Cross-sector partnerships in disaster risk management: A case study in Ghana

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Abstract
Cross-sector partnerships are increasingly relied upon to solve societal problems. This development can also be observed in the field of disaster risk management (DRM), where the role of the private sector has grown substantially in the past years. As the business world is also undergoing constant changes the interface between traditional DRM actors and the private sector is still to be fully explored. Focusing on the emergence of inclusive business models and the increasing importance of knowledge-based services in today's economy, this research adopted a case study approach to explore the underlying dynamics of a partnership between traditional DRM actors and the private sector. To achieve the research objective a multi-method approach was chosen, combining qualitative data collected through semi-structured interviews and quantitative data collected via an online survey. The results revealed that challenges identified in existing literature on cross-sector partnerships apply, but that there is an overall alignment of organisational goals and values between the field of DRM, knowledge-based services and the inclusive business model. At the same time, new challenges arise due to the intrinsic nature of these types of partnerships. Having identified the dominant aspects underlying said partnerships, a conceptual framework was developed to help facilitate their success in the future.

Acknowledgements

List of Abbreviations

BoP	Bottom of the Pyramid
CSR	Corporate Social Responsibility
DRM	Disaster Risk Management
GRC	Ghana Red Cross Society
IBS	Inclusive Business Sweden
NADMO	National Disaster Management Organisation
RC	Root Capital
UNDP	United Nations Development Programme
UN OCHA	United Nations Office for the Coordination of Humanitarian Affairs
WFP	United Nations World Food Programme

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1 Introduction

The role of the private sector in disaster risk management (DRM) is changing. Private sector actors increasingly assume key roles throughout the DRM cycle, diverting their role away from simply being providers of relief items or services to being integrated in the DRM system on a more long-term basis. Simultaneously, two more relevant trends are emerging. One of those trends is the increasing role of knowledge-based services in society and global economy at large- services with a high knowledge input as well as output. Another trend is the increased involvement of the private sector in addressing development challenges which has led to inclusive business models gaining momentum. The starting point of this research lies at the intersection of these three trends; the increasingly important role of the private sector in DRM and its underlying dynamics as well as knowledge-based services and inclusive business models.

Underpinning the aforementioned trends in more detail, we are currently seeing a global increase in disaster frequency and intensity as well as the number of affected people and livelihoods. This trend is expected to continue on that trajectory due to processes of climate change and rising socio-economic inequalities (OECD, 2011; UN, 2015; UNISDR, 2015; UNOCHA, 2017). In addition, our world is becoming too interconnected, dynamic and complex to rely on national states to successfully develop capacities to deal with disasters. This is especially true for developing countries whose population is often struggling to meet their basic needs on a daily basis and who are highly vulnerable to hazards (Becker, 2014; Ubels et al., 2010). In partial response to the trend outlined above, global frameworks and mechanisms such as the Sendai Framework for Disaster Risk Reduction 2015-2030, the Busan Partnership for Effective Development Cooperation as well as the 2030 Agenda for Sustainable Development have been developed. Those initiatives acknowledge and advocate for the need for stronger involvement of the private sector in the field of DRM (OECD, 2011; UN, 2015; UNISDR, 2015; UNOCHA, 2017).

Currently, private sector initiatives are undertaken in various forms, ranging from single business initiatives to permanent private sector vehicles on national levels and global initiatives on behalf of the United Nations (PDRF, 2017; UNISDR, 2017; UNOCHA, 2017). In certain contexts, we are therefore already seeing the private sector step in to deliver essential services that either national governments or international aid agencies have traditionally been responsible for (PDRF, 2017).

Reasons for the increased involvement of the private sector are manifold and the ways in which businesses can contribute to improve DRM ranges from sharing of technology and innovations to improving delivery of certain services (Zyck & Kent, 2014). In line with the increasing recognition of the importance of knowledge-based services, traditional DRM actors have identified the private sector as a source of knowledge and information that can support decision-making and planning processes in DRM.

However, there are also risks related to private sector involvement in these issues, the most commonly voiced being the inability of the private sector to assume their social responsibility. There is often a fear that the private sector will not cater to vulnerable segments of a population in the country where they are selling their service or indeed contribute to sustainable development. In response to those concerns, a business model known as inclusive business has gained increasing momentum over the past years. Inclusive business describes "a private sector approach to providing goods, services and livelihoods on a commercially viable basis to people at the base of the pyramid by making them part of the value chain of companies' core business as suppliers, distributors, retailers, or customers" (Debelak, 2015). The base of the pyramid refers to the 4.5 billion people living on less than eight US dollars per day (Prahalad, 2014; Inclusive Business Sweden, 2017).

Although partnerships in this field are assumed to be beneficial, "there is a fine balance to be struck between gaining the benefits of collaborating and making the situation worse" (Huxham & Macdonald, 1992:50). Even though research on the involvement of the private sector in response and recovery (involvement as in provision of physical resources) is being conducted, the interface between the private sector and traditional DRM actors is still to be fully explored. This is especially true in terms of the more long-term integration of a knowledge-based service.

Building on past research on cross-sector partnerships, this research's main aim is to investigate the underlying dynamics of cross-sector partnerships in DRM, focusing on the long-term integration of a knowledge-based service provided by a private sector actor following an inclusive business model into traditional DRM systems, thereby addressing the aforementioned research gap.

In order to achieve the above aim, the thesis poses the following research questions:

1. What are the underlying dynamics in the collaboration between traditional DRM actors and private sector representatives?

2. What underlying aspects of partnerships have been identified in the existing literature that are relevant to exploring the potential for cross-sector partnerships in DRM, focusing on knowledge-based services provided by the private sector?

3. What is the potential for integrating knowledge-based services into existing DRM structures on a national level?

4. What are the main benefits and challenges to integrating knowledge-based services provided by the private sector into the work of traditional DRM actors?

5. What is the role and potential of inclusive business models in cross-sector partnerships within DRM?

6. What general interconnected aspects can be identified that needs to be considered when initiating cross-sector partnerships between traditional DRM actors, knowledge-based services and inclusive business models?

Following a case study approach, this research focuses on the interface between traditional DRM actors in Ghana and a selected private sector representative that is following an inclusive business model and offering a knowledge-based service. As this research is of exploratory nature, it does not claim to be all-encompassing or present distinctive recommendations and best practice. In contrast, it seeks to enhance the understanding of the interwoven relationships between the three conceptual ideas of the increasingly important role of the private sector in DRM as well as knowledge-based services and inclusive business models gaining momentum. In doing so, it may be used to inform future research that aims at exploring certain aspects identified in this research in other locations or contexts to further validate or question the findings of this research.

Providing an outline of this research, the chosen methodology is first presented in chapter two which thoroughly describes the chosen data collection method, its benefits and challenges as well as limitations and how the research considered and mitigated these. In chapter three, a literature review outlines the role and underlying dynamics of the private sector in DRM and cross-sector partnerships in general. The literature review furthermore presents theory underpinning the concepts of knowledge-based services and inclusive business models, as well as provides a conclusion on the chapter as a whole. The idea behind the above sequencing of the chapters is that the literature review will be fresh in mind of the reader when being presented

with the results of the data collection. Those are presented and discussed in chapter four which is divided into four sections. The first three sections seek to understand (i) the collaboration between traditional DRM actors and private sector representatives (ii) the potential for integrating a knowledge-based service into existing DRM systems and (iii) the role and influence of inclusive business models within cross-sector partnerships in the field of DRM. After the findings within each of these sections are presented, they are analysed by applying theoretical concepts and principles of DRM, cross-sector partnerships as well as knowledge-based services and inclusive business models as presented in the literature review. In the final section of chapter four, a synthesis is presented in which the individual sections are related to each other in order to provide a coherent discussion where all concepts and aspects are considered, and key conclusions are highlighted. Finally, informed by the synthesis in chapter four, the developed conceptual framework is presented in chapter five. The conclusion of this research is presented in chapter six.

2 Methodology

In order to address the research questions stated above, the following research approach has been adopted and will be elaborated on in the individual sections below.

2.1 A case study approach

The focus of this research project is to understand the dynamics in cross-sector partnerships within disaster risk management, focusing on knowledge-based services provided by the private sector. The research has adopted a case study approach which was deemed most appropriate as it aims to "investigate a contemporary phenomenon in its real-life context" (Yin, 2003:13-14) and "understand the dynamics present in single settings" (Eisenhardt, 1989:534).

Overall, the research strategy was developed based on a derivation of Eisenhardt's (1989) approach to case studies which offers a detailed, step-by-step guide to the above approach, ranging from case selection to analysis of the collected data. Of special note in Eisenhardt's guide is the combining of qualitative data with quantitative evidence. Although the terms *qualitative* and *case study* are often used interchangeably (e.g., Yin, 1981), Eisenhardt describes how case study research can involve qualitative data only, quantitative only, or both (Yin, 1984; Eisenhardt, 1989). In this research, both qualitative and quantitative data were used to inform the research questions as it allows for cross-referencing of data (Bryman, 2012).

2.1.1 Literature review

In order to make informed decisions on the case selection itself as well as on data collection and analysis, an initial literature search on the integration of services provided by the private sector in DRM was conducted. As the research topic is relatively new, not much literature explicitly addressing the integration of knowledge-based services into DRM systems has been reported. The slightly more relevant literature that was found rather relates to procurement, which has been the private sector's traditional involvement in DRM (Ergun et al. 2014, Coles et al., 2012, Stewart et al., 2009, Rangan et al., 2006, Samii 2008, Van Wassenhove, 2006). A wider search was then conducted, reviewing literature on different terms separately, for example cross-sector partnerships, cross-sector collaboration, private sector involvement in disaster risk management, and knowledge-based services. Said literature comprised of both peer-reviewed articles as well as grey literature searched using relevant key words in several electronic databases and search engines. In addition, relevant authors who seemingly dominate the respective research fields were identified by making use of reference lists and citation indexes of previously identified sources. The findings of said literature review allowed for the definition

of key terms relevant to the research objective and their surrounding theoretical concepts. In addition, the findings guided the development of theoretical propositions to guide data collection and analysis (see Yin, 2003).

2.1.2 Case selection

Stake (2000) describes how a "case study is not a methodological choice, but a choice of what is to be studied" (Stake, 2000:435). When selecting one or multiple case studies Eisenhardt (1989) as well as Jahre & Jensen (2010) describe how one of the most important aspects is the sample from which research is to be drawn. This sample later on controls variation and the definition of limits for the findings (Eisenhardt, 1989; Jahre & Jensen, 2010). Traditionally, Eisenhardt (1989) describes how hypothesis-testing studies rely on randomly selected informants or sources of data. In contrast to that, this research uses a purposive sampling as random selection is not necessary, nor preferable in this case (Eisenhardt, 1989).

Following Eisenhardt (1989), the concept of purposive sampling was applied to this research in order to identify a relevant case. In order to achieve the previously stated research objective, a relevant private sector representative was selected. This selection was achieved through a wide screening of companies which fit the criteria found relevant based on a preliminary literature review on past and current trends in the role of private sector in DRM. Those criteria are namely:

      (i) provision of a knowledge-based service;
      (ii) stated interest to work in the field of DRM;
      (iii) working in (a) developing country/ies; and
      (iv) following an inclusive business model.

Following the above criteria, the case study was conducted on Ignitia, a Swedish company with main offices in Stockholm, Sweden and Accra, Ghana. Ignitia specialises in hyper-local weather forecasting and updates delivered via SMS, based on GPS location. The company started its operations as a research project, attempting to understand the differences in tropical weather events and create a model to predict them more accurately. Ignitia claims that, due to their world-leading technique, their forecasts are more than twice as accurate as those from global producers of weather forecasts, with an 84% accuracy rate. Since their commercial launch in 2015, they have established partnerships to work with over 300,000 small-scale farmers to whom they send daily, monthly and seasonal rain forecasts to help farmers avoid adverse impacts of a changing climate, to reduce risk and loss of crops (Ignitia, 2017). As stated above,

Ignitia provides a knowledge-based service and is working in a developing country, and thereby fulfilling criteria (i) and (iii) of the list given above.

As identified by the authors, and as confirmed by the company management, Ignitia's services are of relevance to the field of DRM. The importance of local and correct weather forecasts is for example crucial input to early warning systems for floods or to predict food insecurity, information that could enhance the preparedness and response of Ghanaian DRM actors, and in turn contribute to sustainable development (Choularton, 2007). As the company has very recently started the process of developing a product targeting DRM, they fulfil criteria (ii). In addition to the above, the authors have furthermore concluded that Ignitia is doing business in accordance with the inclusive business model (Inclusive Business Sweden, 2018), thereby fulfilling the final criterion.

2.2 Data collection

Data was collected through 12 semi-structured interviews and an online questionnaire to which 21 people responded. Ultimately, this multi-method approach was chosen to gain a deeper understanding of the underlying dynamics of cross-sector partnerships, to test the common understanding of key concepts underlying this research as well as to get a sense of the willingness of relevant actors to enter cross-sector partnerships. Furthermore, the online questionnaire acts as a supplement to the qualitative data as it allowed for a wider outreach.

2.2.1 Semi-structured interviews

Having identified the case itself, the next step within the research design consisted of the data collection through conducting semi-structured interviews with pre-identified key informants. This data collection technique was chosen as it allows for flexibility while still providing a certain degree of structure to allow for comparison and analysis (Bryman, 2016). In addition, by adjusting the interview questions and areas that were being discussed, participants were given the chance to elaborate on aspects they deemed important and relevant in relation to the research questions (Flyan, 2005).

In order to approach the research questions from different perspectives, the key informants were initially selected from two informant groups: (i) informants working for the private sector representative and (ii) informants of inter-governmental, non-governmental and governmental organisations present in Ghana. The latter have been approached on a regional level while the private sector representative was approached directly through the company's CEO. In order to gain a wider perspective of the research questions, the informant groups were extended to (iii)

actors who are working within inter-governmental and non-governmental organisations the field of humanitarian partnerships on an international level as well as (iv) informants working with organisations directly linked to the end user of the service being offered by the private sector. This led to gaining a deeper insight into how cross-sector partnerships are being perceived on different administrative levels (local, national and international).

