



---

**Reflexivity and Interdisciplinarity: The Reflexive Journey of  
an Interdisciplinary Research Team in Disaster Risk  
Reduction**

Journal:	<i>Disaster Prevention and Management</i>
Manuscript ID	DPM-09-2023-0222.R2
Manuscript Type:	Research Paper
Keyword:	reflexivity, interdisciplinarity, Disaster Risk Reduction, research process

## Abstract

**Purpose** Reflexivity supports research teams in developing and implementing interdisciplinarity perspectives, but there is still limited literature on this topic. To fill this gap, we explore how reflexivity can support a research team in its interdisciplinary efforts to create new knowledge for Disaster Risk Reduction.

**Design/methodology/approach** We present the reflexive journey of our interdisciplinary research team consisting of Ecuador- and UK--based researchers from the social sciences, physical sciences and the arts and humanities and conducting multi-hazard research on Quito. By triangulating data obtained from different material collected during the reflexive journey, we discuss examples of how our team employed reflexivity towards interdisciplinarity.

**Findings** The reflexive journey allowed our interdisciplinary team: to acknowledge and give value to its diversity; to discuss disciplinary language differences; and, to gradually develop interdisciplinary working practices and conversations. The journey demonstrates how reflexive practices within research teams allows researchers to overcome disciplinary differences and promote interdisciplinarity to reach research outcomes.

**Originality/Value** Our reflexive experience shows that adopting reflexivity can be effective in both enhancing interdisciplinarity and addressing the complex nature of risk.

**Keywords** Reflexivity, Interdisciplinarity, Disaster Risk Reduction

### 1. Introduction

Risks and disasters result from complex and interconnected socioeconomic, environmental, political, and cultural processes, that cross different geographic and temporal scales and require understandings and actions from diverse stakeholders (Peek and Guikema, 2021). To unpack this complexity, researchers and institutions with different disciplinary expertise in Disaster Risk Reduction (DRR) have recognised the need to collaborate and do interdisciplinary research. Interdisciplinarity overcomes disciplinary limitations and boundaries to share experiences and perspectives towards the integration of data, tools, and methods for solving complex problems such as disaster risk (Gall et al., 2015; Peek and Guikema, 2021; Filippi et al., 2023; Marchezini, 2023). Therefore, interdisciplinarity gives value to the total rather than to the sum of individual disciplinary contributions (Petts et al., 2008).

1  
2  
3 Diversity is a key feature for interdisciplinarity and Interdisciplinary Research Teams (IRTs),  
4 as it strengthens the functioning, commitment, and convergence of teams to shared DRR  
5 goals (Cheruvilil et al., 2014). By following an interdisciplinary path, diverse disciplines of  
6 the IRT have space to generate research questions, approaches, and interpretations about risk  
7 (Hick et al., 2014; Morss et al., 2021), and to negotiate research approaches that can be  
8 suitable across all disciplines, instead of pre-establishing those accepted by just one or few  
9 disciplines (Martinez et al., 2018; Ge et al., 2021; Morss et al., 2021). This allows IRTs to  
10 formulate, identify, and revisit research problems and objectives in an open and inclusive  
11 way (Sutley, 2021).  
12  
13  
14  
15  
16  
17  
18

19 Pioneering DRR scholars recognized the need for integrating different disciplines. The  
20 theoretical and empirical interconnections established between humanities, social, physical,  
21 and environmental disciplines have then become more extensive over the years (Dynes and  
22 Drabek, 1994; Masterson et al., 2019). However, interdisciplinarity in DRR research has  
23 sometimes meant more bringing together different disciplines and splitting research activities  
24 under the umbrella of interdisciplinarity (usually with a single discipline dominating IRTs),  
25 than truly integrating them (Peek and Guikema, 2021). To be ‘truly’ interdisciplinary, the  
26 DRR research process should be conceptualized as interdisciplinary from the outset, with  
27 different parts of this process feeding each other and promoting cross-discipline interaction  
28 and collaboration (Kendra and Nigg, 2014; Peek and Guikema, 2021).  
29  
30  
31  
32  
33  
34  
35  
36

37 Several challenges exist for IRTs in implementing interdisciplinarity. First, researchers prefer  
38 to move along more familiar and “comfortable” paths which require adjustments and  
39 establish only partially a cross-disciplinary dialogue (Moezzi and Peek, 2021). Second, each  
40 discipline employs its own terminology, meanings, and metaphors; therefore, the diversity of  
41 disciplinary languages can inhibit the cross-discipline dialogue (Gilligan, 2021; Hardy, 2021;  
42 Johnston and van de Lindt, 2022). Third, institutional and organizational boundaries across  
43 departments and disciplines challenge the effectiveness of institutional infrastructure,  
44 facilities, or reward systems for interdisciplinary research (Davidson, 2015; Marchezini,  
45 2023). For example, the prioritization of disciplinary work by single researchers or a  
46 disciplinary group inhibits interdisciplinarity (Davidson, 2015). If paths for interdisciplinary  
47 interaction are not established, IRTs might not be effectively structured for interdisciplinarity  
48 (Ganapati and Mostafavi, 2021). Fourth, organizational structures tend to preserve  
49 disciplinary boundaries. Therefore, researchers from different disciplines tend not to agree on  
50 shared epistemologies for interdisciplinarity, dissuading them in undertaking interdisciplinary  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60

