margareta Wahlström, International Red Cross, Sweden
- Monika Bubholz, Karlstad municipality
- Michaela Padden, Karlstad University (PhD representative)

CSR also has broad contacts with societal actors in both the private and public sectors (see [www.kau.se/csr/samverkan/finansiarer-och-samverkansparter](http://www.kau.se/csr/samverkan/finansiarer-och-samverkansparter) [in Swedish]).

International collaboration (defined as joint research projects/activities, publications or applications) is an area of development within CSR and above all, more institutionalised collaborations (as opposed to individual efforts) are something to which we aspire in the coming years. International collaboration is currently in place with researchers in Australia, Bangladesh, Pakistan, Denmark and Germany (see examples in the list of publications <https://www.kau.se/en/csr/publications/peer-review>). Research projects have also been carried out or have been planned together with Norwegian, British and American actors. All articles and books written by members of CSR have been published through English speaking publishing houses or academic journals. Several publications are co-authored with international researchers and practitioners. Debate articles have also been written in both national and international media, leading to interviews with CSR members about, for example, Sweden's handling of Covid-19, the safety of the elderly, climate-related issues, fire safety, etc.

During 2020, co-authorship and the number of applications together with actors outside of CSR has increased, especially with regard to applications with researchers working at other Swedish universities. The ambition for 2020 (with the merger of CCS and CPS) was to initiate more co-authoring both within the centre and with strategically selected actors outside. The stated strategy was to start by expanding collaboration on applications in order to have the effect of publishing more together in established collaborations in the longer term. In 2021 and beyond, the focus is on establishing increasingly international contacts.

Finally, we have experienced a vulnerability in being an environment with relatively few senior researchers and this is a challenge when working with major research applications and when staffing approved research projects. An explicit development strategy for dealing with this problem has been, and is, to "train" junior researchers by including them in application processes, co-writing and project leadership. This has been relatively successful but this work needs to continue. We have also provided the opportunity for students at the Master's level to co-write research articles and reports as part of creating a recruitment base for new doctoral students in relevant subjects. Within CSR, we see a need for collaboration with representatives from more subjects and from other universities. The themes within RiskLab, for example, open up for a broader societal risk perspective on sustainable development and pedagogical/didactic subject areas. There is clearly potential to collaborate with more researchers and teachers in political science, social planning, social sciences, biology, natural geography, geography, communication sciences, economics, law, etc.

## 4. Research areas and results

CSR's research is grouped under a number of themes that are both historically rooted in previous research centre formations but which have also grown (and are growing) as a result of new research

collaborations. The research conducted in CSR is not evenly distributed across these themes, but can vary both on the basis of research funding received and the areas in which the centre's researchers are active. Furthermore, the themes have different degrees of maturity and some are under development.

- *Individual vulnerability*: the focus in this theme is primarily on risks at the individual level, although is often connected to society's understanding and handling of these risks. A pervasive and common theme in this field are the different dimensions of vulnerability that in turn are linked to more or less modifiable individual or societal risk factors, in themselves often related to socio-demographics.
- *Sustainable development and resilience*: in this theme the way society acts in order to withstand the effects of disastrous events and manage societal risks while maintaining governance and central societal functions is the primary focus. The dominant perspective in this theme is the effects of climate change, but the theme opens up for studies of the management of a large number of different types of societal risks.
- *Risk theory and risk perception*: in this theme different perspectives are studied that are related to the understanding of societal risk from a more theoretical and abstract level. Risks are valued, perceived and understood differently between individuals and groups in society. Understanding these differences and their underlying causes is important as it affects how practical risk management measures are designed and created.
- *Risk assessment*: in this theme the focus is on using models as a tool for understanding complex and socio-environmental dynamics. Analyses of causation and the possibility of making forecasts regarding both the current and future climate are central issues.
- *Crisis exercise, learning and preparedness*: this theme focuses on methods and tools that can contribute to developing the pedagogical skills of teaching and informing about risk-related issues. This includes crisis exercises, learning from disasters and accidents, as well as prevention and preparedness exercises. An underlying goal is that innovative tools can make crisis exercises, crisis preparedness or injury prevention more inclusive, understandable and thereby better reflect society before, during and after a crisis situation.

Regarding the results of CSR's research in these themes and how the results have contributed to the national and international knowledge development, we have outlined some of our activities based on these themes. Given that this evaluation also concerns a period in which CCS and CPS were active, two themes (*Sustainable Development and Resilience* and *Individual Vulnerability*) are particularly focused upon.

### Sustainable Development and Resilience

Three research projects have had a major impact on research at CCS and then CSR regarding climate risks and management; the five-year research project Reduced Climate Risks in Future Housing and Dwellings, funded by the Länsförsäkringar (County Insurance) Alliance's research fund; the four-year research project Resilience in Sweden: Governing, Social Networks and Learning (a collaboration between CSR, Mid-Sweden University and the Swedish Defence University), funded by MSB; and the ten-year research project between CSR, the Swedish Defence University and Uppsala University), funded by the government via a strategic research area (SFO). Other projects have also been important, however as these three are considered our most significant, their research results are briefly summarised below.

In climate adaptation, the focus is often on new constructions, but at the same time there are many areas that should probably never have been built upon and this points to risks and vulnerabilities linked to the existing built environment. There are areas with significant flood and landslide threats that have been built upon, including infrastructure, industry and housing. This means that the issue of responsibility is central. Studies at CSR have shown that the question of responsibility is often perceived as unclear. Formally and legally, the property owner is responsible

for preventive measures, the handling of acute weather events and for measures to repair resulting damage. At the same time, knowledge of climate risks is small among property owners, which can lead to shortcomings in responsibility for preventative measures and/or remediation.

CSR's studies have also shown that property owners who have experience from previous floods implement measures to a greater extent. The experiences lead to a greater responsibility for risk reduction and they believe that they have good knowledge of how they can reduce their flood risk through their own measures. However, they also believe that municipal measures are not sufficient in reducing risk in their own residential area and many property owners express opposition to implementing measures. The most common reasons for their resistance are that they: 1) cannot determine whether the measures in question will actually reduce their risk of flooding; and 2) do not believe that the proposed measures can reduce their private risk. In general, research shows that confidence in municipalities' risk-reducing measures is low. At the same time, the majority think that the municipality has the greatest responsibility for protecting private homes from being affected by floods.

Municipalities often collaborate with other actors and CSR's research shows that coordination, integration and participation are of central importance in reducing climate risks. However, problems with coordination and unclear responsibilities between municipalities, regions, state and state authorities, can create problems. Of course, this has implications for the involvement and cooperation with non-public actors that are needed in the management of flood risks, such as private companies, interest groups and local residents. A consequence is that the role and mandate for collaboration in different networks, and between the participating actors, may become unclear, thereby hampering the effectiveness of these collaborations.

Furthermore, it is difficult to show clear connections between precipitation intensity, topography and damage, as data that captures this information is often deficient or fragmented. Research results from CSR contribute with knowledge that will be used for further development of models that describe the relationship between downpour and downpour damage. With the support of these research results, there are sound future possibilities to increase the understanding of rainfall claims by using existing data from various sources, and to make data from the insurance industry more widely available.

From a municipal perspective, analyses of threats and risks linked to a changing climate are central in reducing the municipalities' vulnerabilities. CSR's research has shown that these analyses and surveys often involve investments in physical protection (e.g., dikes) and changed planning levels (for example with regard to rising water). The municipalities also focus on growth, relying heavily on a perception of urban competition and the need for Swedish cities to be attractive to residents and investments in relation to other cities in Sweden and abroad. One conclusion from this research is that the political agenda is dominated by a growth imperative that is clearly problematic in regard to the effects of climate change. As a result, municipalities can become risk- and vulnerability-producing.

When it comes to the past, and also much of the contemporary research on climate risks and adaptation to a changing climate, it is largely scientific and technological. This means that CSR's predominantly social science-based research has made clear contributions to national and international knowledge development within this research and policy area (see examples of this in <https://www.kau.se/en/csr/publications/peer-review>).

Within the framework of the project Reduced Climate Risks in Future Housing and Dwellings the research project The Pandemic in the Local Community was also carried out. The project showed that municipalities generally strive to absorb disruptions and crises with the help of the regular organisation. Although almost all municipalities in the study have activated some form of special crisis organisation, they have first and foremost coordinated crisis management. The crisis management organisation has been used with restraint and collaboration has largely taken place through previously developed channels and forums. The project also shows that the local conditions for municipal crisis management differ to a very large extent due to municipalities'

differing organisation, especially regarding the number of staff involved in the emergency preparedness function.