In an attempt to identify relevant key informants, a first screening of organisations active in DRM in Ghana was conducted. Said screening was achieved by doing a wide internet search targeting both well-known organisations such as the UN and the Red Cross as well as other aid organisations active in Ghana. This screening resulted in the identification of 17 organisations. As the service provided by the pre-identified private sector representative is quite unique, a second step included narrowing said search result down to organisations currently working in the same or similar field, that is food security and climate change adaptation. As a result, seven organisations were shortlisted for the data collection process.

For the international level a similar approach was chosen with the aim to include respondents engaged in partnerships related to inclusive business, innovative solutions to solve common problems in society, and humanitarian preparedness and response. In total three organisations were contacted, out of which only two participated in an interview as the third respondent felt they did not have the expertise needed to participate in this research.

When trying to include the perspective of the end user, the first challenge that needed to be overcome was to identify and gain access to such end user. The latter was achieved by going through the private sector representative which allowed gaining access to two independent field workers that prior to this research conducted customer satisfaction surveys with farmers who had received their services. In addition, a contact was established to one informant working for non-profit social investment fund that previously provided a group of small-holder farmers with said service.

As this selection is quite narrow, the authors were aware of the risk of failure to recognise other organisations who might be working in the same field but are less visible to those less familiar with all members of the Ghanaian DRM system. This may have caused overseeing relevant key informants and therefore potentially relevant input to the research. Having said that, it is important to note that inclusive business models are not mainstreamed just yet and businesses working with that model in the humanitarian or development field are even rarer. This has an inevitable implication on the research that any sample would be limited anyway.

The data collection process started by approaching selected informants through existing networks and then proceeding with the snowballing technique. This technique was chosen as it has been proven effective in overcoming trust boundaries between interviewer and interviewee and in gaining access to a certain circle of people. Certainly, a possible disadvantage of this method is that it may result in only recruiting a very narrow circle of people sharing similar views (Valentine, 2013). This risk was mitigated by using multiple initial contact points. Out of the 13 people who were contacted, 12 responded. These 12 people represent organisations from the four informant groups mentioned above. This sample that this research draws from therefore comprises of one person working for the private sector representative, six people representing inter-governmental, non-governmental and governmental organisations present in Ghana, two informants working with partnerships in inter-governmental and non-governmental organisations on an international level, as well as three people working directly with the end users of the service provided by the private sector actor. The profiles of the informants are presented in more detail in Appendix 1.

In total, 10 interviews were conducted face-to-face as it allowed for a more natural "conversation flow" and provided a certain degree of flexibility (Valentine, 2013). Two additional interviews were conducted via Skype as logistical challenges persisted. On average, each interview lasted for around 45 minutes and was audio recorded to facilitate data analysis once the informant's approval had been obtained. During the interviews, field notes were taken as informal observations and impressions can provide valuable input to the data analysis process. As taking notes during the interview might be challenging for a less experienced interviewer, one researcher took the leading role while the other took on a more observing role taking notes (Bryman, 2016).

The key informants were notified several days in advance about the general topics to be discussed and, if needed, Terms of References of the research project were shared which clearly stated the purpose of the research project. By doing so, it was hoped to create an environment of openness and acceptance of diversity, which leads to "undistorted" and honest responses (Valentine, 2013). In addition, the initial interview guide was provided when respondents asked for it.

Informed by the literature review, the initial interview guide (see Appendix 2) consisted of a number of questions with additional options for probing. The interview guide was divided into three sections. The first section asked for general information such as background and position of the key informant. The second, main section then addressed the informant's general

understanding of the research topic, cross-sector partnerships, and more specifically partnerships with the private sector and their provision of knowledge-based services. The third and final section then opened the floor to other aspects.

While conducting the interviews as described above, the authors were aware of the significance to act and conduct research with cultural awareness. In order to build trust between the researcher and the interviewees, respecting cultural differences and adapting to social norms and behaviour is paramount (Yin, 2011).

2.2.2 Online questionnaire

In parallel to the qualitative data collection, an online questionnaire was designed and distributed. In accordance with Parfitt (2013), the questionnaire was used as a tool to acquire primary data about people's attitudes towards specific issues and concepts as well as their awareness of them (ibid.). The questionnaire therefore aimed at exploring people's conceptual understanding of cross-sector partnerships and their determining factors, their willingness to collaborate within the field of knowledge-based services as well as their perception of the influence and role of inclusive business models in the field of DRM.

The questionnaire acted as a cross-reference for the qualitative data. This was deemed beneficial as the initial exploratory phase of the interview process revealed that the practical experience working with cross-sector partnerships on a national level was rather limited. In addition, as the online questionnaire offers an anonymous platform, it was set out to mitigate the risk of expectation errors and potentially offer a more neutral perspective on the research questions.

The online questionnaire was designed using Typeform.com, a software specialised in online form building and online surveys. The questionnaire (see Appendix 3) mainly consisted of closed questions which were organised through multiple-choice, attitudinal and opinion questions involving a numerical scale as well as rating scales (no experience/somewhat/expert). In addition, the questionnaire posed several open questions where the respondents were given the opportunity to comment and articulate their opinion freely. In order to facilitate the data analysis, those open questions had a set word limit. The question design was informed by the previously conducted literature review and formulated in accordance with the semi-structured interview guide.

As online questionnaires represent a form of self-completion exercise, several measures were taken to mitigate potential response errors (Parfitt, 2013). With respect to language and interpretations, the questionnaire included definitions of key terms and concepts to ensure that

the respondent was not met with unfamiliar phrasing as well as unknown concepts. In order to ensure that there was no mismatch between the researchers' and respondents' definitions and that the questions were formulated in a non-leading and ambiguous way, an initial pilot survey was carried out. The survey was piloted by presenting it to one person in the authors' personal network. Even though that person was not an expert on the topic, it allowed for testing of the level of comprehensiveness, the phrasing as well as the sequencing of the questions. When needed, the questions were then adjusted based on the received feedback. The results of the pilot survey are not part of the final survey results to ensure the integrity of the data set.

The questionnaire targeted professionals in the field of DRM with experience and/or specific knowledge of cross-sector partnerships. In order to reach the target group, the questionnaire was distributed through relevant contact persons in the field and their respective networks as well as relevant LinkedIn groups. As identified by Wright (2006), using virtual communities and the mechanism they are offering allows for gaining access to people who share similar specific interests and allows for a wider reach. Simultaneously such approach does, however, also create uncertainties over the validity of the data as well sampling issues. As those communities are often large in size and as relatively little is known about their members' characteristics, it is difficult to ensure the relevance of the respondents (ibid.). In order to mitigate this risk, the questionnaire was posted with a cover note stating the topic and purpose of the questionnaire as well as the expertise required to answer it.

A total of 21 people responded to the online questionnaire. Two-thirds of the respondents are currently working for either a humanitarian aid/development organisation or a non-governmental organisation. The other respondents represent the private sector (three respondents), a governmental organisation (two respondents) and other types of organisations (two respondents). Further details on the respondent's profiles and their respective level of experience in cross-sector partnerships can be found in Appendix 4.

2.3 Data preparation and data analysis

When preparing and analysing the collected data, the quantitative and qualitative data sets were treated separately and later cross-referenced. The individual steps of analysis for the two data sets are presented below.

2.3.1 Semi-structured interviews

Each interview was transcribed and then fed into the qualitative data analysis software NVivo to facilitate the process of data organisation and analysis. As qualitative data collected through interviews tend to be relatively unstructured, it needed structuring to make it accessible for analysis and interpretation (Bryman, 2016). This was achieved by following the stages of theme development in qualitative content and thematic analysis suggested by Vaismoradi et.al. (2016). First, the transcribed data was read several times to gain a general understanding of the data and the main issues of the phenomenon under study. Guided by theoretical concepts identified in the literature review, meaningful units, recurring ideas and key issues were highlighted and later coded. The established codes were then labelled and classified. As part of the data analysis process the identified themes were related back to established theory on cross-sector partnerships (ibid.). In an attempt to mitigate the risk of influencing each other and arrive at less biased categories, all steps were completed individually by each author before comparing and discussing the results.

As partnerships are intrinsically unique, the established themes were analysed by first studying each case separately (in-case analysis) and as a next step in relation to each other (cross-pattern) (Eisenhardt, 1989). The term "case" herein refers to an individual interview and is not to be confused with the case study that is this research. This approach was chosen as it allows for the "unique patterns of each case to emerge" (Eisenhardt, 1989:540) before findings were organised in more generalised patterns. In addition, a cross-case analysis reduces the risk of reaching premature conclusions based on limited data (Yin, 2009). The cross-case analysis was carried out by selecting pairs of cases that were critically compared and similarities and difficulties identified (Bryman, 2016).

2.3.2 Online questionnaire

The analysis of the online questionnaire was facilitated by the in-built function of the used software Typeform.com which automatically calculated the percentages of selected responses in relation to the total number of responses. In addition, the answers to the open-format questions were coded and categorised. Following Parfitt (2013), the categorisation sought to

strike a balance "between summarising the data as concisely as possible and minimising the loss of information that this process entails" (Parfitt, 2013: 107). In order to ensure a thorough analysis of the data, an exploratory analysis was first performed which included a screening for outliers and exploring potential relationships between variables. Secondly, emerging patterns underwent a confirmatory step to test hypotheses and avoid misleading conclusions (Lovett, 2013).

2.4 Conceptual framework

Building on the results of the data analysis as well as the literature review, a more conceptual framework of the interface (i.e. general aspects that needs to be considered when initiating cross-sector partnerships) between traditional DRM actors, knowledge-based services and inclusive business models was developed.

The purpose of this explanatory framework of this research is to show what general factors need to be addressed when initiating cross-sector partnerships between traditional DRM actors, knowledge-based services and inclusive business models and how these factors are interconnected. Following Jabareen (2009) the resulting framework will therefore represent "a network or 'a plane' of interlinked concepts that together provide a comprehensive understanding of a phenomenon" (Jabareen, 2009: 51). As such the framework may be used to facilitate more successful partnerships and is directed towards private sector representatives interested in working in the field of DRM as well as traditional DRM actors who would like to incorporate services provided by the private sector into their work. Furthermore, any organisation interested in engaging in cross-sector partnerships for DRM may find the framework useful for guiding that process.

As this framework does not provide "a causal/ analytical setting but, rather, an interpretative approach to social reality" (Jabareen, 2009: 51), it is to note that the identified parts of the framework will have different weights in different contexts. The framework therefore does not claim or recommend that all aspects would be of equal importance and the framework will have to be further validated, tested and contextualised. In other words, the framework is a way of pointing out favourable conditions and principles, the interlocking of which is important to the workings of an inclusive business model in the humanitarian and development sector.

2.5 Additional research limitations

There are certain limitations surrounding this thesis and case study. As the case study is based on a limited number of key informants from selected DRM actors, one should be careful when generalising findings. It is also important to note that the views of the interviewees do not necessarily reflect the views of all leaders in the organisations they are representing. In addition, as this research is based on two purposive samplings, the research might be biased towards organisations with a compatible mission/objective or with a higher capacity for collaborative work. As the research questions mainly focus on understanding the perspective of traditional DRM actors, the private sector and their perspective was represented to a limited extent. However, their perspective was still reflected in the development of the framework as both sectors and their perspectives are considered equally important when initiating cross-sector partnerships.

Furthermore, it is important to note that due to unforeseen reasons, the response to the questionnaire was not as expected and the sampling size of the quantitative data collection remained small. The results are therefore not necessarily representative of the attitudes and opinions of the overall target group and are potentially not statistically sound. This caused a dilemma whether or not to discard all quantitative data. Acknowledging its limitations, the decision was made to include the quantitative data as mere proxy indicator for cross-referencing, but rather to treat it as illustrations than findings.

As conducting the interviews and their analysis were in the same hands, a certain risk of subjectivity and seeing only one side of the coin exists. To mitigate this risk, one needs to be aware of cognitive barriers and take them into account when interpreting and analysing the interviews.

As this research is partly conducted in collaboration with a company, the researchers are aware of the risk of becoming emotionally affiliated with the company and therefore tried their best to reduce this influence. As a consequence, the researchers focused their attention on keeping their tone and questions neutral and free of judgement when introducing the case study. In addition, each interview was opened with a statement that the researchers were not representatives of the company and did not speak on their behalf but were mainly utilising the company as a case study or example.

3 Literature review

As this research draws from selected theoretical concepts from various academic disciplines, the objective of this literature review is to create a common ground of understanding by briefly summarising relevant prior research. In doing so, the literature review will outline key concepts and terminology relevant for this research as well as establish the departure point of the research.

3.1 The role of the private sector

The private sector's involvement in DRM is hardly a new phenomenon. In the past, the private sector has traditionally been involved as donors, as suppliers on both commercial and charitable basis, as service providers to aid agencies, as technical advisors or for capacity building. At times they have also been engaging directly with vulnerable populations (IRIN, 2013; Zyck & Armstrong, 2014; Zyck & Kent, 2014; Ergun et al. 2014, Coles et al. 2012, Stewart et al. 2009, Rangan et al. 2006, Samii 2008, Van Wassenhove 2006). In addition to that, private sector actors have been and are increasingly targeted and encouraged to prepare themselves for disasters (UNISDR, 2008). There is an increasing awareness and ambition from both the government and the private sector to work together, in particular as a means to achieve development results. On the one hand, the private sector is engaging in development in its own right, and often an effort to establish innovative core business strategies to solve development issues can be seen (WBCSD, 2010; Lucci, 2012). On the other hand, underlying the ambition to establish partnerships, is the changing international context in which private flows are much more significant than official development assistance to developing countries, considering for example remittances or private investment (Kindornay et al., 2014).