1  
2  
3 research (Johnston and van de Lindt, 2022). Fifth, society perceives an alleged superiority of  
4 some disciplines over the others; hence, when disciplines attempt to collaborate, one  
5 discipline (knowingly or not) tries to impose its procedures and logics (Marchezini, 2020).  
6  
7 Sixth, when the researchers do not have full knowledge of the other disciplines and are not  
8 facilitated in establishing connections outside their field, distrust in the IRT can emerge  
9 (Johnston and van de Lindt, 2022).  
10  
11  
12  
13

14 These challenges can be defined as micro-, meso, and macro-level barriers (Peek and  
15 Guikema, 2021). Micro-level barriers include researchers' attitudes and behaviours  
16 (indifference, pessimism, or hostilities) towards interdisciplinarity; power differentials based  
17 on ethnicity, class, gender, age, and background; or communication breakdowns due to  
18 differences in terminologies, frameworks, approaches, and competences. Meso-level barriers  
19 include lack of structures, systems, and incentives by organizations to support  
20 interdisciplinary research. Macro-level barriers emerge from the lack of funding for  
21 interdisciplinarity and from cultural and historical differences among disciplines around the  
22 dissemination norms (Peek and Guikema, 2021; Filippi et al., 2023).  
23  
24  
25  
26  
27  
28  
29

30 In this way, understanding how a DRR team can achieve interdisciplinarity is necessary.  
31 Attention has recently turned to 'the process' of interdisciplinarity (Kendra and Nigg, 2014;  
32 Ge et al., 2021; Donovan et al., 2023; Filippi et al., 2023; Marchezini, 2023) and to the  
33 frameworks and methodologies to organize interdisciplinary work. We will show how  
34 reflexive practices can enhance interdisciplinary dialogues and research outcomes that  
35 support DRR. First, we define reflexivity and its value to establish an IRT conducting DRR  
36 research. We then present and describe the reflexive journey of our IRT, considering the  
37 evidence for the value of the reflexive journey in framing our interdisciplinary work. We  
38 conclude by assessing the added value of reflexivity for interdisciplinary DRR goals and  
39 generate recommendations for other IRTs' reflexive journeys.  
40  
41  
42  
43  
44  
45  
46  
47

## 48 **2. Reflexivity and interdisciplinary knowledge production**

49

50 In contemporary research, researchers can be asked to reflect on and interrogate how their  
51 own epistemologies, methodologies, norms, subjectivities, positionalities, and worldviews are  
52 influential on knowledge production (Giddens, 1991; Finlay, 2002; 2003). Bourdieu and  
53 Wacquant (1992) urged researchers to reflect on, and question, how they conceptualize and  
54 produce knowledge. Indeed, researchers often consider themselves neutral and objective in  
55 respect of knowledge production. However, they always influence their research practice  
56  
57  
58  
59  
60

1  
2  
3 through the theoretical and ontological underpinnings of their methodological stances, their  
4 position in respect of the research, or their worldview. To deconstruct taken-for-granted  
5 aspects of science, researchers need to be aware of their lack of neutrality, and situate  
6 knowledge production in their epistemological, ontological, and experiential context (Beck,  
7 1992; Bourdieu and Wacquant, 1992; Alejandro, 2021).  
8  
9

10  
11  
12 Different forms of reflexivity can support knowledge production. Wilkinson (1988) (in  
13 Knaggård et al., 2018) mentions three forms of reflexivity: personal, functional, and  
14 disciplinary. Personal reflexivity focuses on how personal interests, values, and experiences  
15 influence the research process. Functional reflexivity focuses on the role of the researchers in  
16 the research process. Disciplinary reflexivity focuses on the relationship between the  
17 researchers and different disciplinary paradigms and norms (Knaggård et al., 2018).  
18 Similarly, Nicholls (2009) recognizes three layers of reflexivity, namely self-reflexivity,  
19 relational, and collective. With self-reflexivity, researchers identify hidden research  
20 assumptions, such as power and privilege existing in research. With relational reflexivity,  
21 researchers explore interpersonal and collaborative relationships along the research process.  
22 With collective reflexivity, researchers explore collaboration across disciplines and the  
23 contribution of the research to social change (Nicholls, 2009). Reflexivity therefore assumes  
24 both an epistemological and a socio-political purpose. It deals with the individual and  
25 collective assessment of the research process, while raising awareness about the contribution  
26 of knowledge to social change (Alejandro, 2021).  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38