Another area where CSR has research and development projects linked to sustainable development is in learning processes and didactics. At present, focus is mostly on didactics for climate aspects of sustainable development, but here there is great potential for broadening and developing the work by linking to teacher education programmes. CSR includes researchers from Science, Mathematics and Engineering Education Research (SMEER), the node from which subject didactic research in science, mathematics and technology is coordinated at Karlstad University, and the Centre for the Didactics of Social Sciences (CSD). From this perspective one research project in particular is interesting to mention: BriCCS - To teach About Climate Change, funded by VR, which aims to develop climate competence in schools. Here, RiskLab is a starting point for research.

### Individual Vulnerability

Within the theme Individual Vulnerability, CSR has received research funding from, among others, the Swedish Civil Contingencies Agency (MSB), the Kamprad Family Foundation for Entrepreneurship, Research and Charity (Kampradstiftelsen), Brandforsk (Fire Research) and the Swedish Transport Administration. Successful applications have been written by CSR on its own but also together with the University of Gothenburg, Lund University, Research Institutes of Sweden (RISE) and Ersta Sköndal Bräcke University. The common theme for these projects has revolved around understanding differences in exposure to risk and which socio-demographic factors are particularly predictive of morbidity and mortality. As it is usually the same socio-demographic factors that increase the risk of many different types of injuries and accidents, there is no point in dividing the research into sectors based on the type of injury but instead seeing common factors. This means that even though the research may seem to be focused on house fires, unprotected road users or fall accidents among the elderly, the underlying factors are often common.

In particular, CSR has been instrumental in understanding the socio-demographic factors behind housing fires. Few international research centres have been as productive in these matters and the studies have not only been able to map risk groups, event types, geographical differences and European differences based on welfare systems but have also been able to demonstrate the effect of a number of different injury-preventing measures and which groups are most helped by particular measures. As fire research is traditionally very technical, despite the fact that many of the most obvious risk factors are of a more social science nature, CSR's research has made a strong contribution to both national and international knowledge development.

The same applies to the research conducted into injuries resulting from a fall. Research on fall-related injuries has traditionally been medical and often focused on bone health and the health of individuals. Within CSR, the issue has been approached in a different way, combining social science with medical knowledge. This has, for example, led to research on bio-mechanics and shock-absorbing floors in nursing homes though also viewing fall-related injuries as traffic-related injuries and investigating the implementation and effect of injury prevention measures such as ice cleats. Within the theme of individual vulnerability CSR has excelled in evaluating fall injury prevention measures by combining advanced statistical methods with qualitative methods. Studies of various municipal programs as well as concrete interventions such as shock-absorbing floors in nursing homes have been able to both question effects but also prove effects. In these fields, CSR is relatively unique and collaboration takes place with other research groups around the world.

Finally, within the theme of individual vulnerability, studies have begun where the focus is primarily on primary prevention and safety promotion. The largest project within this sub-theme is carried out by an interdisciplinary project group with risk experts, public health scientists, psychologists and sports scientists. The purpose is to promote physical activity and improved health amongst elderly, thereby hopefully reducing the risk of falls. Furthermore, CSR plans to study research issues on individual vulnerability in more detail on the societal effects of a changing

climate. The research takes place in close collaboration with municipal actors and has a relatively unique experimental multidisciplinary approach.

### Other Themes

Since CSR was formed through a merger between CPS and CCS, two centres that focused on research in personal injuries and societal connections to climate-related social effects, the two aforementioned themes comprise by far the largest research output during the selected time period. This is relatively unavoidable as the applications for these research projects were written before the merger. However, this does not mean that other themes have not been included in our ongoing research. Rather, they are to a greater extent under development/construction.

In Crisis Exercises, Learning and Preparedness, the EU Interreg funded research and development project CriseIT (CSR alongside the subject Informatics at Karlstad University and the Inland Norway University of Applied Sciences as well as societal actors in Norway and Sweden) has studied digital and crisis exercises. The 6-year CriseIT project is unfortunately not included in the background data of this report as it is administratively based at the School of Business, Economics and Law at Karlstad University. However, the project is clearly a part of CSR. CriseIT has developed methods for digitalisation of crisis exercises and the dissemination of knowledge about how IT-supported exercise methods can include more people and contribute to an improved ability and better education in society's crisis management. Within the same theme, CSR has also evaluated crisis exercises and society's handling of occurring events, primarily in relation to the Covid-19 pandemic at the regional and municipal level.

Within *Risk Assessment*, research is conducted in, among other things, disaster modelling, focusing on rainfall risks, for example in the SPLASH project. The project developed a methodology for disaster modelling of precipitation threats, exposure and potential damage. Also, methods for handling insurance data on flood damage to better understand the relationship between precipitation and damage, and the establishment of an arena for cooperation between academia, the insurance industry and rescue services, with the aim of helping to reduce long-term disaster risks in Sweden. CSR has also, on behalf of MSB, contributed to the knowledge base in the field of methodology for the development of vulnerability indices for climate-related risks in Sweden and the visualisation of such through the use of geographical information systems (GIS). Additionally, the Participatory Modelling Project focuses on how different modelling software can be used to support communication and learning in heterogeneous groups.

Within *Risk Theory and Risk Perception*, research has been ongoing during 2020 (and 2021) in relation to the Swedish Covid-19 strategy. For example, the perception of risk has been investigated in older people during their isolation. Studies have also been published that have analysed the Swedish strategy based on various risk management theories (see <https://www.kau.se/en/csr/publications/peer-review>). At the time of writing, research applications from CSR that concern risk theory issues are being assessed, and in the future a number of research applications are planned together with researchers at other universities within this theme.

## General Comments About CSR's Research

CSR clearly contributes to the overall goal of Karlstad University's strategy by conducting research at a high academic level with substantial significance for society. Furthermore, CSR contributes to the university's strategy and profile by working with multidisciplinary and needs-motivated research, often in close collaboration with societal actors. This also means that the collaboration component in CSR's operations (goal 3) is well in line with the university's strategy and profile, and is relevant to all of Karlstad University's five strategic goals for the period 2019-2023. There is a clear link between CSR's research and education at undergraduate, advanced and postgraduate level (goal 1) in that the active researchers in the centre are also active as teachers at all levels of education thereby conveying research results through research-linked teaching. CSR strives to build a well-functioning and attractive research environment that contributes to the university's ability to recruit both staff and students (goal 2). In addition, our quest for internationalisation contributes to

Karlstad University's broader goal in this regard (goal 4). Another contribution lies in CSR's focus on sustainable development and sustainability (goal 5).

At CCS and CPS, the production rate of international peer-review articles was high and this rate has been maintained and also increased somewhat within CSR (see <https://www.kau.se/en/csr/publications/peer-review>). The main focus has usually been on scientific articles (and to some extent reports), but there have also been books published by Swedish and international publishers. The focus on articles and reports can most likely be linked to the close relationship between research grants or assignments and publications that are produced in accordance with the output requirements that accompany these grants. The grants are often relatively short-lived, which often means that more empirically connected articles are produced rather than books.

As can also be seen in the list of publications, the subject areas are broad and articles are often co-authored with both internal and external authors. Several of the publications are clearly close to societal issues and usually practically applicable, though some publications also have clear theoretical ambitions. The citation rate is relatively high and the media attention around certain publications has been considerable.

The ten selected publications aim to provide an overview of the breadth of CSR's research during the period 2018-2020. Therefore, they are not selected on the basis of traditional bibliometric criteria.

## 5. Collaboration and Interaction with the Surrounding Society

In a society where risk and safety issues are becoming increasingly complex and important, various efforts to understand and communicate these risks within academia, but also to a wider range of societal actors, is becoming increasingly important. Central to CSR is to enable the co-producing of learning with the broad participation of actors from different levels and spheres of society. Learning takes place organisationally and individually as well as in the interactions between individuals and organisations. As many of our issues are characterised by change, it becomes important that learning "builds in" a flexible ability to adapt to constantly changing conditions in the form of new threats and vulnerabilities. Therefore, we work with various forms of flexible learning, for example through developed crisis exercise methodology and pedagogical tools.

CSR's research has an interdisciplinary approach where research interests and focus often arises at the interface between academia and society. This means that a significant proportion of CSR's research is directly and concretely socially beneficial as many of our research questions have originally arisen from the needs of societal actors. In this way, we connect research and practice and create a knowledge arena that in turn enables meeting places where experience and knowledge contribute to educational initiatives in the various academic disciplines which the researchers in CSR represent. CSR works with this format from the local to the global level, nationally and internationally.