The above stated trends in the development sector are equally applicable in the field of DRM and the importance of collaboration is highlighted in global frameworks and mechanisms such as the *Sendai Framework for Disaster Risk Reduction 2015-2030*, the *Busan Partnership for Effective Development Cooperation* as well as the *2030 Agenda for Sustainable Development.* Those frameworks and mechanisms acknowledge and advocate for the need for stronger involvement of the private sector in the field of DRM (OECD, 2011; UN, 2015; UNISDR, 2015; UNOCHA, 2017). Similarly, as the private sector is increasingly seen as a key stakeholder in these matters, they are gradually participating more and more in policy dialogues and formulation (Kindornay et al., 2014).

In summary, the involvement of the private sector in humanitarian action has risen steadily in the last decade, and their involvement is likely to increase further in the future. The emphasis

appears to be on a slightly changed role of the private sector with authors arguing that their involvement should ideally start as early as possible when preparing for disasters. Rather than being opportunistic and ad hoc, there should be a focus on long-term investment for preparedness where private sector actors integrate their technical expertise and other core competencies. Drummond & Crawford (2014) highlight how communication technologies, most obviously mobile phones, provide new opportunities to increase disaster preparedness and/or deliver humanitarian assistance. For instance, they believe that "improved weather forecasting, mostly from private sector sources, will provide better warning, and mobile phone networks will be used to relay more accurate messages in good time to those who are vulnerable" (Drummond & Crawford, 2014: 19).

Hence, the private sector is predicted to assume a key strategic role, equal to other parties, in order for traditional actors to achieve their goals. What is now needed is a framework for how the private sector can engage in such a way, a framework that can be adapted to fit a wider variety of businesses (IRIN, 2013; Zyck & Kent, 2014; Zyck & Armstrong, 2014; Wahlström, 2017).

In recognition of the increasingly important role of the private sector in DRM, several research projects were carried out to better understand the underlying dynamics of their involvement (Zyck & Kent, 2014; Zyck & Armstrong, 2014; IRIN, 2013; Kindornay et al, 2014; Lucci, 2012). The findings of those projects can be directly linked to and are in line with well-established literature on cross-sector partnerships which will therefore be presented in 3.2.

3.2 Cross-sector partnerships

Cross-sector partnerships have been in the focus of various research fields over the past decade and are nowadays often deemed necessary and desirable in order to address the global challenges our world faces today (Babiak & Thibault, 2009; Bryson et.al. 2006). Cross-sector partnerships describe any form of collaboration between the various sectors: government, non-profit, business, communities and/or the public as a whole (Bryson et.al., 2006). Given the confusing nature of different forms of partnerships, this research followed the understanding of partnerships as proposed by the UN General Assembly (2016) which defines partnerships as "voluntary and collaborative relationships between various parties, [...], in which all participants agree to work together to achieve a common purpose or undertake a specific task and, as mutually agreed, to share risks and responsibilities, resources and benefits" (UN General Assembly, 2016:4).

Even though cross-sector partnerships are undoubtedly beneficial when successful, it is important to note that those perceived benefits come with significant strategic and structural challenges (Babiak & Thibault, 2009). Consequently, "there is a fine balance to be struck between gaining the benefits of collaborating and making the situation worse" (Huxham & Macdonald, 1992:50).

3.2.1 Strategic challenges

Studies have shown that for any form of collaboration all involved parties need to first come to an initial agreement on the problem definition their potential partnership is trying to address and link it to their respective objectives and missions (Selsky & Parker, 2005; Bryson et.al. 2006; Babiak & Thibault, 2009; Tung et.al., 2018). Changing missions and objectives as the partnerships evolve as well as confused expectations of its outcomes can potentially threaten the formation and/or sustainability of collaboration (Babiak & Thibault, 2009). In order to mitigate such risk, Westley & Vredenburg (1997) argue that "participants must first successfully identify the problem, which includes finding a common definition, generating a variety of information, making a joint commitment to collaborate, identifying and legitimizing critical stakeholders, finding an appropriate convener, and identifying initial resources" (Westley & Vredenburg, 1997:382). Even though this is true for all types of cross-sector partnerships, a mutual commitment is of special importance for partnerships between non-profit and for-profit organisations as commonly voiced concerns revolve around reputation concerns or conflicts of interest (e.g. for-profit organisations may prioritize the financial gains of investors) (Tung et.al., 2018). De Montigny et.al. (2017) therefore emphasize the importance of shared organisational values as they determine what is perceived as acceptable and what is not.

3.2.2 Structural challenges

As cross-sector partnerships require two potentially very different organisations to collaborate and establish a common modus operandi, achieving clear roles and responsibilities is key to ensure the efficient use of resources (Selsky & Parker, 2005; Bryson et.al. 2006; Babiak & Thibault, 2009; De Montigny et.al., 2017; Tung et.al., 2018). Therefore, Forsyth (2007) suggests that "a complementary" of partnerships may be more beneficial than a "shared" form because there is clear separation of roles performed by different actors and it can be assumed that each actor performs their role most suited to their experience" (Forsyth, 2007:15).

Another structural challenge cross-sector partnerships face revolves around management aspects. Firstly, it is to note that going into a partnership each organisation brings their very own organisational norms and culture with them, which are not necessarily compatible with each other (Selsky & Parker, 2005). In response to this challenge, De Montigny et.al. (2017) advocate for organisational flexibility, diversity of perspectives as well as the willingness to compromise. Secondly, cross-sector partnerships require committed human resources to manage them adequately. Studies have shown that under-management of partnerships occurs relatively frequently which then leads to inefficient work structures and resource allocation as well as partial or complete communication breakdowns (Babiak & Thibault, 2009). Underlying all potential challenges lies the less tangible concept of trust, which has been identified in a vast majority of literature on cross-sector partnerships (Selsky & Parker, 2005; Bryson et.al. 2006; Forsyth, 2007; Babiak & Thibault, 2009; De Montigny et.al., 2017; Tung et.al., 2018). The success of cross-sector partnerships highly depends on the demonstration of trust and the "one party's willingness to be vulnerable to another party based on the belief that the latter party is 1) competent, 2) open, 3) concerned, and 4) reliable" (Mishra, 1996: 5). In line with this notion, De Montigny et.al. (2017) promote that trust can be built by being transparent, mutually supportive, having good intentions as well as demonstrating competency. Other behaviours building trust include follow-through, a high frequency and quality of communication as well as rapid feedback loops. Bryson et.al. (2006) complements those factors by adding on information and knowledge-sharing and emphasising the role of prior relationships or existing networks, as partners often judge each other's trustworthiness and legitimacy of stakeholders through said networks. Trust building may be hindered by an existing, or perceived as such, power imbalance which may be due to resource inequities between partners. These imbalances often result in feelings of uncertainty, suspicion, resentment and ambiguity (Babiak & Thibault, 2009).

Although there might be cases of potential distrust, partnerships are continuously established across sectors, wherefore it can be concluded that they are still seen as beneficial for all parties involved (De Montigny et.al., 2017). It is therefore necessary to outline the motivation and benefits underlying said partnerships.

3.2.3 Motivation and benefits

Although partnerships are perceived as beneficial, research has shown that often "organisations will only collaborate when they cannot get what they want without collaboration" (Bryson et.al. 2006: 45) as they are walking a fine line between competition and collaboration (Babiak &

Thibault, 2009). Competition among organisations is a positive driving force resulting in more efficient and effective organisational functioning as strategic decisions regarding resources must be made quickly. Furthermore, organisations also often see collaboration as a means to ensure the efficient use and/or acquisition of resources and expertise (Babiak & Thibault, 2009).

The underlying reasons why organisations enter cross-sector partnerships are manifold and have been subject to various past research projects (Altenburg, 2006; Bryson et.al., 2006; Babiak & Thibault, 2009; Kindornay, 2014; Tung et.al. 2018). Despite their differing focus, some common motivations have been identified which can be categorized based on Tung et.al. (2018).

3.2.3.1 Organisational alignment

Cross-sector partnerships are often initiated as they are deemed necessary to fulfil an organisational mission or objective (Tung et.al., 2018). Following the same line of thinking, Bryson et.al (2006) and Kindornay et.al. (2014) cite a notion of sector failure as an overlooked precondition for cross-sector partnerships. Sector failure hereby refers to failed or insufficient attempts by single actors to address a problem affecting the whole of society such as climate change, DRM or public health (ibid.). Cross-sector partnerships are then seen as a solution as supposedly "the differential strengths of the for-profit, public and non-public sector [can] overcome the weaknesses and failures of the other sectors and contribute to the creation of public value" (Bryson et.al., 2006:46). In this context, especially the private sector is often seen as a source of innovation and expertise (Kindornay et.al., 2014). In addition to capitalizing on shared interest, it is also to note that the private sector often sees cross-sector partnerships as opportunities to contribute to society by demonstrating good corporate citizenship (Tung et.al., 2018).

3.2.3.2 Financial support

Cross-sector partnerships are often seen as beneficial in areas with limited immediate finances (Tung et.al. 2018). This is especially true for non-profit organisations which are trying to reduce their vulnerability to the current funding environment by diversifying their funding base (Altenburg, 2006; Babiak & Thibault, 2009). In contrast, the private sector tends to be less interested in immediate financing but rather enters partnership agreements in the hope of long-term financial gains by gaining access to a broader consumer base or increasing consumer loyalty (Tung et.al., 2018). In cases of lacking financial profit for the private sector, Drummond

& Crawford (2014) question the sustainability of some partnerships as one of the central goals of the private sector partner is not being met.

3.2.3.3 Value creation and brand enhancement

Cross-sector partnerships have further established themselves as a strategy for public, non-profit and profit organisations to create greater value (Babiak & Thibault, 2009). Focusing on associational value, Altenburg (2006) and Kindornay et.al. (2014) emphasize the derived benefit an organisation gains by collaborating with another actor as their association may result in an increase of legitimacy and projected credibility or good reputation. Similarly, for-profit organisations also see cross-sector partnerships as a strategy to enhance and promote their brand by associating with an organisation that promotes certain values (Tung et.al., 2018).

3.2.3.4 Access to specialised knowledge and skills

Altenburg (2006) further stresses how collaborating gives the private sector access to the specific skills attributed to others such as the skills are demonstrated by non-profit organisations in "dealing with governments and certain stakeholders (e.g. farmers or trade unions) and in supporting organisational development in different cultural settings (Altenburg, 2006: I). Other recurring motivations for businesses to pursue cross-sector partnerships have been identified by Selsky & Parker (2005) and Tung et.al. (2018) as getting social returns in the form of professional networking benefits, garnering social capital as well as attracting, motivating and retaining desirable employees (ibid.).

Another motivation for non-profit and/or governmental actors to enter cross-sector partnerships is the sharing and integration of novel technologies and services provided by the private sector. This is especially true for knowledge-intensive services such as telecommunication technologies (IRIN, 2013). As knowledge-intensive, or knowledge-based, services and its potential incorporation in traditional DRM systems is the focus of this research, this concept will be outlined below (see 3.3).

In addition, several researchers have stated how businesses must enter cross-sector partnerships in a way that allows both economic and social development efforts to thrive (De Montigny, 2017), thereby creating a "meaningful benefit to society that is also valuable to the business" (Porter & Kramer, 2006:6). This research will therefore investigate cross-sector partnerships in combination with a business model commonly known as *inclusive business*. This business model is outlined in section 3.4.

3.3 Defining knowledge-based services

Knowledge has arguably become a pillar of the twenty-first century and a driver of its economy as the economic sector of knowledge-based services has steadily grown over the past decades (Drucker, 1995; OECD, 1999; Strambach, 2008). Traditionally, knowledge-based services are defined as business services heavily reliant on intensive input in technology and/or human capital (OECD, 1999). The term now commonly refers to all businesses for which knowledge is both their main input and output, meaning that in addition to a high investment in creating knowledge internally, those businesses accumulate and disseminate knowledge as customised service solution to others (Strambach, 2008).

Most knowledge-based services are highly innovation-driven and serve the need for new technological solutions for rather common problems ranging from communication to environmental management. They are mostly driven by the need to address uncertainties in the performance of existing technological solutions as well as the developing trends surrounding them (Miles et.al., 1995). A knowledge-based service could be for example an improved weather forecast or services related to geographical information systems and telecommunications.

In this research the more recent adaptation of the term knowledge-based services will be used, describing a highly innovation-driven business that accumulates and disseminates knowledge as a customised service to others as there is a need for innovative technological solutions to enhance the performance of existing ones, or to solve a common problem affecting the whole of society.

3.4 The inclusive business model

In short, inclusive business is described as a private sector approach that benefits low-income communities while keeping its for-profit nature. This approach is widely accepted today and has been adopted as a business strategy by major international players such as the World Bank, the International Finance Corporation, and the World Business Council for Sustainable Development. Low-income communities are benefitted as inclusive businesses include them in the core of their value chain, either as suppliers, entrepreneurs, distributors, retailers, or customers (Business for Development, 2018; International Finance Corporation, 2018; Prahalad, 2014).

The business model inclusive business was originally outlined by C.K. Prahalad. Prahalad (2014) initiated the now globally accepted idea that people living at "the bottom of the pyramid" are not to be labelled as "the poor" but rather as individuals constituting "the fortune at the

bottom of the pyramid" (Prahalad, 2014). "The bottom of the pyramid" (BoP) here refers to the 4.5 billion individuals, primarily living in developing countries, whose annual per capita income is below $3,000. Similarly, "the fortune at the bottom of the pyramid" then refers to the business opportunities residing at the BoP (Prahalad, 2014).

Prahalad not only argued for the private sector to do business with the very poorest in the world, but to create new solutions, innovations, and business models that create a market and solve challenges in developing countries. In that process he emphasized the crucial role of the individuals living at the BoP where they had to become "active, informed, and involved consumers" (Prahalad, 2014:15).

In essence, C.K. Prahalad's original approach means co-creating unique solutions to convert poverty into an opportunity for all concerned (Prahalad, 2014). Similarly, inclusive business stands out from traditional development approaches as co-creation and the belief that for-profit focus and development outcomes can be aligned at its core (Business for Development, 2018; International Finance Corporation, 2018; Prahalad, 2014).