39 DRR disciplines have embraced reflexivity to reflect on, and challenge, the traditional  
40 structures, epistemologies, and norms shaping DRR research (Gaillard, 2021; Fuentealba,  
41 2024; Uekusa, 2024). Mosurska (2022) uses a research diary to reflect on ethical issues in  
42 engaging with Indigenous people. Mertens (2021) uses reflexivity to investigate how a  
43 research team interpreted DRR concepts. Nguyen-Trung (2023) explores how Vietnamese  
44 farmers used reflexivity to understand local disasters, while Guzzardo et al. (2021) employ  
45 reflexivity to examine a team experience of post-disaster research in Puerto Rico. In these  
46 studies, reflexivity interrogates both the role of the researchers and the research itself;  
47 however, understanding how reflexivity can support IRTs in their interdisciplinary efforts has  
48 not been discussed widely in the literature and can play an important role in advancing  
49 knowledge production (Ganapati and Mostafavi, 2021).  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60

1  
2  
3 Thus, we use our reflexive experience to demonstrate that reflexivity supports IRTs in:  
4 scrutinizing the main features of their interdisciplinary research, unleashing the  
5 epistemological, methodological, and empirical potential of each discipline: and, identifying  
6 the people working across disciplines – and their related research processes- that can most  
7 effectively contribute to interdisciplinary knowledge production (Finlay, 2002; Knaggård et  
8 al., 2018). To do that, we explore the reflexive journey undertaken by our IRT working in  
9 Quito (thereafter, the Quito Team, QT), that was part of the Tomorrow's Cities: Urban Risk  
10 in Transition Project, funded by the United Kingdom Research and Innovation (UKRI)  
11 Global Challenge Research Fund (GCRF). This project aimed to work together with people  
12 living in vulnerable areas towards proactive decision-making around risks (Sevilla et al.,  
13 2023) in Kathmandu, Istanbul, Nairobi, and Quito. Here we document activity during Phase 1  
14 (2019-2021) of the QT. The reflexive journey supported the QT not only in exploring the  
15 interdisciplinary space but also in the process of creating new knowledge together, something  
16 that is comparatively underexplored in literature (Boon and Van Baalen, 2019). We show  
17 how reflexivity can support the development and implementation of interdisciplinarity in an  
18 IRT working on DRR.  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30

### 31 **3. The Reflexive Journey**

#### 32 *3.1 Introducing the QT*

33  
34 The QT aimed at designing and delivering interdisciplinary, participatory and impact-  
35 oriented research by working with research participants including local communities and  
36 stakeholders (risk departments, councils, institutions, and businesses). By co-creating  
37 knowledge, we aimed at supporting research participants in mobilizing their capacities and  
38 integrating this knowledge into urban governance (Sevilla et al., 2023). The QT was  
39 organised into three themes: Applying forensic risk analysis; Developing and implementing  
40 research methodologies; and, Integrating different forms of knowledge into urban policy and  
41 practice. While some members worked primarily on one theme, many worked across multiple  
42 themes, in line with the aim of the QT -reflected in the submitted proposal to the funder- to  
43 promote mutual interactions of epistemological and empirical practices of diverse disciplines  
44 across each theme.  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54

55 The QT consisted of about 40 members, based in Ecuador and UK institutions, with diverse  
56 backgrounds and experiences from different disciplines (volcanology, engineering,  
57 anthropology, geophysics, sociology, history, arts, political sciences, geology, geography,  
58  
59  
60

1  
2  
3 evaluation, and development studies). Members were at different career stages, ranging from  
4 research assistantship to professorship. Interdisciplinary research experiences also varied,  
5 ranging from no experience to over 25 years. Necessarily then the QT had different personal  
6 and collective positions about interdisciplinary research. This paper's authors represent those  
7 involved in structuring and creating the reflexive journey. As 12 authors we are based in  
8 different institutions, with diverse backgrounds and experiences, and with differing degrees  
9 of involvement in the original structure of the QT, but all with responsibilities in the  
10 consequent knowledge co-creation. Our positionality as authors is thus a reasonable but not  
11 comprehensive reflection of the whole QT. Importantly, we created a process allowing for  
12 each researcher's voice to be heard. It is these reflections we also offer here, although  
13 mediated by us. We believe this is a fair representation of the use of reflexivity towards  
14 interdisciplinarity.