Consequently, collaboration is a priority for CSR and a large part of our work would not have been possible without external funding. The fact that we have engaged in active, collaborative and goal-oriented work for a relatively long time has meant that we have collaborated with, and received funding from, many actors, partly as CSR and partly as the previous centres of CPS and CCS (see list of collaborating parties in [kau.se/csr/samverkan/finansiarer-och-samverkansparter](https://www.kau.se/csr/samverkan/finansiarer-och-samverkansparter) [in Swedish]). As already mentioned above, CSR's board also includes actors from relevant areas of society.

CSR attaches great importance to research communication and the creation of arenas for the exchange of knowledge and experience. We have a concept for this that we call RiskLab. RiskLab consists partly of an actual room (a "living lab") where we use various analogue and digital tools to communicate our own and others' research on societal risks. However, RiskLab has also developed to support communication and interaction around interdisciplinary research results on often complex processes in an accessible and committed way. RiskLab is also a meeting place where new research questions are created and various forms of data collection are made possible. In RiskLab, it

is possible to both participate in interactive presentations of research but also "feel" different types of risks and their effects. We also connect workshops, excursions and similar events to RiskLab as we move our communication and learning to places where events have occurred and/or risks are more tangible. Through RiskLab's various forms of expression, we also create arenas where the exchange of knowledge not only takes place between academia and societal actors, but where exchanges of experience between societal actors are also made possible. As such, RiskLab is not merely a space or physical location but rather a concept.

Examples of pedagogical tools included in RiskLab are: Risk walks - where risk-exposed or vulnerable places are visited and where discussions about, for example, resilience and risk perceptions in community planning are carried out. Riskville (Riskköping) - a game where the participants together in dialogue make decisions about, and build, a sustainable society with a focus on risks. Floodville - an interactive and physical flood game (with actual running water) where participants must prioritise socially important activities and save a community from flooding with the help of modelling clay. Role play - where, in a playful way, the participants represent different societal interests that should need to act together, though have different priorities, in the event of a disaster. They learn, for example, how difficult it can be to act, cooperate and make decisions together with other societal actors.

In our experience, there is great interest from societal actors in wanting to know more about CSR's research and activities, from basic subject knowledge to more specific solution-focused knowledge. There is considerable development potential in understanding what these specific societal needs are and how these can be met through target group-adapted research communication. RiskLab can therefore increasingly function as an arena for both CSR and for external researchers to identify needs and then to address knowledge gaps, facilitate collaboration and inspire learning. Here we also see great development potential in offering competence development to societal actors and expert groups of various kinds through commissioned courses or other types of tailor-made development and training assignments.

Other elements of collaboration are seen in CSR's engagement in media. During 2018-20, researchers from CSR have regularly participated in the media, partly to present research but also to comment on and debate risk issues, e.g. the management and effect of Covid-19, house fires and climate change. Researchers from the centre have also presented or lectured at conferences, workshops and seminars at other universities, with funders or interest groups, as well as with authorities, municipalities and regions.

In communicating research results, public actors and the insurance industry have been mobilised. In workshops with staff from Länsförsäkringar and public actors, the connection between planned and actual construction in flood-prone areas and the responsibilities of public and private actors in community building processes were discussed.

Research from CSR has also been used in other societal functions. For example, as background material in the drafting of legislation in the USA regarding bans for certain dog breeds and as a basis for public debates regarding bicycle helmet legislation and requirements for self-extinguishing cigarettes. Research results from CSR's research on the Covid-19 pandemic have been used by the Swedish Civil Contingencies Agency (MSB), the Coronavirus Commission and by municipalities and research on fires and society's preventive responsibility in everyday accidents and disasters in the strategic work in municipal rescue services or urban planning. Researchers from CSR have also been invited to act as experts in various settings, for example through the Swedish Research Council. Some research and development work has also concretely led to reduced injuries, for example in elderly care through the application of energy-absorbing floors. Research on climate risks has contributed to a critical discussion among insurance companies, county administrative boards and municipalities about how municipalities act and how this can/should affect opportunities for waterfront construction and whether properties in areas with clear climate threats can/should be insured.

## 6. Interaction between research and education

CSR does not conduct its own education, but all participating researchers teach in various subjects and in commissioned education. In addition, CSR constitutes an important research environment for the doctoral students included in the centre, and CSR thus contributes to postgraduate education in primarily Risk and Environmental Studies and Political Science. CSR also contributes to education, not only at the university and at university level, but also for lifelong learning - for children and young people through activities aimed at schools, for potential future students and through commissioned education and other educational contexts for social actors within our sectors.

Several courses in various educational programs have been developed with the support of research conducted within CSR. An example is the course "Environmental Policy" (7.5 credits) which is given in the Political Science Master's program and which is significantly based on two of CSR's externally funded research projects (Reduced Climate Risks in Future Housing and Dwellings and Resilience in Sweden: Governing, Social Networks and Learning). In a similar way, research in event safety has led to three commissioned educations run by Uppdrags AB at Karlstad University. Finally, the Master's program "Risk Management in Society" is heavily influenced by CSR research.

The activities in RiskLab bring together methods and tools that are increasingly appreciated as sound didactic tools for conveying scientific insights on, for example, climate issues to students, non-experts and the general public. Games enable education, communication and visualisation of climate-related risks that are relatively accessible, concrete and entertaining without trivialising research results.

Education and research often stimulate each other and, for CSR, this influence is indirectly achieved through the teachers who are also active as researchers at CSR. From CSR's perspective, however, this interaction is most evident in the work with RiskLab. Student contacts can mean that new perspectives emerge and this stimulates the development of new problematisations. The development and use of pedagogical tools has also led to the formulation of new research questions and a research application on how pedagogical tools can function as a way of understanding the difficulties and challenges of climate change has been prepared and submitted to the Formas Research Council.



Centre for Societal Risk Research

# BACKGROUND DATA

Periodic Research Review

## INTRODUCTION

The purpose of the background data is to provide an overview of the evaluation unit, The Center for Societal Risk Research, regarding: staff, economy, research funding, internationalisation, bibliometrics, collaborations and utilization of research for the period of 2018-2020. Details regarding data source or possible deviation will be stated in the individual figure text.

## STAFF

**Table 1.1.** Staff via category, full-time equivalents (FTE) and FTE distribution between research and teaching.

The table only includes research staff employed at the evaluation unit. In cases where staff is not employed at the evaluation unit (a research centre and targeted initiative), an account string is used at the evaluation unit to identify individuals who are part of the unit. Staff categories, separated by gender, that are included in the table are lecturers, senior lecturers, professors, researchers, career-development positions and visiting researcher fellows.

### 2020

POSITION	GENDER	FTE	PROPORTION TEACHING	PROPORTION RESEARCH
Visiting researcher	M	0,1	0	100
Professor	M	0,81	0	100
Senior professor	M	0,20	0	100
Postdoc	M	1,88	0	100
Lecturer	F	0,86	0	100
Lecturer	M	0,16	0	100
Senior lecturer	F	0,53	0	100
Senior lecturer	M	0,83	0	100
<b>TOTAL</b>		<b>5,37</b>	<b>0</b>	<b>100</b>

### 2019

POSITION	GENDER	FTE	PROPORTION TEACHING	PROPORTION RESEARCH
Professor	F	0,03	0	100
Professor	M	0,79	0	100
Senior professor	M	0,53	0	100
Postdoc	F	0,07	0	100
Postdoc	M	1,83	0	100
Lecturer	F	0,51	0	100
Lecturer	M	0,08	0	100
Senior lecturer	F	0,74	0	100
Senior lecturer	M	1,29	0	100
<b>TOTAL</b>		<b>5,86</b>	<b>0</b>	<b>100</b>

### 2018

POSITION	GENDER	FTE	PROPORTION TEACHING	PROPORTION RESEARCH
Professor	F	0,03	0	100
Professor	M	0,84	0	100
Visiting professor	M	0,10	0	100
Senior professor	M	0,57	0	100
Postdoc	F	0,95	0	100
Lecturer	F	0,66	0	100
Lecturer	M	0,01	0	100
Senior lecturer	F	0,31	0	100
Senior lecturer	M	2,46	0	100
<b>TOTAL</b>		<b>5,93</b>	<b>0</b>	<b>100</b>

Source: The personal administrative system, Primula

**Table 1.2.** Career-development levels among teachers, number of full-time equivalents.

	PROPORTION TEACHERS WITH A COMPLETED PHD	PROPORTION OF READERS AMONG SENIOR LECTURERS
<b>2020</b>		
Female	98%	0%
Male	93%	84%
<b>TOTAL</b>	<b>95%</b>	<b>51%</b>
<b>2019</b>		
Female	95%	0%
Male	98%	54%
<b>TOTAL</b>	<b>97%</b>	<b>34%</b>
<b>2018</b>		
Female	66%	0%
Male	100%	41%
<b>TOTAL</b>	<b>89%</b>	<b>37%</b>

Source: The personal administrative system, Primula

### THIRD-CYCLE STUDIES

**Table 2.1.** Doctoral students

ADMISSION SUBJECT	GENDER	YEAR OF ADMISSION	STUDY ACTIVITY AUTUMN TERM 2020
Risk and Environmental Studies	F	2018	74
Risk and Environmental Studies	F	2018	80
Risk and Environmental Studies	F	2019	77
Risk and Environmental Studies	M	2019	43
Risk and Environmental Studies	M	2018	60

(There are none industrial/external doctoral students with study activity selected term.)