As described by Rösler et al. (2013), what differentiates an inclusive business from a conventional business is the fact that inclusive businesses deliberately contribute to developmental goals by including the BoP in their core value chains (Rösler et al., 2013). This particular focus in turn contributes to certain barriers these businesses need to overcome on a fairly regular basis. Those barriers include:

- o lack of skills or knowledge among the BoP to act as clients and/or suppliers and employees
- o inadequate infrastructure, particularly in rural areas and urban slums
- o the need to create a market (for example encourage demand)
- o complex or hostile legal or regulatory environments

As these barriers are rather unique challenges, inclusive businesses may employ several measures and strategies which some argue represent the most defining features of inclusive business (De Jongh, 2013). A selection of the most commonly applied measures is briefly presented below.

In order to address the challenges associated with targeting the BoP, inclusive businesses are often (i) developing sector-specific technical solutions such as providing their services via the mobile phones, and/or (ii) adjusting to low-level cash flows by offering small-unit pricing or pay-per-use schemes, by providing shared access, or by selling through informal retailers.

Additionally, (iii) they adapt communication strategies for specific target groups whose unmet needs are addressed while pointing out the benefits it offers. In order to be effective, those strategies must take the local context into consideration, with its specific challenges such as illiteracy. Inclusive businesses further (iv) integrate the target group in the development and design of their products and services as this allows them to respond more directly to people's needs, thereby increasing demand levels and the willingness to pay (Rösler et.al., 2013).

As all activities presented above require significant financial and human resources, inclusive businesses often seek to create partnerships and alliances (Rösler et.al., 2013). This will allow them access to external expertise as well as financial and physical resources (De Jongh, 2013). Rösler et.al. (2013) further identified partnerships as a prerequisite for creating and scaling inclusive businesses as well as a contributing factor to their sustainability. In addition, inclusive businesses are also to engage in policy dialogue with governments to address market regulatory challenges; this is especially significant when introducing new innovative products or services on highly regulated markets (Rösler et.al., 2013).

3.5 Departure point of the research

As outlined in the literature review above, we are currently seeing a shift in the role of the private sector in the field of DRM. Private investments are becoming increasingly significant in humanitarian work, and there is a need to harness the competence and knowledge possessed by the private sector in order to achieve development results. Simultaneously, as knowledge-based services are increasingly gaining ground in the global economy, the integration of such services are of increasing importance. Knowledge-based services are therefore an important aspect of the current shift of the role of the private sector. We are seeing a move away from the well-established system of procurement of relief items towards more long-term integration of private sector expertise in traditional DRM systems, focusing on cross-sector partnerships for preparedness rather than *ad hoc* solutions.

Based on the trends identified above, we can say that it is essential to build a greater understanding on how traditional DRM actors and the private sector as a provider of knowledge-based services could interact more effectively is essential. Even though research on cross-sector partnerships has identified common misunderstandings about motivations, goals, priorities and differences in organizational culture as obstacles to effective collaboration, further research is needed as not only the humanitarian system but also the business world is undergoing constant changes. Over the past years, new innovative business models such as inclusive business have emerged which are trying to accommodate both social and economic benefits for society. It is

now possible that some of the previously highlighted challenges of cross-sector partnerships do therefore not apply to collaborations of these new business models. Similarly, new challenges might emerge. Thus, this research will investigate a case study on the integration of a knowledge-based service provided by a private sector actor following an inclusive business model in traditional DRM systems. The findings of said case study will highlight the underlying challenges to this new type of partnership, which in turn will inform the development of a framework for how the above can be achieved successfully.

4 Results and discussion

This chapter is organised in four different sections. The first three sections seek to understand (i) the collaboration between traditional DRM actors and private sector representatives (ii) the potential for integrating a knowledge-based service into existing DRM systems and (iii) the role and influence of inclusive business models within cross-sector partnerships in the field of DRM. After the findings within each of these sections are presented, they are analysed by applying theoretical concepts and principles of DRM, cross-sector partnerships as well as inclusive business models as presented in the literature review. The last section concludes by relating the individual sections to each other to provide a coherent discussion where all concepts and aspects are considered. The latter will then also act as the base for the development of the framework (see chapter five).

4.1 Collaboration between traditional DRM actors and the private sector

This section will focus on understanding the factors influencing the collaboration between traditional DRM actors and the private sector. Before looking at the benefits and challenges associated with cross-sector partnerships, a first look at the qualitative data revealed a high level of willingness to enter cross-sector partnerships. This is also reflected to an extent in the quantitative data. Even though the results of the online questionnaire show some significant variation, the average remains at 3.76 out of 5.

How would you rate your organisation's willingness to enter partnerships with the private sector?

21 out of 21 people answered this question

Average: 3.76

1	2	3	4	5

Low   Medium   High

Figure 1 Organisations' willingness to enter partnerships with the private sector

4.1.1 Perceived benefits

In terms of benefits of entering cross-sector partnerships with the private sector, the initial illustrated results of the quantitative data collection can be viewed in Figure 2 below.

What are the main benefits you see in entering partnerships with the private sector?

21 out of 21 people answered this question

1	Efficient use of resources	11 / **52%**
2	Sustainability	11 / **52%**
3	Aquisition of resources, knowledge and expertise/skills	10 / **48%**
4	Financial support	9 / **43%**
5	Information- and knowledge sharing	8 / **38%**
6	Effective achievement of organisational aim	6 / **29%**
7	Marketing	3 / **14%**
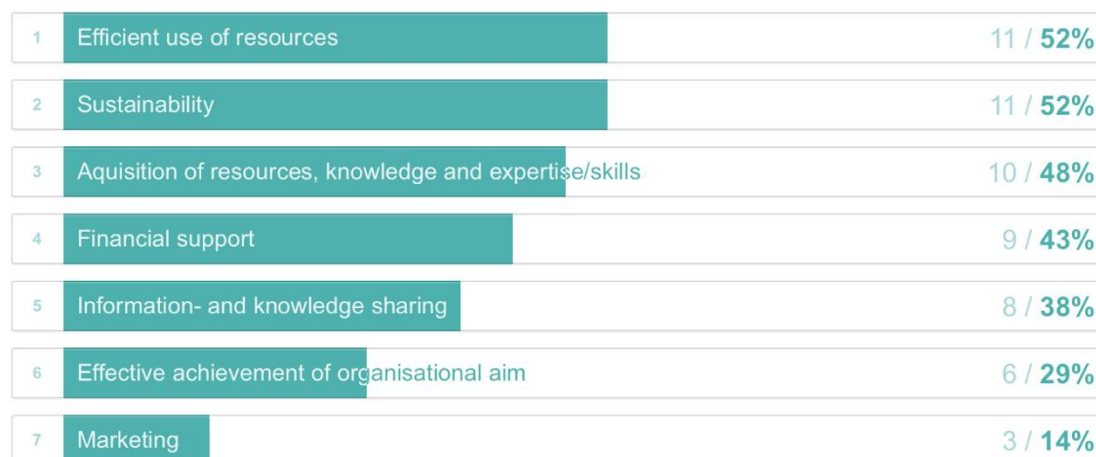
Figure 2 Perceived benefits of entering partnerships with the private sector

As seen above, the quantitative data showed that one of the main benefits of partnering with the private sector highlighted by 52 percent of the respondents is the aspect of sustainability. This notion was confirmed in the qualitative data as all respondents mentioned the private sector's contribution to sustainability. Sustainability here refers to the ability of the private sector to sustain their operations over time, as well as in terms of funding or the fact that they do not have to rely on donors. In addition, respondents said that *"...one of the key benefits that I think partnering with the private sector will be able to sustain the achievements or sustain the benefits that we have achieved over the years"* and raised points such as how the private sector is important in order to sustain whatever interventions are made. One respondent for example said that *"...the private sector [...] are part of the system. So, when they are taking ownership I think it works and also when they are ready to commit resources to some of the partnership [...] I would say for sustainability [of our efforts] private sector is very key"*.

In the quantitative data, we also saw the efficiency and effectiveness of the private sector being equally highlighted as a benefit of entering cross-sector partnerships, which is confirmed by the qualitative data. One respondent stated that *"...the private sector is very efficient, and we believe that private sector involvement will inject some efficiency in government businesses. They are very effective and very efficient, [...] so it injects some kind of efficiency and effectiveness in*

government operations with respect to disaster risk management in the country". Related to the above are aspects of efficient use of resources as well as effective achievement of organisational aim which were represented in both data sets. In the interviews, all informants mentioned the above, one of them elaborated for example by saying that *"...this is supposed to minimise duplication of effort and is supposed to maximise effort of all the agencies".* Another respondent stated that *"we are trying to look at how we can leverage each other's resources".* The quotes below from the interviews show how respondents highlighted effective achievement of organisational aim:

> *"In order for us to go far, to achieve in whatever we say want to do, we need to get the private sector involved. In order for us to benefit or get further development gains or to consolidate the development gains we have made over the years, it is important that we get private sector involved".*

> *"I think in my initial statement I have talked about our push and our global vision of eradicating hunger worldwide and as I said basically for us to achieve this mission or objective we need a lot of partnerships. So, if we don't have the commitment from the partners I think our vision will not be fulfilled".*

> *"We are also trying to do something similar, so in this case alignment of goals. So how do we can come together to achieve the same goal that you are also trying to achieve".*

Furthermore, respondents in the qualitative data highlighted how entering cross-sector partnerships with the private sector adds to the knowledge and expertise of the organisation, as well as enhances organisational capacity. This is also reflected in the quantitative data as 48 percent of the respondents stated that one of the main benefits of entering cross-sector partnerships is the acquisition of resources, knowledge, expertise and skills. Providing a few examples from the interviews, respondents said that:

> *"the humanitarian partners also recognise that the private sector actually can contribute in areas that we are not so good at and can do it even better"*

> *"it has also allowed us to learn a little bit about something that is outside of our core competencies"*

> *"they will come to add to our resources, so from three different dimensions; resources, knowledge, capacity, will be a very important area".*

Of further significance in the quantitative data, and definitely worth highlighting, is that circa 40 percent of the respondents representing humanitarian aid or development agencies and an NGO also saw financial support and information and knowledge-sharing as a benefit of cross-sector partnerships.

From the perspective of the private sector representative, the main benefits of partnering with traditional DRM actors were described as potentially broadening their customer base, as well as follows:

> *"So, the main benefit is that we reach out, we get a real-life test bed for showing, you know not just us saying but showing what the benefits of collaboration with us is but also getting it from a third party has been very good for us. Also, what I should add to this is to understand better the end users of our product and see how they react on different kinds of information to be able to better design our product to their needs".*

One benefit that was notably absent in the qualitative data set was the perceived benefit of better marketing which is commonly cited in literature on cross-sector partnerships.

4.1.2 Perceived challenges

Looking at the main challenges associated with cross-sector partnerships, the quantitative data collection (see Figure 3) revealed that 33 percent of the respondents saw differing expectations and/or conflict of interest as a barrier that needs to be overcome for a partnership to be successful.

What are the main challenges you see in entering partnerships with the private sector?

21 out of 21 people answered this question

1	Differing expectations and/or conflict of interest	7 / **33%**
2	Lack of commitment and/or willingness	7 / **33%**
3	Institutional capacity and lack of resources	6 / **29%**
4	Power assymetry due to financial contribution	6 / **29%**
5	Changing missions and objectives	5 / **24%**
6	Lack of time	5 / **24%**
7	Lack of agreements about roles and responsibility	3 / **14%**
8	Reputation concerns	3 / **14%**
9	Lack of trust	2 / **10%**
10	Other	2 / **10%**

Figure 3 Perceived main challenges associated with entering partnerships with the private sector

The data further showed that general management aspects such as lack of commitment and institutional capacity and lack of resources were identified by a third of the respondents.

This display of challenges was confirmed by the qualitative data which revealed that management is seen as one of the main challenges to cross-sector partnerships. Summarizing most aspects identified throughout 83 percent of the interviews, one key informant stated that:

> *"Partnerships require aligning the motivations and the expertise and capacities of the different organisations together. So, it is something that requires a lot of time to manage and to coordinate, high commitment from the different organisations, and really a creative alignment of values as well as capacities as well as motives."*

In response to those challenges, two other informants emphasized the need of a dedicated project manager that has available time and resources to manage and drive the partnership and ensure that "*everyone is on task".* According to one of the respondents, this could either be a staff member of "*an organisation taking the lead or just this one individual that could be an independent individual separately hired to manage the partnership".*

Another challenge that was identified in both the quantitative and qualitative data was the lack of consistency in relationships. As cited by one of the informants, frequent staff turnover, changing organisational priorities and visions "*can frustrate the private sector [...] [and] can affect the type of business engagement or relationship they have".*

All informants believed that differences in organisational culture threatened the establishment and sustainability of cross-sector partnerships. For instance, one informant representing a national DRM actor stated that *"the private sector, they are time-bound, but we are process-oriented".* According to them, this difference could potentially have severe impact on their willingness to work together as they move at a different pace. Another informant therefore saw a need to harmonize the system to enable the partnership to function and achieve its overall objective. This view was also expressed by the private sector representative as:

> *"though we often have same objectives, we have very different ways of working; the timescales are different. Small private sector social enterprises expect things to move rather fast [...], while this might not always be true in larger NGOs where things strategically need to move much slower in getting results".*

The private sector therefore advocates for the need to not only better understand the internal planning processes of the different actors but to also gain insight into their general mind set and modus operandi. The latter would then allow the private sector to tailor their product or service to their partner organisation.