### 25 *3.2 Starting our reflexive journey*

26  
27 Given the context of our project, the QT was set up from the beginning to use reflexivity as  
28 part of its evaluation of the research impacts on external stakeholders. Evaluation was not  
29 based just on measurable targets, but also on researchers' reflections on the project, including  
30 interdisciplinarity. Members should have met in person in Quito for the first time in March  
31 2020, but on 11th March the World Health Organization declared a state of COVID-19  
32 pandemic. All in-person activities were cancelled and adapted to the new conditions by  
33 moving online. By this point, there were already emerging issues with the practical process of  
34 interdisciplinarity, and so the team took the opportunity to address these through a collective,  
35 online reflexive journey (Finley, 2003), based on the ongoing Monitoring Evaluation and  
36 Learning process (Apgar et al., 2023), drawing empirically on QT members' experiences and  
37 explicitly addressing observed issues, including those raised via discussion with different  
38 sub-teams. This fed a series of activities, summarized in Table 1 and including 19 formal  
39 meetings, 5 seminars and other small group meetings taking place between March 2020 and  
40 July 2021, delivered on a Teams platform. While these activities reflected the need for  
41 discussing core components of our project (e.g., Historical approaches to DRR, Participatory  
42 methodology, Seminar topics) or emerging topics (e.g., Diverse interpretation of DRR), the  
43 "learned lessons" of each activity cannot be reduced to a single component or topic. Instead,  
44 they need to be contextualized in the whole reflexive journey.

As a collective effort, the reflexive journey required commitment and engagement. Indeed, while some of the QT members were responsible for designing, developing, delivering, and facilitating the reflexive journey, all other members actively contributed to specific themes, meetings, tasks, and activities, based on their background and their role in the QT.

## **Table 1**

### *3.3 Data collection and analysis*

During the reflexive journey, different modes of engagement were used, including plenary discussions, break-out groups, and theatre-based activities, all moderated by facilitators. From this engagement, relevant primary data were collected, including 40 presentations, 30 evaluation forms, 22 surveys, 15 internal reports and minutes, and various notes and images. All meetings were also audio-recorded, for a total of 60 hours of audio-files with each participant offering consent for the sharing and analysis of materials. Given that reflection was a core part of QT's impact evaluation, it was understood from the beginning that the collected data could be used for dissemination purposes and outputs, following ethical and anonymity requirements. This was stressed several times during meetings.

We have analysed these data via triangulation, that is, looking at the same concept by combining different perspectives from different collected material, thus testing the validity of initial conclusions by robustness against different sources (Lemon and Hayes, 2020). This helped us to identify emerging themes and develop a deeper understanding of the phenomenon and evaluation of the findings (Patton, 1999). Themes were then extracted inductively and categorized as it follows: disciplinary diversity and its value for the team; language issues; the gradual move towards interdisciplinarity; and processes or vehicles for interdisciplinary knowledge co-creation. While we have tried to include emerging themes within the dominant category, there were a mixture of barriers, enablers, and processes, and so at times, each theme could be sorted into more than one category. In the next section, we present the reflexive journey under the form of a narrative structured around the main emerging themes.

## **4. Findings**

### *4.1 Recognizing diversity as an interdisciplinary practice*

During the Introductory Meetings 1 and 2, some of us met for the first time and get to know each other personally and professionally. 'Exploring diversity' spontaneously became the



1  
2  
3 first step to introduce ourselves and raise curiosity amongst the team (Cheruvilil et al., 2014).  
4  
5 In preparation for Introductory Meeting 1, QT members were asked to choose an  
6  
7 image/picture representing themselves as researchers, and three words describing their  
8  
9 project expectations. These images/pictures, including landscapes, fieldwork sites, portraits,  
10  
11 objects were then shared and explained one by one during the meeting (Figure 1). Many  
12  
13 questions arose around the choices of images and their meanings.

#### 14 **Figure 1**

15  
16 A Mentimeter<sup>1</sup> poll was also administered to identify individual learning style preferences  
17  
18 (activist, reflector, theorist, and pragmatist) (Honey and Mumford, 1992) across members.  
19  
20 We used the resulting preferences to discuss our different views about the research process,  
21  
22 and to reflect on how our learning diversity can be independent of discipline and a strength  
23  
24 for interdisciplinarity. This discussion identified members who could potentially work  
25  
26 together on specific project's tasks, forming initial subgroups. We also collectively shared  
27  
28 our views on interdisciplinary activities and the importance of interdisciplinarity for DRR  
29  
30 (Figure 2). Most of us agreed that interdisciplinary projects work best when disciplinary  
31  
32 perspectives are integrated from the beginning and on the importance of interdisciplinary  
33  
34 approaches for DRR research. We then discussed how to operationalize the interdisciplinary  
35  
36 collaborations for specific tasks.

#### 36 **Figure 2**

##### 37 *4.2 Towards a common language, or meeting at the crossroad?*

38  
39 The QT largely consisted of native English- or Spanish-speaking members. Both languages  
40  
41 were used with different confidence levels. As other authors have highlighted (Hardy, 2021),  
42  
43 our disciplinary diversity also meant that each member adopted their own DRR terminology.  
44  
45 In Introductory Meeting 2, an Ecuador-based sociologist proposed to openly discuss our  
46  
47 language diversity and to improve how we communicate DRR (Hardly, 2021), and claimed:

48  
49 *“For interdisciplinary work it’s necessary that we understand both the way of work and the*  
50  
51 *employed terminology.”*

52  
53 This raised the need for exploring how both our native and disciplinary languages would  
54  
55 shape our understanding of the project and our interdisciplinary work. This formed the core  
56  
57 agenda of our Discussion Group 1, which explored and reflected on language issues and  
58  
59

---

60 <sup>1</sup> A software that helps creating engagement during presentations ([www.mentimeter.com](http://www.mentimeter.com)).