Source: Ladok

**Table 2.2.** Licentiate and doctoral degree per gender

DOCTORAL DEGREE	GENDER	2018	2019	2020
Risk and Environmental Studies	F		1	
Political Science	M	1		
Risk and Environmental Studies	F	1		
Risk and Environmental Studies	F	1		
Risk and Environmental Studies	M	1		
<b>TOTAL SUM</b>		<b>4</b>	<b>1</b>	<b>0</b>

## FINANCIAL RESOURCES

**Table 3.1** Profit and loss statement for research per year

Amounts in SEK 1 000

	2018	2019	2020
<b>REVENUE</b>			
Direct government funding <sup>1</sup>	3 451	2 650	2 472
External funding <sup>2</sup>	11 720	11 084	8 474
Inter-company revenue <sup>3</sup>	-405	3	66
<b>REVENUE TOTAL</b>	<b>14 765</b>	<b>13 737</b>	<b>11 012</b>
<b>EXPENDITURE</b>			
Staffing costs			
Salaries researchers and teachers	-6 697	-7 740	-6 654
Remunerations	-96	-135	-
Salaries administration and technical staff	-761	-420	-525
Other staff costs	-159	-134	-19
<b>Staffing costs total<sup>4</sup></b>	<b>-7 714</b>	<b>-8 428</b>	<b>-7 198</b>
<b>Other operating expenses</b>			
Other operation expenses <sup>5</sup>	-2 268	-872	-331
<b>Inter-company costs and expenses</b>			
Inter-company costs and expenses <sup>6</sup>	-4 296	-4 185	-3 703
<b>EXPENDITURE TOTAL</b>	<b>-14 278</b>	<b>-13 485</b>	<b>-11 231</b>
<b>TRANSFERS</b>			
Funds for financing grants	83	359	800
Grants paid	-83	-359	-800
<b>Transfers Total</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>SUBTOTAL</b>	<b>487</b>	<b>252</b>	<b>-219</b>

Source: Raintance

<sup>1</sup> Funding directly allocated to the university by the Swedish government.

<sup>2</sup> Includes revenue from fees, other reimbursements and funding. Funding which can include grants from Councils, other public research funding agencies, municipalities, regions and research foundations.

<sup>3</sup> Inter-company transactions includes, for example, grants and/or compensations from other parts of the university or from the relevant audit unit as well.

<sup>4</sup> Staffing costs mainly refer to costs for personel who receive salary from the relevant audit unit.

<sup>5</sup> Other operation expenses can include, materials, costs for hired expertise, other consultats, travel costs, costs for premises of campus, depreciation, etc.

<sup>6</sup> Includes, for example, inter-company staff costs, internal room rent for lecture halls, laboratories, offices and other intercompany expenses such as indirect costs for the faculty and university levels, printing and copying costs etc.

**Table 3.2.** Research funding sources separated by amounts granted per funder and year (SEK 1000)

FUNDER	2016	2017	2018	2019	2020	2021	2022	TOTAL AMOUNT GRANTED
Public funds <sup>1</sup>	-	-	40	-	-	-	-	40
Ministry of Education and Research <sup>2</sup>	-	2 100	2 100	2 100	2 100	2 100	-	10 500
Swedish Research Council <sup>3</sup>	-	-	-	-	400	400	-	800
County Administrative Board <sup>4</sup>	-	-	-	60	-	-	-	60
County Administrative Board <sup>5</sup>	-	-	-	54	83	-	-	137
The Swedish Civil Contingencies Agency (MSB) <sup>6</sup>	439	454	118	-	-	-	-	1 011
The Swedish Civil Contingencies Agency (MSB) <sup>7</sup>	-	920	945	-	-	-	-	1 865
The Swedish Civil Contingencies Agency (MSB) <sup>8</sup>	-	402	1 364	1 398	1 433	1 468	750	6 815
The Swedish Civil Contingencies Agency (MSB) <sup>9</sup>	-	-	905	975	-	-	-	1 879
The Swedish Civil Contingencies Agency (MSB) <sup>10</sup>	-	-	350	100	-	-	-	450
The Swedish Civil Contingencies Agency (MSB) <sup>11</sup>	-	-	75	25	-	-	-	100
The Swedish Civil Contingencies Agency (MSB) <sup>12</sup>	-	-	-	86	-	-	-	86
The Swedish Civil Contingencies Agency (MSB) <sup>13</sup>	-	-	-	506	-	-	-	506
The Swedish Civil Contingencies Agency (MSB) <sup>14</sup>	-	-	-	17	36	37	38	128
The Swedish Civil Contingencies Agency (MSB) <sup>15</sup>	-	-	-	-	452	674	374	1 500
The Swedish Civil Contingencies Agency (MSB) <sup>16</sup>	-	-	-	-	792	-	264	1 056
National Electrical Safety Board <sup>17</sup>	-	-	89	-	-	-	-	89
National Electrical Safety Board <sup>18</sup>	-	-	-	80	-	-	-	80
Swedish Transport Administration <sup>19</sup>	-	-	50	-	-	200	-	250
Swedish Transport Administration <sup>20</sup>	-	750	750	-	-	-	-	1 500
Swedish Transport Administration <sup>21</sup>	-	-	-	141	-	-	-	141
Swedish Transport Administration <sup>22</sup>	-	-	-	-	138	-	-	138
Swedish Consumer Agency <sup>23</sup>	-	-	-	211	489	-	-	700
Knowledge Foundation <sup>24</sup>	-	-	1 700	1 700	-	-	-	3 401
Foundations <sup>25</sup>	-	-	-	1 500	1 500	-	-	3 000
Foundations <sup>26</sup>	-	-	-	-	100	-	-	100
Other NPO (Non Profit Organisation) <sup>27</sup>	-	-	550	-	-	-	-	550
Other NPO <sup>28</sup>	-	-	525	225	-	-	-	750
Other NPO <sup>29</sup>	-	-	-	146	354	-	-	500
Karlstad Municipality <sup>30</sup>	-	-	350	350	350	-	-	1 050
Karlstad Municipality <sup>31</sup>	-	-	-	50	150	-	-	200
Swedish companies <sup>32</sup>	-	-	-	300	-	-	-	300
Swedish companies <sup>33</sup>	2 000	2 000	1 000	-	-	-	-	5 000
<b>TOTAL AMOUNT GRANTED /YEAR</b>			<b>10 911</b>	<b>10 023</b>	<b>8 377</b>			

Source: Raindance

The table shows the funder and amount granted for research projects that have been active for all or part of the 3-year period. For these research projects, the amounts granted are specified per year for the project period. Project titles are added as a note below the table

<sup>1</sup> Forum för naturkatastrofer, bidrag till arrangemang MSB

<sup>2</sup> CNDS (Centre of Natural Hazards and Disaster science, perioden 2017-2022)

<sup>3</sup> VR Research Links  
Påverkan på människors hälsa i Bangladesh av konsekvenser från klimatförändringar

<sup>4</sup> Utvärderingsuppdrag Regional Ledningsträning, Länsstyrelsen Värmland

<sup>5</sup> Utvärderingsuppdrag Totalförsvarsövning, Länsstyrelsen Värmland

<sup>6</sup> Riskgruppanalys & fallstudier

<sup>7</sup> Temporära folksamlingar och dess risker (Temporary Mass-Gathering Events in Sweden – an Investigation into the Risks, the Societal Resilience and the Robustness to Unwanted Events).