Twenty-five percent of the informants and ten percent of the respondents of the survey expressed certain concerns regarding the current level of trust between the private sector and

more traditional actors in the field. Speaking from an international perspective, one informant stated that he saw a slow shift in the perception and involvement of the private sector in DRM but that "*there is still a lot of work to be done. There was a lot of concern and suspicion to the motives of the private companies*". Relating to the last aspects, two other informants representing the national level articulated concerns that some traditional DRM actors might feel threatened by the ongoing push of the private sector into the field. As this push inevitably comes with changes in their field of operations, traditional DRM actors believed that this fear of a change of status quo may inhibit cross-sector partnerships, stating that *"as human beings generally, we are people who want to protect our turf, to protect our area of jurisdiction. So, when we feel that there is someone coming to encroach on our jurisdiction, then we become very protective"*. Looking at the aspect of trust from an end user perspective, two informants who have both had extensive contact with over one hundred farmers using Ignitia's service presented a slightly inconsistent picture. One informant argued that the end user was not concerned whether it is the private sector, the government or any other organisation that provided them with a certain service or product, as "*at the end of the day it is about getting the right product at the right time*". In contrast, the second informant concluded that even though the majority of the end users did not have any concerns, a few individuals did. From their perspective, the end user puts more trust in the government as a service provider as due to their familiarity with the system and hence a perceived sense of security:

> *"...dealing with the government, sometimes you are more assured. You have that security that okay that person I am dealing with is the government directly, the government of Ghana. So, I won't be cheated, or anytime I have any problem I know the channels to go through for my questions to be answered or my challenges to be attended to"*

A total of 60 percent of the informants further focused on the fact that the private sector is by definition profit-driven. Overall, there was a general acceptance that there is a need to pay the private sector for offering their specialised services so that they can sustain their business. However, 16 percent of the informants expressed their reluctance to do so as they believed that the private sector is *"too much profit-driven"*. In addition, 40 percent of the informants representing a traditional DRM actor expressed concerns that their organisations did not have the financial means to sustain any payments that exceed a project cycle. The latter was also reflected in the quantitative data set.

In addition, one informant offered a more critical perspective on the profit-making nature of the private sector and emphasised the ethical considerations to be made when making profit of people's rights to give and receive humanitarian assistance:

> *"[There] has to be watertight shutters between what is a commercial part and then a humanitarian partnership. You cannot have a fee for a crucial part of a warning system, that would not be acceptable. There cannot be any association."*

In addition, 25 percent of the informants saw the uncertainty in which the private sector operates as a challenge to potential partnerships that cannot be controlled by any internal management measures. Hence, they argued that the enabling environment determines to a certain degree the sustainability of a partnership.

4.1.3 Discussion: Identifying underlying dynamics

Throughout the presentation of the results some aspects in the literature review have been further verified, but there are also aspects that the results contradict or some that are completely new.

Overall, the underlying dynamics between the private sector and traditional DRM actors included in this research are similar to those identified in literature on cross-sector partnerships. Highlighting some aspects specifically, Babiak & Thibault (2009) and Bryson et.al. (2006) confirm and validate the qualitative and quantitative findings of this research when stating the generally cross-sector partnerships are perceived as necessary and desirable in order to address today's global challenges.

Some of the challenges to cross-sector partnerships mentioned in the qualitative data are also highlighted in previous literature. As several authors argue, there appears to be a need for all involved parties to come to an initial agreement on a common goal or vision since changing missions, objectives and expected outcomes of the partnership over time might threaten the sustainability of the partnership (Selsky & Parker, 2005; Bryson et.al. 2006; Babiak & Thibault, 2009; Tung et.al., 2018). In designing a framework for successful facilitation of such cross-sector partnerships, certain risk mitigation measures need to be in place such as: "participants must first successfully identify the problem, which includes finding a common definition [and] making a joint commitment to collaborate" (Westley & Vredenburg, 1997:382). Westley & Vredenburg (1997) further argue that this is of special importance in partnerships between non-profit and for-profit organisations as conflict of interest is more likely to occur in these cases, validating the qualitative and quantitative data of this research.

Further confirmed is the importance of clear roles and responsibilities, which was previously highlighted by several authors (Selsky & Parker, 2005; Bryson et.al. 2006; Babiak & Thibault, 2009; De Montigny et.al., 2017; Tung et.al., 2018). Forsyth (2007) then suggests a form of complementary partnership as a solution to the above problem (ibid.) which potentially contributes to the mitigation of those challenges revealed in the qualitative data set: trust, turf wars and differing organisational cultures.

Another important aspect to consider is the need for enough dedicated time and personnel to manage the partnerships, which is highlighted both in literature as well as the qualitative data set. Sufficient time dedicated to managing the partnership as well as personnel committed to that cause enhances furthermore communication which in turn could facilitate higher levels of trust (Selsky & Parker, 2005; Bryson et.al. 2006; Forsyth, 2007; Babiak & Thibault, 2009; De Montigny et.al., 2017; Tung et.al., 2018).

Looking at the underlying motivation for entering cross-sector partnerships, humanitarian aid or development organisations appear to align with aspects identified in the literature review as they stated that two of the major benefits of entering cross-sector partnerships with the private sector are that its allows them to reach their organisational aim more efficiently and acquire specific knowledge, expertise or skills (Tung et.al., 2018; Kindornay et.al., 2014; Bryson et.al., 2006; Altenburg, 2006).

Contrary to Altenburg (2006), Kindornay et. al., (2014) and Tung et. al., (2018), the reasons for why the private sector actor represented in this research enter partnerships does not seem to relate directly to marketing in terms of improving their image but rather to increasing their customer outreach and potentially broadening their customer base. True to this research, the private sector representative, an inclusive business, appears to see the main benefits in reaching out to customers in order to receive feedback on their products or services as well as directly being able to show partners the benefits of collaborating with them, to prove their worth. Similarly, a lack of immediate profit does not appear to be an issue. Whether the above applies to traditional businesses cannot be stated as this research has not included a traditional business in the data collection process.

One of the biggest motivations for humanitarian aid agencies to enter partnerships with a private sector actor has been that they contribute to sustainability. Sustainability in this case usually referred to predictability in terms of funding and that they are able to sustain their operations for longer than for example a project cycle which is dependent on donor funding. The results therefore confirm claims previously made by Bryson et.al (2006) and Kindornay et.al. (2014)

that cross-sector partnerships are often established in order to overcome failed or insufficient attempts by single actors to address a common problem affecting the whole of society (ibid.). Consequently, it is claimed that this is of importance in relation to DRM especially, as it can contribute to enhanced creation of public value and thereby allow for social and economic development efforts to thrive (Bryson et.al., 2006; De Montigny, 2017; Porter & Kramer, 2006).

Furthermore, both Montigny et al. (2017) and the qualitative data raise the importance of ethical considerations in cross-sector partnerships within the field of DRM. As the qualitative data set revealed, shared organisational values have been highlighted and linked back to aspects of human rights. In the field of DRM, it therefore appears to be paramount to determine where the line is drawn between the profit-making of the private sector and the right of people to receive humanitarian assistance (Spieker, 2011). There needs to be a clear understanding of what is acceptable in terms of who pays for a certain service so that the rights of human beings are not threatened. Using an example from the interviews, one can under no circumstances have an early warning system where warnings are issued through text messages, where certain individuals do not receive the warnings because they cannot pay for the service. Shared organisational values can therefore potentially help determine what is perceived as acceptable and what is not.

4.2 Integrating knowledge-based services

In this section the potential integration of a knowledge-based service provided by the private sector into the traditional Ghanaian DRM system will be explored. In doing so it will focus on the perceived benefits and challenges associated with the integration of such service from the perspective of DRM actors.

4.2.1 Perceived benefits

As part of the questionnaire, respondents were asked to indicate as how important they perceive the integration of a knowledge-based service provided by the private sector into existing DRM structures. As seen in Figure 4, such integration was seen as important to very important, with an average of 4.57 out of 5.

How important do you think it is to integrate knowledge-based services in disaster risk management systems?

21 out of 21 people answered this question

Average: 4.57

1	2	3	4	5

Not at all   Somewhat   Very important
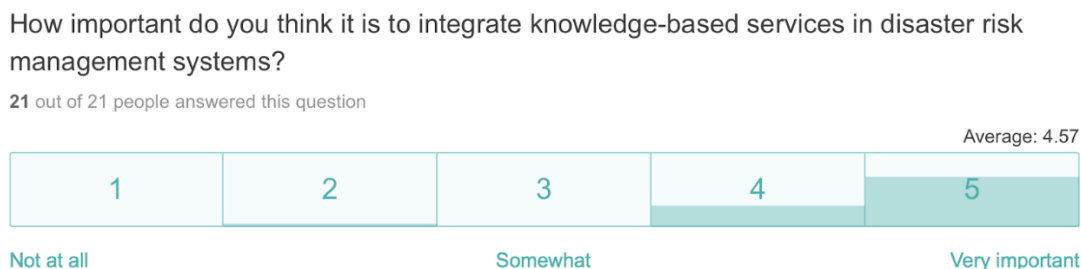
Figure 4 Perceived importance of integrating knowledge-based services in DRM systems

When asked to elaborate on this perception in an open question, the majority of the respondents stated that integrating a knowledge-based service provided by the private sector contributes to making the system more efficient as it *"helps [...] to plan in advance and be more efficient in the way one uses their resources"*. Following a similar line of thinking, 40 percent of the respondents also believed that the integration of such service allows for a shift towards preparedness as *"disaster response could potentially be more proactive than reactive"* as it *"will help to make an informed decision [...] to plan and implement effectively"*. This notion was supported by the statement of another respondent who believed that knowledge-based services were able to provide information and evidence that can be used as input to situational context analyses. Another benefit identified was the avoidance of duplication of efforts and the belief that integrating knowledge-based services would "*support the empowerment of the target group*".

The qualitative data partly displayed a similar picture as 83 percent of the key informants saw access to information for decision-making as the main benefit for integrating a knowledge-based service. In contrast to the quantitative data, which focused on benefits more from an

organisational point of view, only two of the key informants mentioned how access to information and data can enhance their own organisational performance and preparedness level. Instead, two-thirds of the informants focused on how the integration of such service could benefit the end user/ beneficiary as it can enhance their individual preparedness levels as well as their livelihoods. The dominant opinions expressed by the informants can be summarized with the following quote:

> *"If [the end users] do not have the knowledge, they will invest or engage in some activities that will be counter-productive. So, with the involvement of the private sector we will be able to give them up to date knowledge and tools that they will be able to use in order to more or less build their resilience to any disaster to anything.".*

Focusing on the organisational level, the majority of informants stated that one of the main benefits they saw is the access to external expertise and resources. One informant referred to the integration of a knowledge-based services as a matter of *"technically outsourcing some of the things we do not have the capacity to handle".* Several informants followed the same line of thinking stressing the impossibility and inefficiency of trying to build all kinds of capacities internally:

> *"There is no one agency that can manage everything and has all the capacity to do that. No one agency can have every capacity needed stored, waiting to respond".*

Consequently, they were rather looking at increasing their efficiency "*by leveraging partnerships and existing expertise in the market, rather than developing it ourselves in house".*

4.2.2 Perceived challenges

Complementary to the section above, respondents of the online questionnaire also provided insight into the potential challenges of integrating a knowledge-based service into an existing DRM system. One theme identified by 30 percent revolved around the cost element of integrating a service provided by the private sector. According to one respondent, *"some actors still rely on more traditional sources of information (sometimes free, like weather forecast from public agencies) and it is difficult to convince them to use new tools and to pay for them*". Another dominating challenge that was identified is a lack of trust between the different sectors. Citing potential causes, two respondents saw a lack of awareness as well as inexperience as a barrier to building trust. In addition, 25 percent of the respondents were concerned with management issues and emphasized the need for dedicated staff and resources. In addition, one respondent believed that one challenge of cross-sector partnerships lies in the need to align two

different organisational structures and expressed a fear of one system attempting to dominate the other instead of compromising.

A similar image was presented in the qualitative data, with the themes of lack of trust as well as awareness being predominant. According to 83 percent of the informants, most cross-sector partnerships had solely been initiated by the private sector actor. One informant believed that this is a feasible approach:

> *"it is far easier for a private sector to approach us and say look, we have this capacity, how can we help? [...] it is more difficult for us to identify all the private sector players and approach them".*

This notion was supported by another informant stating that "*the issue has always been discovering each other. And I think if there is a platform that allows that kind of meet, I am sure by now we would have been in business together.*"

Within the qualitative data, the aspect of trust was repeatedly cited by 50 percent of the informants as an issue when it comes to innovative technologies which are most often represented by knowledge-based services. One informant drew from their own experience with introducing innovations to others, saying "*for every new thing coming there might be [...] some kind of hesitation, doubts, suspicion".* This notion was supported by two other informants who both presented a possible solution as they believed that a participatory approach and a well-engineered communication strategy can contribute significantly to building trust and reducing resistance to change. Another informant supported this argument as from their experiences a lack of trust often comes from a place of unintentional ignorance: "*Most [people] do not understand the whole concept or feel that something might go wrong somewhere".* However, they stress that once people have understood and embraced the innovative concept, "*then it is like you know it is like magic. [...] Once they see [it], they are ready to show it off".*

The issue of trust was also mentioned in regard to the quality and reliability of the service provided. Taking the end user's perspective into account, 45 percent of the informants expressed that the service needed to be "*very reliable and something that [the end users] see a clear case in how to use it".* This need was not only seen by those representing a DRM actor but also by the private sector actor. The latter continued along that line of thought, emphasizing that trust "*depends on how the information is communicated to the people".*

Something that was also highlighted was the need to translate the information provided through a knowledge-based service into action. Using flood early warning as an example, one respondent stated that:

"you can give the warning that it is going to rain about this amount of rain. It may flood. But if they live in disaster zone, okay, so there must be some kind of action that can be taken at the local level. It is not just about giving out information, if you have the weather information, you give them all the weather data, but you are not taking action, it is still going to affect you. So, there should be some kind of action at the local level".

In regard to the market uncertainty the private sector operates in, one private sector representative further stressed that the level of uncertainty increases for a business offering knowledge-based services as they are often operating in a market "*that has no real conception what these services could help them with. […] We need to do a teaching journey throughout from the start to show them the benefits".*

4.2.3 Procurement and contracting

Looking at the quantitative data, 43 percent of the respondents stated that their organisation followed a well-established system when it comes to the procurement of physical items and products. In comparison, the qualitative data showed that all humanitarian and development organisations follow a well-established system for procuring physical items.