1  
2  
3 different interpretations of DRR concepts. Its Session 1 was dedicated to DRR terminology.  
4 Before the session, we were asked to individually define (in a shared online document)  
5 ‘disaster risk’ in Spanish and/or English in 280 characters (like a Twitter/X tweet), without  
6 using any DRR-specific jargon. From these definitions, two word-clouds were then  
7 generated, one in English and one in Spanish (Figure 3).  
8  
9  
10

11  
12 These supported the QT’s subsequent discussion and reflection on the varied language  
13 landscape that defines risk and on differences and overlaps between English and Spanish  
14 words. We concluded that our goal was not to identify a perfect terminology and to reach  
15 consensus around it. Instead, we would explore risks by recognizing our different  
16 perspectives and knowing when barriers to understanding may be arise from these languages.  
17  
18  
19  
20  
21

### 22 **Figure 3**

23  
24 To give value to our diversity, we met “at the crossroads” of Spanish and English languages.  
25 We agreed that both languages would be “official” languages of the QT, even though this  
26 would have implications for time management and communication. We established some  
27 ground-rules: in meetings, a translator or a bilingual member should translate across the two  
28 languages; additionally, all emails, presentations, and documents were written in both  
29 languages, or have a long abstract in the second language.  
30  
31  
32  
33  
34

#### 35 *4.3 Gradually developing an interdisciplinary mindset*

36  
37 Our regular meetings allowed us to acknowledge that no discipline has the best data, tools,  
38 and methods (Ge et al., 2021). We identified those that working across disciplines could fit  
39 the purpose of each activity. We wanted to develop a more systemic thinking about risk, and  
40 account for its tangible and intangible components that are experienced in everyday life  
41 (Oliver-Smith et al., 2017). While presenting ideas for multi-hazard analysis and  
42 interdisciplinary collaborations, in Session 2 of the Discussion Group 1, an Ecuador-based  
43 engineer stressed this need for a more systemic thinking:  
44  
45  
46  
47  
48  
49

50 *“...[Y]ou can see huge potential to work between geophysical and social domains with the*  
51 *communities. There is also integration between social science and historical data and*  
52 *analysis. ...[W]e can think risk in a more systemic way.”*  
53  
54  
55

56 Another Ecuador-based engineer elaborated further on this, reflecting on the aspects of the  
57 interdisciplinary collaboration for a historical multi-hazard dataset in Quito which was under  
58 development:  
59  
60

1  
2  
3 *“We need to work on how integrating qualitative data with quantitative data, and how to use*  
4 *quantitative data to focus on some specific events or geographic locations. The challenge*  
5 *therefore is how to integrate these data, and how different events come together.”*  
6  
7

8  
9 In the Review and Learning Workshops 1 and 2, we looked at views on the changes in the  
10 QT around interdisciplinarity. Survey data in Figure 4 show that most of us gave still more  
11 value to both an interdisciplinary focus on risk and to the contributions from other  
12 disciplines. Figure 4 Collectively (but not universally) our feelings about interdisciplinarity  
13 were strengthened. In Workshop 1, a UK-based volcanologist encapsulated this view when  
14 they defined interdisciplinarity as a *“triple threat”*, that is the ability of a performer to act,  
15 sing and dance while on stage, and in our case the ability  
16

17  
18 *“to put together different epistemologies from humanities, social sciences, and natural*  
19 *sciences to tackle disaster.”*  
20  
21

22  
23 Likewise, when presenting the progress of the collaboration between historians, hazard  
24 scientists, and geospatial analysts for the creation of a digital platform (see 5.2) in Workshop  
25 1, an Ecuador-based historian stressed previous points by Sevilla et al. (2023) about the  
26 importance for arts and humanities to develop interdisciplinary connections:  
27

28  
29 *“We’re working as an interdisciplinary team... with the University of Bristol, ... learning a*  
30 *lot about their methodologies and application in Quito ... [T]he complexity of risk is*  
31 *understood in an interdisciplinary way. We’re also building our knowledge with the*  
32 *community by looking for solutions and involving the Municipality and the Colegio de*  
33 *Ingenieros<sup>2</sup>. It’s very challenging but we’re happy and committed in understanding multiple*  
34 *dimensions of risk.”*  
35  
36  
37  
38  
39  
40  
41  
42  
43