<sup>8</sup> Samhällsresiliens i Sverige, Styrning, Sociala nätverk och lärande

<sup>9</sup> Kvantitativa beslutsmodeller för riskreduktion - genomförbarhet, objektivitet och transparens  
Postdoc T Grahn

<sup>10</sup> Förstudie: Räddningstjänst i ett föränderligt samhälle (Rescue Services in a Changing Society, RESCS)

<sup>11</sup> Förstudie om brand och olyckor – åtgärder och effekter: Nya risker kräver nya lösningar genom tvärvetenskaplig forskning

<sup>12</sup> Uppdrag Datainsamling efter händelserna under sommaren 2018 för rapportering enligt Sendairamverket

<sup>13</sup> IPA-DRAM-external evaluation: The Programme for Disaster Risk Assessment and Mapping in the Western Balkans and Turkey

<sup>14</sup> Lärande kring katastrofriskhantering International Training Programme, Disaster Risk Management (ITP-DRM)

<sup>15</sup> Kvantitativ riskanalys av naturolyckor - HAZUS och National Risk Index, NRI

<sup>16</sup> Effektivare åtgärder genom ökad förståelse för den äldres syn på risker, Postdoc J Gustavsson

<sup>17</sup> Elrelaterade olyckor och skador

<sup>18</sup> Dödsfall till följd av el, i Sverige

<sup>19</sup> Oskyddade trafikanter (Skyttfonden)

<sup>20</sup> Nollvisionsakademien Trafikverket 2018

<sup>21</sup> Nollvisionsakademien Trafikverket 2019

<sup>22</sup> Nollvisionsakademien Trafikverket 2020

<sup>23</sup> Skadedata - identifiering av produkt- och tjänsterelaterade skador

<sup>24</sup> Skyfallsmodellering- Planering, analys och sårbarhetshantering, SPLASH

<sup>25</sup> Kamprads stiftelse, Mot en evidensbaserad policy för aktivt och hälsosamt äldre: Implementeringsprocesser, effekter och kostnadseffektivitet i samband med kommunala broddutdelningsprogram

<sup>26</sup> Brandforsk 2020

<sup>27</sup> Restvärdeverksamhetens nytta, en förstudie

<sup>28</sup> Bostadsbränder och äldre personer – tvärvetenskapliga framgångsfaktorer för reducering av döda och svårt skadade (Brandforsk 2)

<sup>29</sup> Brandsäkerhet för en äldre befolkning – fördjudad förståelse för framtidens utmaningar och lösningar (Brandforsk 3)

<sup>30</sup> 2018-2020 årlig basfinansiering Karlstad kommun

<sup>31</sup> Uppdrag Sund senior - Motivation till motion

<sup>32</sup> Brandskyddsföreningen 2019

<sup>33</sup> Minskade klimatrisker i framtidens bebyggelse och boende - lärande från tidigare händelser och samhällsplanering, Stiftelsen Länsförsäkringsgruppens Forsknings- och Utvecklingsfond

## APPLICATION STATISTICS

**Table 4.1.** Applications statistics for the number of applications, amounts applied for and granted, and approval rate, separated by year.

YEAR	NUMBER OF APPLICATIONS	AMOUNT APPLIED (SEK 1000)	AMOUNT GRANTED (SEK 1000)	SUCCESS RATE %
2018	4	1 617	700	43%
2019	3	8 180	3 300	40%
2020	8	20 637	8 347	40%

Source: Data of submitted applications are collected from the University's internal Form for external funding and later merged with data of granted applications.

## RESEARCH PRODUCTION (BIBLIOMETRIC DATA)

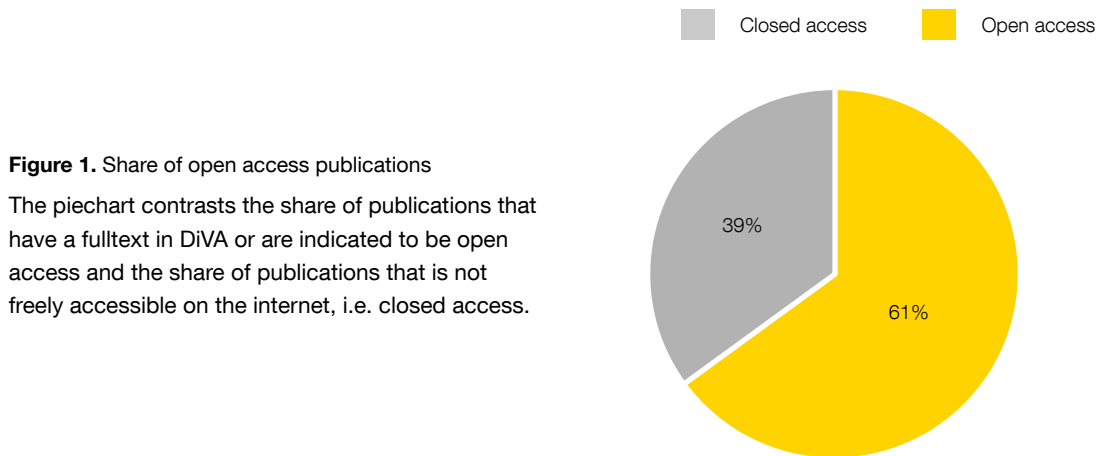
The data was obtained from Karlstad Universities repository DiVA (Digital Scientific Archive) by means of a search for all publications from CSR during the years 2018-2020. Publication subtypes editorial, abstract and presentation were removed from the analysis.

**Table 5.1.** Publications in Diva per type of publication and type of content

	PEER-REVIEWED	OTHER ACADEMIC	OTHER (POPULAR SCIENCE, DISCUSSION, ETC.)
Article in journal	65	2	1
Article, review/survey	1		
Article, book review			1
Book	1		
Doctoral thesis, monograph		1	
Doctoral thesis, comprehensive summary		4	
Chapter in book	5	4	
Conference paper	2	2	
Report	2	7	2
Collection (editor)	1	2	
Other	1		

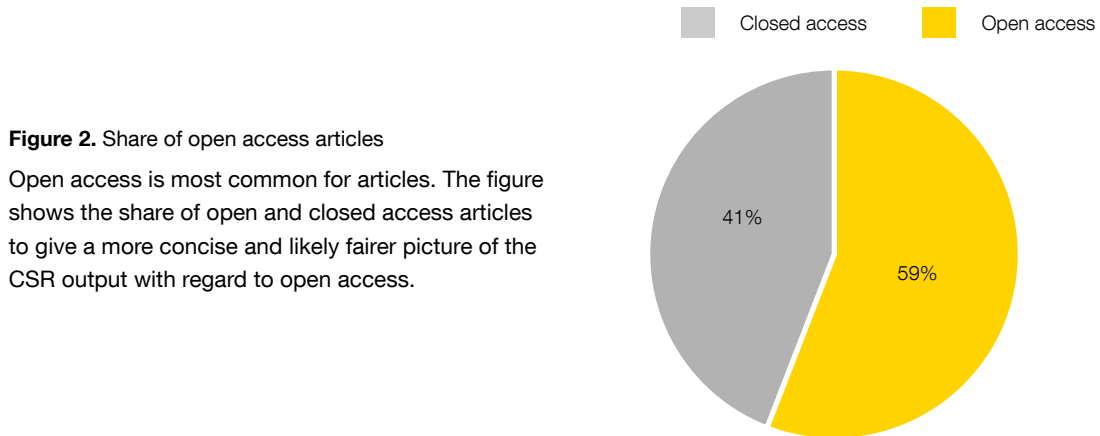
Source DIVA

**Table 5.2.** Share of publications published with open access in Diva



**Figure 1.** Share of open access publications

The piechart contrasts the share of publications that have a fulltext in DiVA or are indicated to be open access and the share of publications that is not freely accessible on the internet, i.e. closed access.

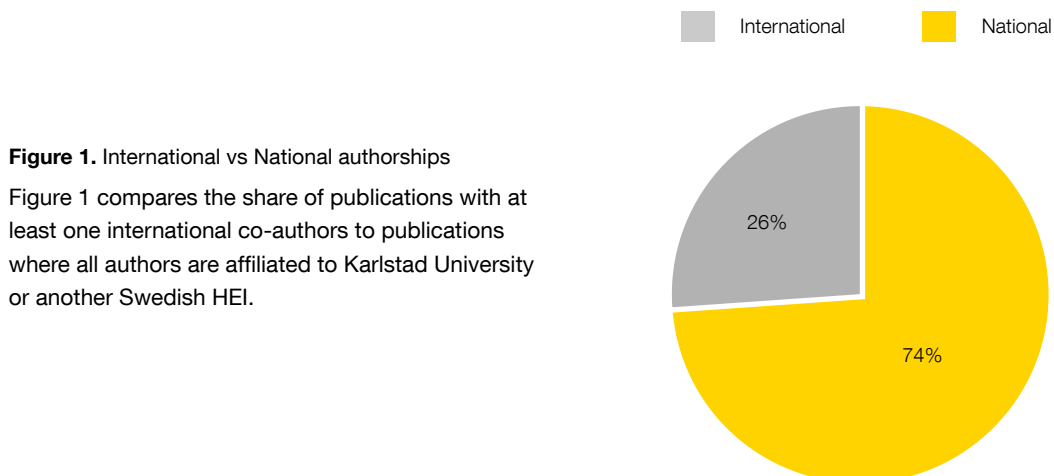


**Figure 2.** Share of open access articles

Open access is most common for articles. The figure shows the share of open and closed access articles to give a more concise and likely fairer picture of the CSR output with regard to open access.