As for the contracting of knowledge-based services, 43 percent of the respondents in the online questionnaire said that the organisation they are representing have a well-established system for that purpose. In an open question, they cited several reasons for not having such system as they either have not needed to contract this kind of service so far, their organisation is small and operates on a case by case basis, or they believe that a lack of systemic thinking in this field has prevented them from developing such a system. Those who stated that they have a well-established system saw its benefits as it allows to systematically assess the performance and strength of work of the private sector service provider. Additionally, one respondent stated that in an attempt to mitigate the duplication of administrative structures, they have integrated it into their general procurement system. A slightly contrasting image was revealed in the qualitative data as only one organisation has experience in contracting a knowledge-based service through their regular procurement system. All others have not developed such a system as so far there was no need for it.

4.2.4 Discussion: Innovation-related matters

Looking at the perceived benefits and challenges of integrating these type of services, it is clear that many aspects associated with cross-sector partnerships are generally also true for knowledge-based services. However, some new challenges specific to the general nature of knowledge-based services were identified.

Analysing the results presented above, it first and foremost becomes apparent that the integration of knowledge-based services into existing DRM structures is seemingly considered as very important throughout the local, national and international level. Both data sets further revealed that this is also true for all types of organisations represented in this research. It can be argued that this is due to the quite natural alignment of knowledge-based services and traditional DRM actors as they are both striving to solve a common problem in society. As a consequence, it is relatively unsurprising that DRM actors believe that integrating knowledge-based services will support their organisations in fulfilling and achieving their respective mandates and visions. Following Bryson et.al (2006) and Kindornay et.al. (2014), it seems like traditional DRM actors also see the integration of knowledge-based services as a potential solution to prevent sector failure. With increasing humanitarian needs, limited financial resources as well as competition over resources, DRM actors recognise the need to collaborate with the private sector to be effective and efficient in their work. In addition, both data sets revealed that knowledge-based services are seen as a tool to facilitate a shift from disaster response to preparedness as it can enhance preparedness on both an organisational as well as individual level.

One aspect that has only been reflected upon to a limited extent is the fact that both DRM actors as well as the private sector provider for knowledge-based services focus on the needs of the end user/beneficiary. Even though the underlying motivations for doing so differ, the qualitative data revealed that they are both striving for creating a solution best-suited for the end user. This suggests that the traditional DRM actors as well as the private sector follow a needs-based approach focusing on the end user and might therefore be well suited to work together.

It also becomes clear that there is a need for creating a platform where the private sector and the DRM actors can meet as they normally operate in different spheres. Most of the time it is the private sector driving cross-sector partnerships in the hope to broaden their market and customer base as DRM actors often do not have the capacity to search systematically for potential partners. Consequently, there is a need for a systematic stakeholder mapping on all relevant levels to facilitate the integration of knowledge-based services into existing DRM structures.

There are specific challenges to integrating knowledge-based services that go back to the inherent nature of those services and the fact that they represent innovative technological solutions. These challenges are namely trust and reliability. Even though trust was also mentioned as a general challenge to cross-sector partnerships, it was highly emphasized by the majority of informants when focusing on challenges associated with the integration of knowledge-based services. This might be due to the fact that knowledge-based services represent new technological solutions based on innovation.

When it comes innovation, there is a need to create an understanding of what it is and why it is needed; hence there is a need to create a market. Following Drucker (1995) and Rösler et.al. (2013), an innovation must also provide potential future users with a clear incentive to initiate changes in consumption and behaviour. As it has been pointed out in the qualitative data set, sufficient evidence must exist proving that the innovation is indeed functioning and reliable to be perceived as trustworthy. This is not only true for the end users themselves but also for any potential partners as traditional DRM actors have certain responsibilities in serving their beneficiaries due to their mandates and/or organisational missions.

In addition, certain challenges have emerged in regard to the contracting of innovative technological solutions. As innovations per definition present a new technological solution, there is often only a single service provider. As a consequence, any potential partners of said service provider risk the problem of creating dependencies and potential disruptions in the supply chains in case the market breaks down.

4.3 The influence of the inclusive business model

In this section the role and potential influence of inclusive business models in traditional DRM systems will be explored. In doing so it will focus on prominent aspects in the qualitative and quantitative data sets that are associated with a company that follows said model.

4.3.1 Value alignment

The quantitative data showed that 91 percent of the respondents would review the business model of a private sector actor before entering a partnership. In addition, they would review aspects such as *"the goal and objectives of the private sector; intended beneficiaries and coverage of the projects/scope and resource commitments as well as past records in said field"*. This notion was confirmed by the qualitative data as all of the respondents mentioned how inclusive business models contribute to or even ensure value alignment in cross-sector partnerships by for example stating that *"I think when it comes to our purpose we want to see values alignment and so obviously the social, or the inclusive part, confirms values alignment for us"*. They also described how the values underlying an inclusive business help other organisations to serve their own beneficiaries, who are often the BoP, and how *"it helps when you are speaking to agencies and they realise that you are not looking at making profit but what you are doing is to benefit the local community"*.

The above corresponds to the reasons why a private sector actor would choose to follow an inclusive business model, as the interviews showed that it is normally a strategic decision made by them to highlight their core values. For example, one respondent said that *"it was a very conscious decision and it has also been one of our strategic decisions of how to work. But also, how we value different things. This is part of our very basic values that we have in the company. If that is left, if that is not fulfilled then we are kind of failing in our vision"*.

4.3.2 Awareness and trends

The quantitative data showed that the respondents' familiarity with the inclusive business model ranges from somewhat familiar to familiar, with an average of 3 out of 5. Throughout the interview process, awareness levels of the business model have varied as well. In 83 percent of the interviews, the concept of an inclusive business had to be explained, which includes 100 percent of humanitarian aid or development agencies. There appears to be a general awareness of social business models, and what an inclusive business model entails, but a very low awareness of the actual term inclusive business. One of the respondents, who provided the

perspective of an inclusive business expert specifically in relation to Africa, offered one potential explanation to the above as they said that:

> "*I keep telling guys at the office that if you are going to speak to people in Africa, don't talk about inclusive business. Because they don't know the name of the concept but there is not a single business that is built and established in Africa, running in Africa who does not in some way - this is my personal opinion - engage in inclusive business in some form. And even though they don't identify themselves as such*".

> "*The challenge with the inclusive business is that it is mostly people who are operating within the sphere of inclusive business or responsible business or social business who often know [the concept].*"

On an international level there seems to be a higher level of awareness of the inclusive business model, potentially partly due to the fact that it offers a clear link to the Sustainable Development Goals (SDGs) and that it is therefore more relevant to the international agenda. One respondent described this potential correlation when stating that:

> "*if you look at the SDGs they say leaving no one behind. We are talking about inclusive businesses. So, such models are what we are even advocating for. And such kind of business models would encourage us and I think at the global level we have been leading that kind of discussions*".

Similarly, there is a clear trend in that organisations recognised the need of the private sector to make revenue and profit in order to sustain themselves, as 92 percent of the respondents in the qualitative data described that they would be willing to pay for a private sector service. One respondent says, for example, that *"frankly speaking, the private sector is not going to give you things for free, there needs to be some kind of small benefit that they make"*. Even though the need to pay for a specific service is generally accepted, the organisations did express a preference for working with inclusive businesses rather than traditional businesses, stating that an inclusive business *"is something that we want because we are bringing a model that benefits the community. So, it is like a win-win. I am loving this if someone is trying to bring a solution. So, for me I think the inclusive business model is far better than the traditional"*.

Focusing on the perspective of the end-user or beneficiary, some informants argued that they are less concerned about what business model a company follows, whereas others are certain that "*the best way to get by and really establish yourself in a market is where your end users feel like you are not just there to make money of them but you are really in a sense a partner*", hence arguing that an inclusive business would be preferred by the end-user compared to a traditional business.

4.3.3 Indirect benefits

In addition to the above win-win reasoning as a benefit of inclusive business models, one respondent mentioned the fact that an inclusive business is anchored in local communities at the BoP as something that is potentially offering indirect or unexpected benefits to cross-sector partnerships. For instance, they saw benefits in the fact that these businesses *"have made people in rural areas part of their distribution channels, in hard to reach places by essentially employing people in the rural areas"* and that they can therefore potentially contribute to reaching communities that are normally outside the reach of traditional DRM actors or provide distribution channels to vulnerable parts of the population. One respondent also mentioned how another benefit is that inclusive businesses provide affordable products or services targeting the BoP. This key element of an inclusive business model is also relevant to traditional DRM actors as they also target a vulnerable segment of the population and promote their empowerment. Providing affordable products tailored to these people's needs can therefore be very important both for potentially increasing individual resilience as well as offering a service that works in that market segment. In the case of Ignitia, for example, they provide an affordable weather forecast that is tailored to the BoP, increasing the resilience of individuals (by for example enabling informed decision-making as well as contributing to food security) as well as having a working service for how to convey a message or a forecast to the BoP.

4.3.4 Sustainability

The qualitative data also revealed that all informants believed that a company that follows an inclusive business model contributes to several aspects of sustainability. One respondent stated that *"we want to ensure that we are working with projects that have a sustainable business model and we can count on their existence into the future".* Another informant elaborated that *"generally, we are targeting also those we know can sustain whatever support that they have",* showing how a private sector actor is considered to be more sustainable long-term in general as they are not dependent on funding from donors or are time bound by projects. The above furthermore corresponds to the quantitative data, in which 60 percent of the respondents stated that sustainability is one of the main benefits they see in partnering with the private sector.

A concept that seems to be well-known in the development or humanitarian aid context is corporate social responsibility (CSR), a topic that respondents addressed in relation to inclusive business. One respondent for example stated how inclusive business is preferred to CSR due to the sustainability aspect, arguing that *"what we see more is social corporate responsibility, which is a cheaper version of this. They say yeah we are doing work here, have a lot of money,*

done, but this actually goes deeper". Consequently, all of the respondents mentioned how an inclusive business contributes to the social aspect of sustainability, and thereby influencing their willingness to engage in a partnership with said business, when they say for example:

> *"... if there is not much benefits for the people, we are usually not very much encouraged to partner. It is not just about making the private sector make money, but it is about the lives and the human impact that their involvement makes. So, if there is no benefit for the poor, for the vulnerable, for the marginalised, then we tend not to have that kind of relationship with them"*.

One respondent further touched upon the fact that inclusive businesses are very context-specific and include local communities in their core value chain and therefore contribute to social and economic sustainability on a local level:

> *"the one thing we never ever discussed was what the impact of those businesses would be on the communities. And I think that maybe that is a good base to start and [...] after a disaster, things do not go back to being the same. In most cases it does not. If you look at all the large refugee camps, they have been there since forever and essentially new societies are coming up. And since we know these are not always going to be temporary solutions, then maybe what we should be looking at is what are the best investments that businesses can make in those communities to help with the rebuilding"*.

4.3.6 Discussion: Weaknesses turned into strengths?

As, to the authors' knowledge, no previous research explicitly addresses the potential role of inclusive business models in the field of DRM, this is a topic yet to be explored. This research partly aims to investigate this role, wherefore this synthesis will attempt to do so through the support of the above results and literature focusing on the inclusive business model in general as well as its role within the development field.

Analysing the case study results, it is clear that informants see value alignment as important when entering cross-sector partnerships and that they would study the business model of a potential partner before entering such a partnership. The fact that informants see the potential of an inclusive business model in enhancing or even ensuring value alignment and generally state that they would be more inclined to enter a cross-sector partnership with a private sector representative following said model when compared to a conventional business. This is likely due to the fact that the very nature or aim of the inclusive business model is to deliberately contribute to meeting developmental needs through integrating the BoP in their core value chain (Rösler et al. 2013; De Jongh, 2013), values that has shown to align well with the values of

traditional DRM actors. This also helps confirm that values in the field of DRM are similar to those in the development field.

Values naturally inherent to inclusive business models furthermore complement the global as well as locally visible trend that there is an acceptance of the fact that the private sector requires revenue, and some profit, in order to sustain themselves as a business, but that they prefer it when there are social gains associated with the local community related to that as well; a so called win-win (Business for Development, 2018; International Finance Corporation, 2018; Prahalad, 2014). The inclusive business model therefore appears to add to the sustainability of DRM intervention programmes.

In addition to the above, as inclusive businesses tend to seek partnerships and alliances to overcome certain challenges as well as provide solutions to the BoP (Rösler et al., 2013; De Jongh, 2013), they can be argued to be more reliable partners than conventional businesses as they not only have experience in engaging in partnerships, but also because they seem more likely to commit to and invest in partnerships.

An interesting result is how informants mention potential indirect benefits as a positive aspect of the integration of inclusive business models in DRM systems. The solutions inclusive businesses develop in order to overcome barriers for integrating the BoP in their value chains (Rösler et al. 2013; De Jongh, 2013) has therefore shown to potentially be of great value to the DRM system, particularly in terms of access to and relationships with hard-to-reach communities or due to a product targeting a vulnerable segment of the population.

Perhaps the nature of the inclusive business model is also what contributes to outlining the potential role of inclusive business in the DRM field and cycle. Since inclusive business models require a significant amount of planning and adaptation to local contexts, the model seems less likely to be relevant in ad hoc partnerships in the response phase of a disaster as the nature of these partnerships are often sudden onset and needs-based. Inclusive businesses seem to offer more potential in the preparedness phase as this normally provides more time for collaborative planning. This could allow for traditional DRM actors to harness the benefits offered by an inclusive business, for example integration of an inclusive business' distribution channels in a preparedness plan.

Inclusive business models could furthermore play a part in the recovery phase of a disaster. As an inclusive business potentially entering during a recovery phase would consider the local community and context they are more likely to for example source local materials or produce

items through inclusion of the local population, which could help mitigate the well-known issue of local private sector actors going out of business after a disaster. In essence, an inclusive business offers their most potential during the preparedness as well as the recovery phase, not only in terms of finding solutions to development needs but mainly due to their nature as they consistently and deliberatively consider their impact on the local communities.