44 Section 5 will show some practical examples of our integration across disciplines.  
45

## 46 **5. The Reflexive Influence on Interdisciplinary Outcomes**

47

48  
49 This section shows how the reflexive journey supported the QT in achieving interdisciplinary  
50 outcomes, including promoting change through: Participatory Action Research (PAR); digital  
51 platform and museum exhibits; citizen science activities; and, an Urban Risk Reduction  
52 Laboratory (URRL).  
53  
54

### 55 *5.1 Promoting change through PAR*

56  
57

---

58  
59 <sup>2</sup> Professional Association of Engineers.  
60

1  
2  
3 During Discussion Group 1, the formula ‘Hazard x Vulnerability = Risk’ was questioned  
4 (Rebotier et al., 2019). While the formula makes the social construction of risk visible  
5 (Armijos Burneo and Ramirez Loaiza, 2021) and summarizes information for policy-makers,  
6 it was criticised as a static portrait of risk. An Ecuador-based sociologist agreed on these  
7 points:  
8  
9

10  
11  
12 *“A risk formula is static while disaster risk is dynamic. A formula can be useful for policy-*  
13 *makers because they like to have numbers. However, numbers give a false idea of security or*  
14 *insecurity and of the possibility to control events.”*  
15  
16

17  
18 Another Ecuador-based sociologist further stressed the importance of understanding local risk  
19 experiences:  
20

21  
22 *“...[W]e don’t decide what risk is. We don’t go to local communities and stakeholders and*  
23 *tell them what the risk is in their areas. We go to them and develop a process for working*  
24 *together through a series of engaging activities where communities and stakeholders tell us*  
25 *what disaster risk is, how they experience a hazard, or perceive their vulnerabilities and*  
26 *everyday problems.”*  
27  
28  
29  
30

31  
32 Even physical scientists shared this perspective when discussing hazards. Indeed, an  
33 Ecuador-based volcanologist claimed:  
34

35  
36 *“[W]e need to find a way ... to understand hazards in the everyday life because communities*  
37 *organize their own response to these events and this is part of their capacities.”*  
38  
39

40 Notwithstanding these quotes come from members across different disciplines, they all call  
41 for a more dynamic and systemic vision of risk which take everyday experiences of people  
42 into account (Oliver-Smith et al., 2017; Rebotier et al., 2017). In this way, different  
43 disciplines shared a common vision on how to promote change through knowledge co-  
44 production and understanding impacts with those people experiencing risk, to generate local  
45 solutions. In Session 3 of the Discussion Group 3, an Ecuador-based sociologist explained  
46 why PAR created an opportunity for interdisciplinarity:  
47  
48  
49  
50

51  
52 *“PAR provides great opportunities for our interdisciplinary project, because the activities*  
53 *aren’t centred on any particular discipline ... but on the better way to address people... We*  
54 *share the methodologies, field visits and theoretical-technical discussions as a team, to*  
55 *exchange information and learning between the different perspectives, build a common*  
56  
57  
58  
59  
60

1  
2  
3 *discourse with the communities, and complement the data collection techniques by doing a*  
4 *single effort that doesn't wear people down."*  
5  
6

7 With PAR, all disciplines had to work together and identify common ways to deliver a  
8 consistent and effective communication with non-academic actors (Marchezini, 2023). In the  
9 same Session 3, an Ecuador-based anthropologist elaborated this point further:  
10  
11

12  
13 *"...the challenge of bringing together the disciplinary approaches of social and physical*  
14 *sciences becomes an opportunity when this is done together with the communities. Indeed,*  
15 *when working with research participants, interactions and connections develop in a more*  
16 *natural way."*  
17  
18  
19

20 A practical example of interdisciplinary PAR is the activity conducted with the residents of  
21 two neighbourhoods and the Quito Municipality for the safe decommission of self-made  
22 septic tanks which contribute to potential landslide and biohazard risk. Over the years,  
23 residents used these tanks as an alternative to the lack of connection to the sewer system. The  
24 QT organized and facilitated meetings with residents and the Quito Municipality to explore  
25 the root causes of the septic tanks (historical aspects, service access, land use), the generated  
26 issues (leakage, water runoff, soil contamination and instability), and possible co-created  
27 solutions (access to sewer system). The result was a co-produced practical guide<sup>3</sup> for the safe  
28 closure of the tanks, accompanied by an in-situ demonstration with residents.  
29  
30  
31  
32  
33  
34  
35

### 36 37 *5.2 Interdisciplinary digital platform and museum exhibits* 38

39 Collaboration between historians, hazard scientists, and geospatial analysts created the  
40 opportunity for combining archival material, maps, land use and soil data to develop a multi-  
41 hazard, 400-year historical dataset on urban growth in Quito. As well as informing analysis of  
42 the longitudinal creation of disaster risk, the dataset represented the baseline for an  
43 interdisciplinary digital platform<sup>4</sup> and three museum exhibits in collaboration with the  
44 Interactive Museum of Science of Quito and local art curators (Sevilla et al., 2023) that  
45 enhanced engagement with a variety of stakeholders. Reflexivity supported the QT in  
46 discussing the message to share with the public about disaster risk in Quito. In-person and  
47 online meetings facilitated an interdisciplinary dialogue to set up the platform and exhibits. In  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57