## INTERNATIONALISATION

**Table 6.1.** Co-publications with international researchers.



**Figure 1.** International vs National authorships

Figure 1 compares the share of publications with at least one international co-authors to publications where all authors are affiliated to Karlstad University or another Swedish HEI.

## COLLABORATION AND APPLICATION

**Table 7.1.** The number of partners in ongoing research projects divided into private organisations and public organisations.

There are no collective records of partners in ongoing projects for the evaluation unit for the period of 2018-2020. The design of the software system and routines for register the data is currently under development.

**Table 7.2.** Number of evaluated innovative ideas per employee. Number of innovative ideas that have received funding. Number of registered intangible assets (patent, trademark, design)

YEAR	NUMBER OF EVALUATED IDEAS	NUMBER OF IDEAS THAT RECEIVED FUNDS	NUMBER OF REGISTERED INTANGIBLE ASSETS	OTHER UTILIZATION, COMMENT
2018	0	0	0	
2019	1	0	0	CriseIT
2020	0	0	0	

The Background data report is produced by the Periodic research review's administrative Support group; Sofia Andersson, Charlotte Månsson, Karin Brattfjord, Lotta Utterberg, Nadja Neumann och Patrik Bångerijs.

December 2021

# Assessment report for the Centre for Societal Risk Research (Centrum för forskning om samhällsrisker) at Karlstad University<sup>1</sup>

## *Members of the Evaluation Panel:*

Professor Sissel Haugdal Jore, University of Stavanger

Professor Anna Olofsson, Mid Sweden University

Professor Henrik Tehler, Lund University

## Brief summary

CSR was established in 2020 based on two previous research centres at Karlstad University, the CPS and the CCS, and moved to a new faculty. CSR has identified five research themes that together have the potential to launch CSR as a well-known and attractive knowledge resource for societal actors and students from a national perspective. CSR is successful in receiving external funding, it has a significant amount of research publications, a large external network, and works actively to connect research and education. Currently, CSR has come far in developing goals and themes of the centre, and further work of this kind can increase the success of the centre. For example, to include areas such as a publication policy, a plan for external funding, a gender equality plan, and a guide for good research practice in the centre strategy can strengthen the centre both in these areas and contribute to the centre identity and culture.

## 1. Research and scientific development

The Centre for Societal Risk Research (CSR) is a knowledge and research centre at Karlstad University established in 2020. It does not have any employees. Instead, the members of CSR are employed by other institutions at Karlstad university and affiliated with CSR<sup>2</sup>. CSR conducts research focusing on five areas: (1) Individual vulnerability, (2) Risk theory and risk perception, (3) Sustainable development and resilience, (4) Risk assessment and (5) Crisis exercise, learning and preparedness. The research conducted in the period of interest here, i.e., 2018-2021, mainly belong to areas 1 and 3. During this period 68 articles have been published in peer reviewed journals by members of the centre<sup>3</sup>. Figure 1 illustrates the number of papers published in different journals. The figure also contains information about the SCImago Journal Rank (SJR) indicator, which is an indicator used to compare different scientific journals<sup>4</sup>. The "Other" group contains all journals where CSR personnel have only published one article.

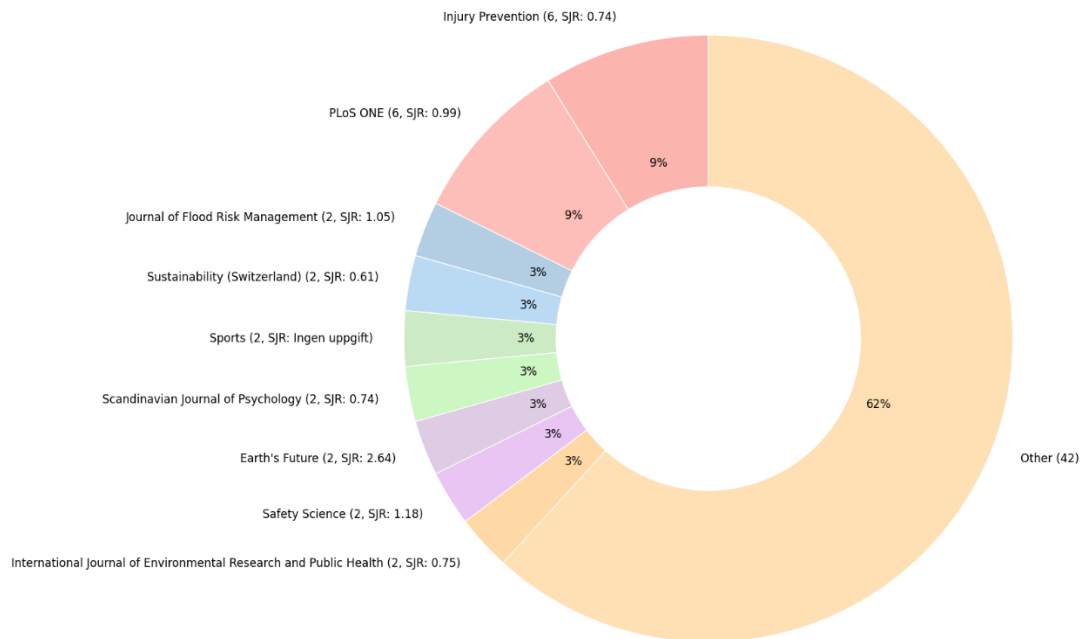
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<sup>1</sup> Centre for Societal Risk Research (CSR) was formed in 2020 when two research centres were merged. Activities conducted at the other two centres between 2018 and 2019 are also included in the evaluation.

<sup>2</sup> Self-evaluation, page 3.

<sup>3</sup> 65 such articles were published according to the report with background data (page 6). However, the evaluation committee also received complementary information containing three additional publications.

<sup>4</sup> See <http://www.scimagojr.com>



**Figur 1** Number of articles published by members of CSR in different journals.

#### Assessment of current level of performance

The members of CSR publish their research in many scientific journals. Overall, the journals are of good scientific quality and focus on areas relevant for the centre. Most of the journals have only one contribution from CSR (during 2018-2021). Figure 1 shows that most of the publications are in such journals. A splintered publication focus, i.e. many different journals to publish in, is not necessarily a negative thing. Instead, it could also be a sign of researchers trying to spread their results to a broad audience. But it could also be due to the broad focus of CSR (the five research areas), or the short time since the centre was formed.

It is difficult to evaluate the research production in relation to the number of FTE:s at CSR. Although the self-evaluation states that CSR does not have employees, Table 1.1 in the background data indicate about 6 fulltime employees (FTE) during 2018-2020. Relating the research production in terms of published papers (68) to the number of FTE at the centre results in a publication rate of almost 3 papers per year and per FTE. Given the units composition (se section 2 below) this is a reasonable publication rate. However, based on information received during the digital meeting we acknowledge that a direct comparison of the number of published papers to the number of FTE might be problematic.

#### Assessment of potential for improvement

Therefore, one suggestion for improvement is for CSR and the faculty to engage in a discussion of how the future output, including but not limited to publications, from CSR should be assessed. What should it be related to? Is it the number of FTE as provided in the financial statements, or is it something else? Such questions are not easy to answer but the process of answering them might be helpful for CSR since it can clarify the expectations on the centre.

In addition, another potential improvement of the scientific activities of CSR that could help in achieving the centre's second long term goal, i.e., to establishing CSR as a well-known research actor, could be to work towards a more focused publication strategy. CSR could, for example, assess the relevant journals for each of the five research areas. Based on such assessment one could formulate publication goals for each area indicating which journals are most relevant and how many

publications are reasonable to expect in those journals. Such an exercise would probably be most valuable for the research areas that are least developed, i.e. area 2, 4 and 5.

Finally, since the five research areas are in an early development stage it can be fruitful to complement the review of journals (see above) with an exercise within CSR to delineate and clarify the concrete meaning of the various areas. For example, one could try to identify key concepts within each area and relate them to each other. And, as the research of the centre develops further one can make active efforts to describe the theoretical basis within each area (as seen by CSR) and, if possible, relate them to each other. In addition, based on this work one should also develop concrete scientific goals for the research areas. Since research areas 1 and 3 are more developed it is probably easiest to start with them. And, depending on the competence available within CSR, it might be necessary to recruit additional personnel to develop all five areas (see next section).