4.4 Synthesis

In this synthesis, some general trends distilled from both data sets as well as the literature review will be presented.

4.4.1 Organisational alignment

First of all, an overall alignment of organisational goals and values seems to exist between traditional DRM actors, a private sector representative that is providing a knowledge-based service, and an inclusive business as they all aim to solve a common problem in society. Having said that, it is important to note that the challenge of defining the exact problem to be solved through collaboration still persists and that there is a need to agree on a common objective or on complementary goals before entering partnerships. Addressing this issue, this research shows that a complementary partnership with each party aiming to achieve their own goals might be preferable due to a number of reasons. For one, the private sector and traditional DRM actors are by definition quite different in for example their objectives, targets and working cultures. Secondly, both data sets revealed that DRM actors are to a certain degree concerned when the private sector expands their activities into areas and responsibilities that were traditionally occupied by DRM actors. Defining goals as complementary beforehand seem to therefore potentially help overcome this fear and facilitate a higher level of trust.

4.4.2 The dimension of trust

Trust, commitment and reliability are furthermore the main aspects that influence the underlying dynamics of cross-sector partnerships. Even though these aspects might be true to all cross-sector partnerships, this research has shown that an additional dimension to these aspects emerges when dealing with innovation. As businesses offering knowledge-based services are often highly innovation-driven, they tend to operate on new and developing markets. It is therefore likely that there is a greater need for raising awareness of the benefits that their service offers as well as proving its reliability, causing partnerships to have to overcome cognitive barriers and potentially high levels of suspicion. This research suggests that a culture of progress, learning and innovation needs to be fostered for cross-sector partnerships

to be successful. In addition, this research has shown that traditional DRM actors on a national level are often inexperienced in contracting knowledge-based services. As a consequence, uncertainty may surround the procedures of how to contract such services from an operational as well as administrative point of view.

Similar challenges are associated with inclusive businesses as they are also highly innovation-driven and, as they target the BoP, often need to create or develop a market for their product or service. Even though entering a partnership with an inclusive business offering a knowledge-based service is associated with certain risks, however, it also comes with benefits as they show a higher degree of flexibility and adaptability due to lean administrative and organisational structures. In addition, inclusive businesses may show a higher level of commitment to and experience in entering partnerships as this is one of their established business strategies.

4.4.3 A matter of morals and ethics

Moving forward, it can be concluded that cross-sector partnerships are about compromise as two distinctive organisational cultures need to come together. Even though a certain risk exists that one organisational culture or system may try to dominate the other, this research shows that it is the nature of the private sector to tailor their services to their partners and customers. The latter implies that the private sector is highly willing and capable of adapting. All actors acknowledge the need to compromise to a certain degree, but traditional DRM actors draw a clear line in terms of their organisational values, their morals and ethics. This research shows how businesses following an inclusive business model may help overcome this potential barrier to partnerships as it confirms alignment of organisational values between traditional DRM actors and themselves. Similarly, providers of knowledge-based services have shown potential for aligning with the values of traditional DRM actors due to their objectives.

4.4.4 A shift towards preparedness

Furthermore, this research has shown that both knowledge-based services as well as inclusive businesses offer potential to complement the current shift from disaster response and recovery towards a proactive culture of preparedness. The role of inclusive businesses in DRM has shown to be of highest relevance in the preparedness phase as that is when their special characteristics can be of most use to partnerships, and when traditional DRM actors can harness their benefits. They also require a higher level of collaborative planning and adaptation to local contexts than traditional businesses. This is also true of knowledge-based service providers as they for example need to tailor their services to the end user.

5 Conceptual Framework

The aim of this conceptual framework is to present general factors which need to be considered when initiating cross-sector partnerships between traditional DRM actors, knowledge-based services using inclusive business models and how these factors are interconnected. It seeks to enhance the understanding of the underlying dynamics of said partnerships and potentially help identify initial actions that are more likely to facilitate successful partnerships. It is paramount, however, to recognize the diversity of humanitarian contexts. As the produced framework is highly context-specific it therefore needs to be interpreted and further contextualised when applied.

Combining the results of this research with well-established literature on cross-sector partnerships, the conceptual framework identifies five interlinked aspects that underlie cross-sector partnerships in the field of DRM that focus on knowledge-based services and the inclusive business model. These aspects are; (i) organisational alignment, (ii) trust, commitment and reliability, (iii) a culture of progress, learning and innovation, (iv) shared ethics, morals and values, and (v) collaborative planning. As shown in Figure 5 below, these distinct but interrelated aspects are to be considered as an entity as they influence the partnership to an equal extent.
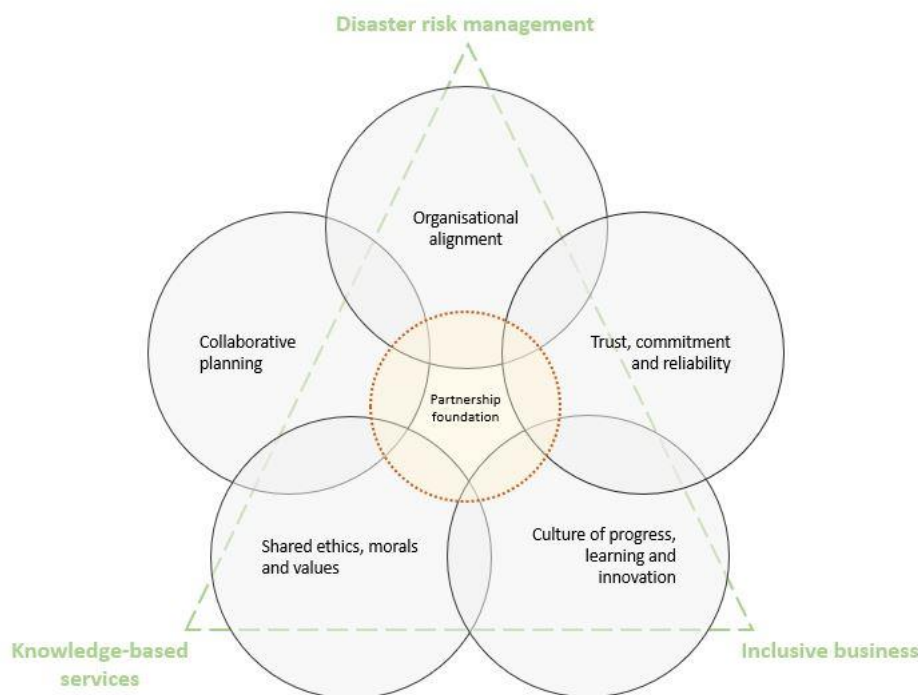

Figure 5 Conceptual framework

One important aspect to consider is **organisational alignment**. Despite there already being a foundation for the values and goals of organisations to align as the three players (DRM actors, knowledge-based services, and inclusive business) want to solve a common problem in society, there is still a need to define the exact problem to be solved through collaboration and agree on the type of partnership they are striving for. This research suggests that a complementary partnership where each party aims to achieve their own goals is preferable to other forms of partnerships, mainly as it might help mitigate stepping on each other's turf as well as facilitate higher levels of trust and commitment.

Continuing on the topics of **trust, commitment and reliability**, these have shown to be of high importance in relation to types of partnerships investigated in this research. As these partnerships are highly innovation-driven, there may be a need to overcome cognitive barriers and potentially high levels of suspicion. This is especially true on a local level, as traditional DRM actors are often rather inexperienced in working with the private sector. This research therefore suggests that a **culture of progress, learning and innovation** needs to be fostered for these types of partnerships to be successful. Overall, an enabling environment that encourages a culture of learning and progress on an organisational level is essential to facilitate collaborative efforts as both inclusive business models and knowledge-based services often include a higher degree of experimentation and demonstrate a "trial and error behaviour". It is important to note that this is not only true for the international and national level but also the local level as many of the actions will need to be taken on a case-by-case basis. The latter is also linked to the need to adapt to the local context. Even though innovation and learning are often perceived as positive, they also pose challenges to the aspect of trust, commitment and reliability (see 4.4.2).

The above-mentioned aspects are also important in relation to common organisational **ethics, morals and values**, which is key for the success of cross-sector partnerships. As actors active in the field of DRM are targeting the most vulnerable segment of the population, there is a clear need to define common organisational values and standards of behaviour in order to protect their target group. Defining organisational values will further potentially increase the level of trust between organisations as well as their willingness to enter these types of partnerships. In addition, the definition of values and ethical boundaries is closely interlinked with organisational alignment as knowledge-based services and inclusive businesses have demonstrated a certain degree of compatibility as they often pursue similar objectives. It may therefore be assumed that they follow similar basic ethical principles.

Related to all of the above aspects is **collaborative planning**. Due to the nature of these partnerships, which target the most vulnerable segment of the population, they need to adapt to local contexts to a higher degree than other types of partnerships. Consequently, the success of these partnerships requires organisational alignment, the definition of organisational values and standards of behaviour as well as the building of trust, all aspects requiring dedicated time and commitment. Hence, collaborative planning may be seen as a prerequisite for the success of this type of partnership while also contributing towards a proactive culture of preparedness.

These aspects align at the core of the framework and form the foundation for a successful partnership between traditional DRM actors and a private sector representative following an inclusive business model and providing a knowledge-based service. This is represented by the dotted circle in Figure 5.

6 Conclusion

The aim of this research was to investigate the underlying dynamics of cross-sector partnerships in DRM, focusing on the long-term integration of a knowledge-based service provided by a private sector actor following an inclusive business model into traditional DRM systems. To achieve the aim of this research, qualitative interviews with relevant key informants as well as an online survey were conducted.

The results revealed a high potential for these types of cross-sector partnerships as there appears to be a natural alignment of these three trends. Overall, the underlying dynamics of these partnerships follow those identified in previous literature on cross-sector partnerships in general. Consequently, it can be highlighted that the type of cross-sector partnerships this research focused on is perceived as necessary to successfully address a common problem to society. Even though the motivations to enter cross-sector partnerships vary, they are overall deemed beneficial for all involved parties. In line with existing literature, the main benefit for DRM actors to enter partnerships with the private sector is access to knowledge, expertise and resources. This in turn allows them to better work towards their overarching organisational objective and to potentially achieve it. In contrast, the private sector focuses on rather long-term benefits as they see cross-sector partnerships as a way to gain wider outreach and broaden their customer base. This research suggests that the often-cited intention of the private sector to improve their public image might play a minor role.

Despite the similarities between existing literature and the results of this research, certain aspects that are specific to knowledge-based services and inclusive business models were uncovered as part of the research. These aspects are closely linked to the fact that both knowledge-based services and inclusive business models rely on innovation and the use of novel technologies. As a consequence, the private sector must be able to provide sufficient evidence to prove that their innovative service is indeed functioning and reliable to be perceived as trustworthy. The latter is especially worth highlighting as this research indicates that the existing level of trust determines how well a partnership is functioning to a certain degree.

This research furthermore suggested a high potential for inclusive business models in the field of DRM as these align well with the values of traditional DRM actors and as they both target a vulnerable segment of the population. This research further indicated that the role and influence of inclusive business models is likely to grow in the field of DRM as they are perceived positively by traditional DRM and are, in certain cases, even actively pursued as potential partners. The main benefit traditional DRM actors see in partnering with an inclusive business

is the fact that they actively integrate the BoP into their core value chain. Hence, inclusive businesses show great value to the DRM system in terms of gaining access to and building relationships with hard-to-reach communities and the vulnerable segment of the population. This research indicated that especially the latter might be highly beneficial to traditional DRM actors as it, for instance, may allow them to integrate the distribution channels of an inclusive business into an early warning system or preparedness plan. It is to note that in order for this value to be harnessed, collaborative planning processes between traditional DRM actors and inclusive businesses needs to be established.

The research identified certain aspects relevant to the success of cross-sector partnerships focusing on knowledge-based services and the inclusive business model. These are 'organisational alignment', 'trust, commitment and reliability', a 'culture of progress, learning and innovation', 'shared ethics, morals and values' and 'collaborative planning'. These aspects were presented in a conceptual framework aiming to enhance the understanding of the underlying dynamics of said partnerships and potentially help identify initial actions that are more likely to facilitate successful partnerships. Due to the diversity of humanitarian contexts, this framework needs to be interpreted and adapted to any given context.

The results of this research and more specifically the framework can be used to start a dialogue between traditional DRM actors and the private sector, which may contribute to creating a culture of progress, learning and innovation. In addition, the framework could enhance partnerships beyond conceptual alignment as its application can facilitate a greater understanding and more efficient collaboration between these actors throughout a partnership, ranging from stakeholder mapping to implementation. This in turn may lead to more successful cross-sector partnerships and an increased involvement of private sector actors, contributing to building resilient societies.

Initial actions that may facilitate successful partnerships have been identified throughout the research. These range from ensuring sufficient management of the partnership and enabling communication channels and strategies between all partners to agreeing on common goals and visions by leveraging each other's resources and expertise through complementary partnerships.

There are numerous avenues for future research due to the interdisciplinary nature of the topic. For example, there is incentive to further explore the role of the private sector and more specifically of inclusive business models in DRM. In addition, similar case studies set in other contexts would provide additional data allowing for cross-referencing and verification of the results. Furthermore, this research would benefit if the developed framework was tested by for example being part of pilot project exploring this type of partnership.

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8 Appendices

Appendix 1: Profiles of key informants

The respondents of this research come from the below organisations. Perspectives therefore are those of two private sector actors, four humanitarian aid or development agencies, the Ghanaian government. Additionally, one expert on inclusive business models has offered significant input. Below is a list of organisations represented by key informants.

Ignitia AB

Ignitia is a Swedish company founded in 2015 with main offices situated in Stockholm and Accra. Ignitia's organisational vision is to provide highly accurate hyper-local weather forecasts to farmers that will ultimately allow them to double their yields. Weather forecasts and updates are being delivered via SMS, based on the farmer's GPS location.

Root Capital

Root Capital seeks to improve the lives of rural farmers by connecting them with the formal economy. They invest in the growth of agricultural enterprises, so they can transform rural communities. These businesses purchase crops such as coffee, cocoa, or grains from thousands of smallholder farmers, and connect members to markets and help improve their farming practices.