58  
59 <sup>3</sup> [https://tomorrowscities.org/sites/default/files/resources/2021-07/GUIA\\_TECNICA\\_CIERRE\\_POZO\\_FINAL%5B2%5D.pdf](https://tomorrowscities.org/sites/default/files/resources/2021-07/GUIA_TECNICA_CIERRE_POZO_FINAL%5B2%5D.pdf) (Access 10/02/2024)

60 <sup>4</sup> <https://reducirriesgosenquito.com/> (Access 10/02/2024)

1  
2  
3 these meetings, geologists asked questions about the history of Quito, while historians,  
4 anthropologists, artists, and art curators learnt about geology and volcanic risk.

5  
6  
7 The digital platform shares the hazard dataset combined with audios, images, and art-based  
8 contents, in a way that values different types of knowledge and promotes the transformative  
9 role of local communities. During a meeting with the museum and art curators, an Ecuador-  
10 based historian summarized the value of the platform as:

11  
12  
13  
14  
15 *“...a good way to present information across disciplines and to build a narrative that is also*  
16 *emotional, so you can have interactions of users with this rich data.”*

### 17 18 19 5.3 Citizen Science Activities

20  
21 Initially, citizen science methods were to be combined with PAR activities. However, our  
22 reflexive process uncovered different views about what citizen science could be, ranging  
23 from solely data gathering, to a process of engagement with those at risk. We identified  
24 challenges in reconciling the imposition on communities of citizen science sensors,  
25 understood differences and political issues between communities, and integrated the differing  
26 epistemological frameworks across disciplines. Discussion Group 3 focused on these issues.  
27 Afterwards, we created an internal document, the Citizen Science Manifesto (CSM), that  
28 defined our citizen science work and articulated our positionality relative to its challenges. In  
29 the CSM, we articulated the need to consider citizen science as part of PAR and to integrate  
30 methods from different disciplines. As the CSM describes:

31  
32  
33  
34  
35  
36  
37  
38  
39 *“We seek to equalise this process ... and embed that into our analysis of the associated risk,*  
40 *and subsequent negotiations of action to respond and reduce that risk. Our hypothesis is that*  
41 *by working in this way, the process of research, knowledge co-creation and negotiation of*  
42 *actions will allow the risk management culture to emerge. The process will generate the*  
43 *outcome.”*

44  
45  
46  
47  
48  
49 A core aspect of citizen science activities was the installation of multi-hazard sensors in at-  
50 risk neighbourhoods, and the sharing of their data with the communities. We realised we  
51 needed to communicate to local communities about how the sensors work and how to access  
52 their data. Our physical scientists were paired with visual anthropologists to create a citizen  
53 science section in the digital platform and a blog for discussing the results that included an  
54 interaction between physical sciences, arts, and social sciences. This work has been continued  
55 and expanded since 2021 in a PhD project that has strengthened and developed the existing  
56  
57  
58  
59  
60

relationships. At the current state of writing, there are sensors installed in museums, schools, and communities across Quito.

#### 5.4 The Urban Risk Reduction Laboratory

The URRL was conceived as a space where state and non-state stakeholders in Quito (local governments, communities, the private sector) interact to generate an interdisciplinary understanding of risk and promoting shared DRR strategies for public decision-making, with the QT acting as facilitator. The URRL promoted a reflexive workshop with stakeholders on the impact of the land use and management plan (Plan de Uso y Gestión del Suelo, PUGS) on disaster risk management in Quito and on the challenges for its implementation. Recommendations generated for PUGS implementation included the need for a cross-sectoral risk analysis among local governments, a focus on vulnerable sectors, and more detailed information on physical and social features of Quito. Our reflexive process helped us explore the role of each discipline in establishing this dialogue with local stakeholders, and the related ontological, epistemological, and ethical principles. We saw stakeholder diversity as positive for collective learning. A participant emphasized the need for a comprehensive perspective about risk in Quito in a meeting of the URRL about the release of the PUGS:

*“To implement the PUGS, we need to strengthen the interactions between the municipal secretariats, not to understand risk as an isolated phenomenon, but to articulate the planning instruments transversally in the territory”.*