## 2. The unit's composition and academic qualification

CSR was formed in 2020 through a merger of two established centres. The purpose of the merger was to create an organisation that improved the chances of participating and attaining in large research projects, increased ability for international cooperation and an increased ability for internal collaboration.

CSR's area of expertise is research and communication on societal risks, potentially harmful events and society's vulnerability. CSR works to bring together researchers from different fields and orientations in themes: individual vulnerability; risk theory and risk perception; sustainable development and resilience; risk assessment; and crisis exercise, learning and preparedness. The centre is multidisciplinary and the members' academic backgrounds are extremely varied, including health, nature and technology, humanities and social sciences.

Table 1.1. in the Background data shows that the number of fulltime equivalent (FTE) working for CSR is between 5 and 6 FTE. The number of actual employees is between 8 and 9 people. In terms of academic qualifications there has been between 3 and 4 professors, senior professors or visiting professors (during 2018, 2019 and 2020). The staff has also included 2 senior lecturers and 2 lecturers as well as 1-2 postdocs depending on the year. However, the list that the evaluation committee received from CSR contains 38 researchers. This illustrates the problem of evaluating a centre that does not have its own employees because it then becomes a challenge to measure what is the result of each individual researcher and what is really the added value of having a centre formation. Given that one cannot be employed in the centre and that all members are affiliated with other research groups, centres or disciplines, there is sometimes a grey area as to whether research is conducted within the centre or if results are communicated or used within CSR despite funding being placed somewhere else.

CSR wants to be inclusive and takes the view that administrative routines and demarcations should not constitute obstacles. However, according to the self-evaluation administrative routines and demarcations can sometimes be challenging to manage: For example, in the comparison of background data in this evaluation process some projects and personnel are not included even though these individuals or projects would think differently.

#### Assessment of current level of performance

Based only on the numbers from Table 1.1. the composition of the centre is well balanced between senior/junior positions. But, equally important for the centre is the area of expertise that the staff brings to CSR. For example, there might be one or more research areas without representation among senior staff members. The purpose of the merger was to create an organisation that improved the chances of participating and attaining in major research projects and an increased ability for international cooperation. The branding of the centre in terms of focusing on societal risk is a good strategic move in term of applying for external funding. Currently, Swedish, Nordic and EU research programs includes research topics on secure societies. As such, having societal risk as an umbrella topic will be a good opportunity for the centre to strengthen external research and this can also function as academic identity for the centre.

However, since CSR was formed through a merger between CPS and CCS, two centres that focused on research in personal injuries and societal connections to climate-related social effects these are the topics where the research centre currently has the strongest competence. Consequently, there are some research themes that the centre should strive for to advance its competence in such as within risk theory and risk perception.

#### Assessment of potential for improvement

CSR has experienced a vulnerability in being an environment with relatively few senior researchers and this is a challenge when working with major research applications and research projects. An explicit development strategy for dealing with this problem has been, and is, to "train" junior researchers by including them in application processes, co-writing and project leadership. This has been relatively successful, and consequently, this work needs to continue. For the centre to be successful with future research applications, it is important that the centre management and researchers have available time to dedicate to write application for external funding. This means that there is a need for having enough administrative capacity and available time to be able to carry out this task.

The research themes that the centre have outlined have different degrees of maturity and some are under development such as risk theory and risk perception. Therefore, there is a need for CSR to make some strategic decisions on whether the centre should strengthen its competence on generic risk research or to specialize in certain thematic areas. After identifying research areas where the centre should strengthen its competence, this should be included in recruitment processes at the university or looking for other existing research environment at Karlstad University to include into the centre.

This strategic work should also include to evaluate which disciplines that should be included in CSR and develop a strategy for how to build a centre identity. The ongoing Coronavirus pandemic has been a significant obstacle to build the centre identity as intended. Due to the pandemic, there is an obvious risk that working remotely has reduced collaboration and reduced members' identification with CSR. Therefore, the strategic work should also consider how to build a centre identity.

### 3. Organisation, leadership and management

When the CSR was established in 2020 it was moved from the Faculty of Health, Science and Technology to the Faculty of Arts and Social Science. Currently, CSR is led by the two former directors from the previous centres and a coordinator. The centre's activities are coordinated by a management group consisting of the directors and the coordinator and CSR member Johanna Gustavsson. Presently, there is a discussion regarding the management structure and the leadership

of CSR because the current structure was seen as a transitional solution when the new centre was established. This transition period is now over and consequently another type of management structure seems more appropriate and will be finalised soon. Thus, Johanna Gustavsson will be the future centre director at CSR.

The CSR's board constitutes an interface with both academia and societal actors in the areas of societal risk and CSR endeavours to utilise the board as a resource in the centre's ongoing and future development. The board members are: Thomas Gell, former Brandskyddsföreningen (chair), Misse Wester, Lund University, Maria Kraft, Swedish Transport Administration, Martin Kristiansson, Karlstad University, Sara Brunnberg, Civil Contingencies Agency, MSB, Margareta Wahlström, International Red Cross, Sweden, Monika Bubholz, Karlstad municipality, and Michaela Padden, Karlstad University (PhD representative). According to the information from the interview, CSR is satisfied with its board members.

CSR has identified five research themes, see section 1, but at the moment there is no organization or leadership associated with the different themes.

#### Assessment of current level of performance

As the centre is moving into its next phase, it is probably beneficial that the two former leaders step aside and let a new centre manager take over. This could be an important tool to create a new centre identity and to leave the two former centre identities behind. Since CSR is satisfied with the board members, this should be continued.

#### Assessment of potential for improvement

Changing the management structure of CSR is a good opportunity to make strategic plans. CSR's members, the board and the host faculty should be included in these strategic plans. To support the director and increase engagement among the members, one suggestion is to allocate responsibility for the research themes to theme coordinators or core groups of CSR members. CSR reports that they have a good relation to the Dean and the host faculty. As such, a suggestion could be to build on this positive relation and include the Dean in the board or invite him to participate on board meetings.

Furthermore, Karlstad University should consider the economic autonomy of the centre, so the centre is able to make strategic plans for its personal and future applications. Moreover, to make sure that the centre has enough academic support can help freeing time to dedicate to research and research applications. To have room for writing applications, the university should also make sure that there is predictability on where the externally funded projects will be placed and that there are incentives for CSR's members to write applications for external funding. One suggestion is to make it possible to 'count' research projects at more than one organizational unit.

## 4. Collaboration and application of research findings

The self-evaluation and the interviews with CSR personnel indicate an extensive collaboration with the surrounding society. And the collaboration often builds on the application of research findings. For example, there are several clear examples of research being influential when developing policy suggestions. Additionally, there are also good examples of how CSR has developed pedagogical tools and systematically used them to interact with actors outside the university-sector. CSR has gathered the tools under the name RiskLab. CSR collaboration with a variety of actors is also clearly visible from the financial records in the background material. Table 3.2 shows research funding coming from several national authorities, municipalities, companies, and non-profit organisations. However, Table 7.2 indicate that even though CSR has many collaboration partners, there are few projects that are

joint projects with non-academic partners. The background material does not say if there exist joint publications with non-academic partners.

#### Assessment of current level of performance

CSR and the centres preceding it have been very successful in establishing collaboration with a wide range of different actors. It is very positive that they collaborate and receive research funding from many different organisations because this limits the financial risk of CSR. The total amount of research funding coming from companies, municipalities (Karlstad) and county administrative boards are small compared to that from, for example, the Ministry of education and the Swedish civil contingencies agency. But it nevertheless shows that CSR are committed to collaboration with actors that are not usually associated with financing research. And the title of the projects conducted, e.g. "Uppdrag Sund senior - Motivation till motion" indicate a practically oriented focus of the research. Something that is also highlighted in the self-evaluation. In addition, CSR's homepage<sup>5</sup> indicate an even more extensive list of collaboration partners than what is visible in the financial records. Well over hundred different organisations are listed as collaborations partners. Although it is not possible to determine the extent of collaboration it nevertheless indicate that CSR has been very successful in building a network of collaboration partners.

#### Assessment of potential for improvement

Given that CSR's current performance in terms of collaboration seems to be strong it is not easy to find areas for improvement. At least not in terms of quantity, i.e., the number of organisations to collaborate with. However, there might be opportunities for improvements in terms of how the collaboration is arranged and how it supports both CSR in formulating practically relevant research questions and in providing professionals with research-based advice. It could be initiated by a review of how the current collaborations are conducted. Such a review could focus on answering questions such as "Which actors are CSR collaborating *closely* with?", "Do CSR use a systematic approach to identifying new research questions that are both relevant from the actor's point of view and possible to investigate in a rigorous way?", "If not, what improvements could facilitate such a process?", and so on. Another set of questions could focus on how collaboration could facilitate testing and evaluation of hypotheses regarding how various problems should be dealt with in practice. The aim of such a review is to facilitate the development of a systematic way for including external actors more closely in the research to increase the relevance of the research findings while maintain a high scientific standard. Furthermore, it is important to not only focus on how research findings can be communicated, but also focus on how the collaboration can lead to the formulation of new research questions. In addition, one should also consider if it is possible to build even stronger relationships to a limited number of external partners and include them in conducting the research activities such as formulating research problems, research projects and publications.