National Disaster Management Organisation, Ghana

NADMO seeks to enhance the capacity of society to prevent and manage disasters and to improve the livelihood of the poor and vulnerable in rural communities through effective disaster management, social mobilisation and employment generation. Their mission is to to manage disasters by co-ordinating the resources of government institutions and non-governmental agencies and developing the capacity of communities to respond effectively to disasters and improve their livelihood through social mobilization, employment generation and poverty reduction projects."

Ghana Red Cross Society, Ghana

Ghana Red Cross seeks to prevent and alleviate human suffering by mobilizing the power of humanity. Their vision is to be the leading volunteer-based humanitarian service provider in Ghana.

United Nations World Food Programme, Ghana

The World Food Programme (WFP) is the leading humanitarian organization fighting hunger worldwide, delivering food assistance in emergencies and working with communities to improve nutrition and build resilience.

United Nations Development Programme, Ghana

In Ghana, UNDP supports national efforts and capacity building for sustainable human development in line with Ghana's own development strategies. The UNDP Ghana country programme focuses on the following three thematic areas: Democratic Governance, Inclusive Growth and Sustainable Development.

United Nations Office for the Coordination of Humanitarian Affairs

OCHA is the part of the United Nations Secretariat responsible for bringing together humanitarian actors to ensure a coherent response to emergencies. OCHA also ensures there is a framework within which each actor can contribute to the overall response effort.

Inclusive Business Sweden

Inclusive Business Sweden is the Swedish national hub for inclusive business and engages and supports organisations in developing sustainable, innovative and inclusive business models with the BoP. Their vision is for business to profitably and sustainably meet the global challenges of poverty - by creating economic opportunity, enhancing food security, and enabling access to energy, water, sanitation and healthcare.

Appendix 2: General semi-structured interview guide

Introducing questions:

Name, position, years in that position

Getting to know the organization:

What is your organisation's mandate/ mission/ objective?

What do you perceive as main challenges to your work/ organisation's mission?

Understanding the organisation's relationship to the private sector:

Considering your organisation's mission/ mandate, do you think that entering partnerships with the private sector is of value to your work? Why/Why not?

Do you and/ or your organisation have any experiences with working with the private sector?

 (If no, see last question)

If yes, for how long and what was it about?

Can you identify the main benefits related to said partnership?

Can you identify the main challenges related to said partnership?

Do you have any insights on how and why those partnerships were established? Who was the driving force?

(Why would you work with the private sector/ why not?)

Investigating the "power" of social business models

To what extent do/would you research a company before entering a partnership?

What aspects do/would you research (cognitive reminder: Do/would you look for example at their values, work structures, organisational culture, business model etc.?)

Have you heard of the business model inclusive business?

Does the fact that a company follows an inclusive business approach influence your willingness to engage with the company? How/Why?

Investigating the integration of knowledge-based services:

Does your organisation follow a standard procedure for collaborating with the private sector?

Does that procedure include all kinds of private sector engagements (procurement, service contracting)?

Where do you think knowledge-based services provided by the private sector fit in?

What benefits do you see in integrating a knowledge-based service provided by the private sector?

What challenges do you see in integrating such a service?

From your perspective, do you see any trends on the international, national or local level where the private sector is integrated into the traditional disaster risk management system on a long-term basis? Can you elaborate on why/why not?

Looking at partnerships with the private sector from an end-user perspective, do you think the end user is concerned with who provides them with a certain service/product?

Opening the floor to comments and questions:

Finally, is there anything we haven't talked about, but you would like to add?

Is there anything you would like to ask?

Appendix 3: Online questionnaire

Dear Sir/Madam,

We are Johanna Karlsson and Anja Kotzlowski and we are Master students in 'Disaster Risk Management and Climate Change Adaptation' at Lund University, Sweden. As part of our final dissertation we are conducting research on the role of the private sector in disaster risk management systems.

The primary benefit and purpose of this survey is to:

1. Investigate the driving forces and underlying challenges in integrating knowledge-based services provided by the private sector into existing disaster risk management systems.
2. Develop a framework for facilitating future integration of such services.

The tasks involved will be multiple choice and open-ended questions. All information and data obtained will be strictly confidential and anonymous. Data will be analysed by using coding sheets for frequent responses and numbering. The results will be merged with other datasets and presented during the dissertation defense, which is open to the public.

Participating in this survey will take approximately 10 minutes and is completely voluntary with the possibility to withdraw at any time. If you wish to request the results from the research or if you have any further questions, then please do not hesitate to contact us on: mrs13jka@student.lu.se.

I have read this statement and agree to participate in this survey under the conditions presented.

Start   press **ENTER**

1 → What type of organisation do you work for?*

A Government ✔

B Humanitarian aid/development agenc

C NGO

D Academia

E Private sector

F Other

2 → What is your current position?

3 → In which geographical region do you work? *

If several, which is your home base?

- A Asia/Pacific
- B Americas
- C Africa
- D Europe
- E Oceania

4 → How much experience do you have in working in partnerships with the private sector? *

If you are a private sector representative, how much experience do you have in working in partnerships with humanitarian aid/development organisations/NGOs/Government?

1	2	3	4	5

No experience   Somewhat   Expert

5 → From which sector have you gained said experience? *

- A Government
- B Humanitarian aid/development agency
- C NGO
- D Academia
- E Private sector
- F Other

6 → Do you have experience in working with the private sector in disaster risk management or disaster risk reduction? *

If you are a private sector representative, please replace 'private sector' with 'humanitarian aid/development organisations/NGOs/government'.

- A Yes
- B No
- C I don't know

7 → If yes, what is the nature of the work you do with the private sector?

If you are a private sector representative, please replace 'private sector' with 'humanitarian aid/development organisations/NGOs/government'.

SHIFT + ENTER to make a line break

VI

8 → **What are the main benefits you see in entering partnerships with the private sector?**[*]

If you are a private sector representative, please replace 'private sector' with 'humanitarian aid/development organisations/NGOs/government'.

Choose as many as you like

A Sustainability

B Information- and knowledge sharing

C Efficient use of resources

D Aquisition of resources, knowledge and expertise/skills

E Effective achievement of organisational aim

F Financial support

G Marketing

H Other

9 → **What are the main challenges you see in entering partnership with the private sector?**[*]

If you are a private sector representative, please replace 'private sector' with 'humanitarian aid/development organisations/NGOs/government'

Choose as many as you like

A Lack of commitment and/or willingness

B Institutional capacity and lack of resources

C Lack of time

D Lack of agreements about roles and responsibility

E Power assymetry due to financial contribution

F Changing missions and objectives

G Differing expectations and/or conflict of interest

H Reputation concerns

I Lack of trust

J Other

10 → How would you rate your organisation's willingness to enter partnerships with the private sector?*

If you are a private sector representative, please replace 'private sector' with 'humanitarian aid/development organisations/NGOs/government'

1	2	3	4	5

Low   Medium   High

11 → Why?

SHIFT + ENTER to make a line break

12 → Before entering a partnership with the private sector, would you study their business model?

Y Yes

N No

13 → If yes, why and which elements would you consider?

SHIFT + ENTER to make a line break

14 → Does your organisation have a well-established system of procurement of relief items or other physical products?

A Yes

B No

C I don't know

VIII

15 → **Does your organisation have a well-established system of how to contract a knowledge-based service?**

Knowledge-based services describe a highly innovation-driven business that accumulates and disseminates knowledge as a customised service to others. Examples can be telecommunications, weather information, or other novel technologies.

[A] Yes

[B] No

[C] I don't know

16 → **Why/why not?**

SHIFT + ENTER to make a line break

17 → **How important do you think it is to integrate knowledge-based services in disaster risk management systems?**[*]

1	2	3	4	5

Not at all   Somewhat   Very important

18 → **What benefits do you see in integrating knowledge-based services in disaster risk management systems?**[*]

SHIFT + ENTER to make a line break

19 → **What challenges do you see in integrating knowledge-based services in disaster risk management systems?**[*]

SHIFT + ENTER to make a line break

20 → **How familiar are you with the business model "inclusive business"?**[*]

Inclusive business describes a private sector approach that benefits low-income communities while keeping its for-profit nature. Low-income communities are benefited as inclusive businesses include them in the core of their value chain, either as suppliers, entrepreneurs, distributors, retailers, or customers.

1	2	3	4	5

Not at all   Somewhat   Very familiar

IX

21 → If yes, to what extent would your willingness to enter a partnership be influenced if a private sector representative follows the inclusive business model?

If you are a private sector representative, to what extent do you believe following an inclusive business model will influence the willigness of others to enter a partnership with you?

1	2	3	4	5

Not at all   Somewhat   Very much

22 → Is there anything you would like to add that we have not asked you about or that you think is important, any final remarks, comments or considerations?
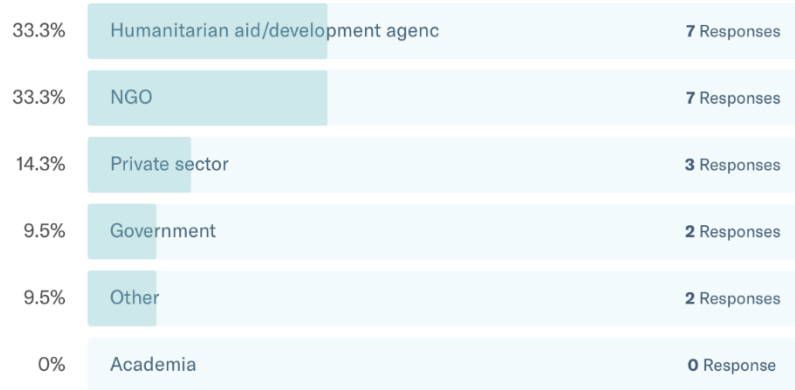
SHIFT + ENTER to make a line break

23 → Thank you for your participation! If you are interested in a follow-up of the research project, please provide your e-mail address below. We will contact you soon.

OK ✔   press ENTER
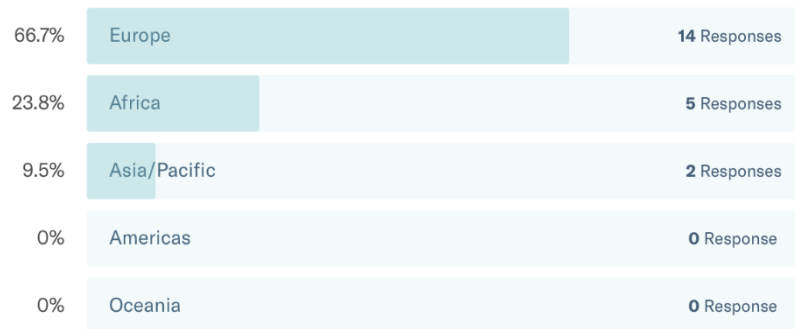
X

Appendix 4: Profiles of respondents

1 **What type of organisation do you work for?**
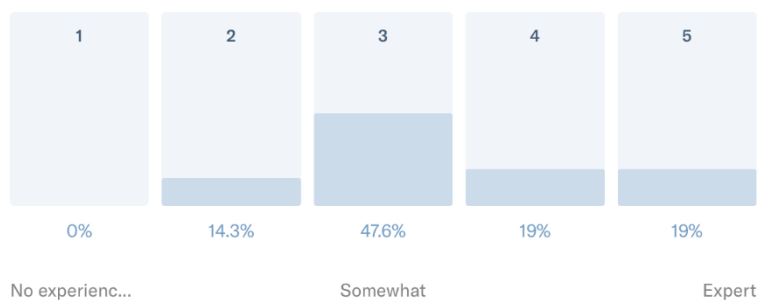
21 out of 21 people answered this question

33.3%	Humanitarian aid/development agenc	**7** Responses
33.3%	NGO	**7** Responses
14.3%	Private sector	**3** Responses
9.5%	Government	**2** Responses
9.5%	Other	**2** Responses
0%	Academia	**0** Response

3 **In which geographical region do you work?**

21 out of 21 people answered this question

66.7%	Europe	**14** Responses
23.8%	Africa	**5** Responses
9.5%	Asia/Pacific	**2** Responses
0%	Americas	**0** Response
0%	Oceania	**0** Response

4 **How much experience do you have in working in partnerships with the private sector?**

21 out of 21 people answered this question

1	2	3	4	5
0%	14.3%	47.6%	19%	19%
No experienc…		Somewhat		Expert

5 From which sector have you gained said experience?

21 out of 21 people answered this question
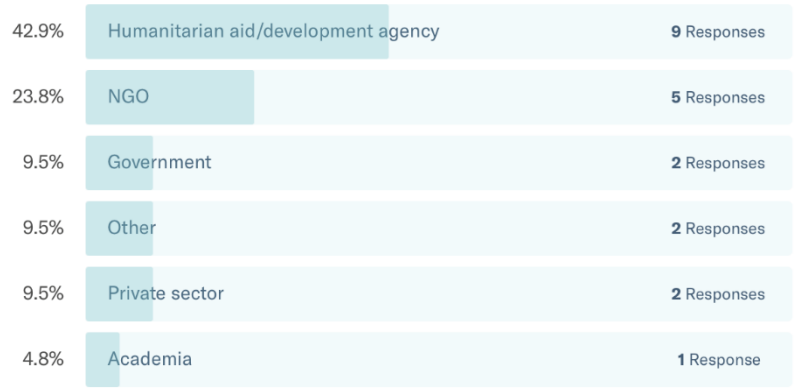
42.9%	Humanitarian aid/development agency	**9** Responses
23.8%	NGO	**5** Responses
9.5%	Government	**2** Responses
9.5%	Other	**2** Responses
9.5%	Private sector	**2** Responses
4.8%	Academia	**1** Response

6 Do you have experience in working with the private sector in disaster risk management or disaster risk reduction?

21 out of 21 people answered this question

52.4%	Yes	**11** Responses
33.3%	No	**7** Responses
14.3%	I don't know	**3** Responses