Although CSR are already engaged in various scientific collaborations with external partners (usually universities) it is important to continuously identify new groups and opportunities for research collaboration. This is especially important for research areas where CSR traditionally has not had much activity. Based on such collaborations one can engage in joint research proposals, PhD student exchange, etc. One important way of contributing to the expansion of CSR's research collaborations is by financing guest researchers. This is already happening at CSR and a recommendation is therefore to continue to do it, but also to develop the approach of finding suitable researchers to invite in the future.

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<sup>5</sup> <https://www.kau.se/csr/samverkan/finansiarer-och-samverkansparter>

Another potential improvement that CSR is probably already aware of is to increase the use of RiskLab for research. In its present form it seems as if RiskLab is mostly used for educational purposes and/or to communicate research findings. However, the lab could be a very useful asset for conducting scientific studies of various issues related to the management of risk/crises. Hence, another recommendation is to actively investigate ways of including RiskLab as an asset to be used when developing research proposals.

## 5. Inclusive culture: Internationalisation, gender equality, and disciplinary transparency

CSR is an agora open for researchers at Karlstad University who are interested in the centre's area of research, regardless of discipline or engagement in other research groups and centres. However, the vast majority, two thirds, represents risk and environmental studies while other subjects such as political science, informatics and mathematics are represented by a couple or even just one researcher. Within risk and environmental studies, the academic backgrounds are varied, including health, nature and technology but also the humanities and social sciences.

Concerning internationalization, CSR has as one of its goals to be a well-known and important research actor, both nationally and internationally, where our established and potential collaborators are well acquainted with our researchers, research areas and research results. The centre has had international guest researchers during 2021-2022, publish internationally and 26 % of all publications are in collaboration with an international co-author (see Table 6.1).

Last, gender equality is only briefly mentioned in the self-evaluation. The centre state that they have challenges in gender equality, of the centre's members 40 percent are women, and diversity but works proactively in accordance with Karlstad University's common values and tools.

### Assessment of current level of performance

The centre is open and inclusive, and the rhetoric and mind-set of the centre directors warrant a welcoming and inclusive culture. The dominating subject, risk and environmental studies, is interdisciplinary by definition, but in the long run it will develop into a discipline of its own and the centre should consider what this means for the research profile of the centre. CSR is active on the international research scene and the fact that researchers at the centre work actively together with researchers from other countries, with things such as research applications and publications, are important for research the goals of the centre. The gender balance is satisfactory but can be improved.

### Assessment of potential for improvement

CSR has a strong interdisciplinary approach not least through the dominating subject risk and environmental studies. At the same time this also indicates that the centre has its core in one subject in one department at the Faculty of Arts and Social Sciences. Today, risk and environmental studies are dominating and if CSR want to pursue the idea of being an agora for societal risk research at the university, it has the potential to include more researchers from different subjects at the university.

The procedures for periodic research review at Karlstad University do not differentiate between different kinds of units of assessment, for example centres and subjects. Considering that research centres do not employ staff CSR does not have a gender equality plan. However, to avoid unequal distribution of research funds and different kinds of work and assignments, the centre should consider including such a plan in its strategy document. Gender and considerations related to gender quality is also often required in research applications both nationally and internationally.

The centre has a clear goal to work internationally and to position the centre on an international research scene. CSR has an international network but to strengthen international collaboration, key collaboration partners should be identified, potentially in collaboration with core subjects like risk and environmental studies, political science and informatics, to enable teaching and student exchange with the identified international partners. Furthermore, although researchers at the centre already today co-write with international researchers, see Table 6.1, there is potential for improvement. Co-authorship with international scholars has shown to also increase impact of research (see Vetenskapsrådet 2016<sup>6</sup>).

## 6. Connection between education and research

Education is not a formal task of research centres at Karlstad University. However, all participating researchers teach in various subjects, sometimes also in commissioned education, in the frame of their discipline. The Master's programme *Risk management in society* and several courses have been developed based on the research in the centre (or the previous two centres), including commissioned education. Furthermore, there are relatively many PhD students engaged in CSR, particularly PhD students in Risk and Environmental Studies and Political Science, although there is no formalized role of the centre in relation to PhD education.

CSR's RiskLab is used in teaching and to communicate research results. RiskLab also seems to work as a hub where researchers/teachers and students/stakeholders of various kinds meet and in addition to communication of research results and learning, co-create common understandings for example of climate change through games and visualizations. This has also led to new research questions, didactic research and a research application.

### Assessment of current level of performance

The connection between education and research is very good considering that the centre does not have a formal assignment (or even is allowed) to give education. CSR is engaged in educational activities and facilitates a good connection between education and research within the framework of the centre's area of activity, including science communication.

### Assessment of potential for improvement

Education is an important basis for recruitment to the centre and even if the current level is more than good there is always possibilities to do more.

One possibility is to expand commissioned education: CSR is active and successful in commissioned education and there is a great potential to expand this since CSR's focus area is highly topical and important for many industries and public bodies. Commissioned education can help finance junior researchers early in the career and create a basis for members of the centre who currently have limited or no research time.

Another possibility is PhD-education: PhD-students are important for the research centre since they are potential future researchers at the centre and by orienting their own research toward CSR's research themes, they can contribute to research volume as well as creativity and innovative power in CSR. To support PhD-students associated with the centre, CSR can for example formalize a university wide PhD-network in societal risk research, a separate seminar for PhD-students, arrange exchange studies with national and international partner institutions for PhD-students, allocate a

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<sup>6</sup> [https://www.vr.se/download/18.2412c5311624176023d25bb4/1521738696566/Svenskt-publiceringssamarbete-i-ett-globalt-perspektiv\\_VR\\_2016pdf.pdf](https://www.vr.se/download/18.2412c5311624176023d25bb4/1521738696566/Svenskt-publiceringssamarbete-i-ett-globalt-perspektiv_VR_2016pdf.pdf)

special site on the CSR website for PhD-students' research, or apply for a PhD-research school together with other centres in Sweden.

## 7. Concluding assessment and recommendations for continued development

In accordance with "Quality Assurance System at Karlstad University", the evaluation unit's activities, current level of performance and potential for quality improvement, have been reviewed based on: Research production and impact; Application of research findings, conditions; Organisation and leadership, expertise and competence maintenance, capacity for renewal, and research infrastructure; Collaboration and interaction with the surrounding society; Inclusive culture: Internationalisation, gender equality, and disciplinary transparency; and, connection between education and research.

CSR was established in 2020 based on two previous research centres, the Centre for Public Safety and the Centre for Climate and Safety, and at the same time moved to the Faculty of Arts and Social Science. Since the establishment the Covid-19 pandemic has limited the possibilities to meet and interact. As mentioned before, there is also some vagueness regarding what, in terms of research volume (FTE or number of researchers) that we should evaluate the centre's performance against. These circumstances have made us focus the evaluation more on the future, possible improvements, than the past, current performance.

### Assessment of current level of performance

Considering the circumstances just mentioned, the current level of performance is very good: CSR has identified a research area that can be defined as one of the world's important societal challenges, it is successful in attracting external funding, and has a significant amount of research publications. Furthermore, CSR has a large network and many collaborative partners, it has achieved policy impact, and works actively to connect research and education, not least with its RiskLab and commissioned education.

### Assessment of potential for improvement

CSR has come far in developing goals and themes of the centre, and further work of this kind can increase the success of the centre. In the assessment we have provided several suggestions for improvements that could facilitate such a development. For example, to include areas such as a publication policy, a plan for external funding, a gender equality plan, and a guide for good research practice in the centre strategy can strengthen the centre both in these areas and contribute to the centre identity and culture.

Moreover, in the evaluation we have also pointed to the tension between being open to various disciplines and being interdisciplinary (which risk and environmental studies is by definition) and need to evaluate which disciplines that should be included in CSR to achieve a centre identity. This also includes to clarify what researchers who are part of the centre gain from participating, as well as what they as members are expected to contribute to the centre.

And finally, another possible improvement for the faculty or university, is to make it easier for researchers to place projects at the centre without competition with subjects or other research units.