## 6 Discussion and Conclusions

With reflexivity, the QT opened dialogues between disciplines and traced a pathway to interdisciplinarity for at least four reasons. First, we recognized the personal and professional diversity in the QT and the importance of interdisciplinarity spaces to support the QT in doing research. The reflexive journey offered the opportunity to reflect individually on the skills each member can bring to the QT and identify target and groups to shared working. By doing so we recognized, internalized, and accommodated our differences while sharing common ground for interdisciplinarity (Cheruvilil et al., 2014). Second, while we recognized our different linguistic and epistemological languages (Hardy, 2021; Johnston and van de Lindt, 2022), we understood that the solution was not necessarily a common ‘language’, but the creation of an environment comfortable enough to express ourselves in our own language and be understood. Third, with reflexivity we were able to develop an interdisciplinary mindset. With time, our ideas about interdisciplinarity strengthened, alongside our

1  
2  
3 commitment and confidence in interdisciplinary work. Fourth, reflexivity supported the  
4 achievement of interdisciplinary integration by engaging critically with data, methods, and  
5 tools and co-producing and disseminating knowledge with non-academic actors (Morss et al.,  
6 2021; Sevilla et al., 2023).  
7  
8  
9

10 In our reflexive journey, we created room for sharing experiences, beliefs, and  
11 understandings of the research process. We reflected on how our own disciplines,  
12 backgrounds, and subjectivities influenced our work. Therefore, we argue that research  
13 aspects emerged that could have been missed without this journey (Moezzi and Peek, 2021).  
14 In the Final Meeting at the end of Phase 1, several members ended their contracts with the  
15 project, with others changing soon. The wider project was going through structural changes  
16 modifying the QT and its goals. The Final Meeting thus touched strongly on experience to  
17 this point. An UK-based evaluation researcher highlighted the strength of our reflexive  
18 journey as an opportunity to discuss and evaluate our research in an interdisciplinary way  
19 (Moezzi and Peek, 2021). Accordingly, the journey allowed  
20  
21  
22  
23  
24  
25  
26  
27  
28

29 *“...collecting experiences of walking together. We tend to ask ourselves what we’ve done,*  
30 *achieved, and learnt and we’ve listened to rich reflections on practice, findings, as well as on*  
31 *collective reflexivity. This is what moments like these are for and indicates also where we’re*  
32 *going. Reflexivity allowed us to reflect on who we are”.*  
33  
34  
35

36 An Ecuador-based anthropologist echoed these words, stating that the reflexive journey was a  
37 fruitful experience, personally and professionally, and:  
38  
39

40 *“... a time for introspection. [D]iscussion groups and seminars had this goal to listen to and*  
41 *know each other. This has improved us as persons and researchers”.*  
42  
43  
44

45 Notwithstanding the positive aspects of the reflexive journey, it also had its limitations.  
46 Indeed, challenges continued to exist for interdisciplinarity. The dialogue was hindered by  
47 residual issues with language and practice. Sometimes visions were so different that openness  
48 and understanding were not possible, and time constraints sideline opportunity for dialogue.  
49 Gender-based issues emerged in relation to tasks, hierarchies, and norms (Snijder et al.,  
50 2023). Nonetheless, the net outcome was positive. The processes that arose in the QT  
51 represent a disciplinary synthesis that was ‘a paradigm shift in researchers’ understanding of  
52 their disciplinary propositions resolving perceived incompatibilities’, moving us closer to the  
53 ideal in interdisciplinary research assumed by those who call for it (Dalton et al., 2022).  
54  
55  
56  
57  
58  
59  
60



1  
2  
3 We recognize that including reflexive practices is still not common for research projects,  
4 whether working on DRR or not. However, creating a space for research teams to explore on  
5 individual, professional, and disciplinary differences (Moezzi and Peek, 2021) -as the QT  
6 did- can help team members to reflect on what they can bring to the project and how they can  
7 work together with people perceived too distant from their skills. This will provide research  
8 projects with an opportunity to improve teamwork (functional, methodological, empirical),  
9 the work with external actors, and ultimately the capacity to deliver meaningful research that  
10 can contribute to social outcomes.

11  
12 Reflexivity is therefore beneficial for IRTs. It gives opportunities for exploring different  
13 research visions across disciplines and lends value to these visions towards shared  
14 interdisciplinary outcomes. Research institutions perceive reflexivity as “unproductive”  
15 because it collides with pressures around neoliberal performance and productivity. Our  
16 experience, however, demonstrates the opposite. We therefore recommend IRTs use  
17 reflexivity to regularly explore and monitor their interdisciplinary path in terms of progress of  
18 development and implementation of interdisciplinarity, and of any required adjustment.

19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33 **Credit line for all table/figure:**

34  
35 **Source:** Author’s own work  
36  
37  
38  
39  
40  
41  
42  
43  
44

## 45 **7 References**

46  
47 Alejandro, A. (2021). “Reflexive discourse analysis: A methodology for the practice of  
48 reflexivity”, *European Journal of International Relations*, Vol. 27 No. 1, pp. 150-174.

49  
50  
51 Apgar, M., Fournie, G., Haesler, B., Higdon, G. L., Kenny, L., Oppel, A., ... & Hossain, M.  
52 (2023). “Revealing the relational mechanisms of research for development through social  
53 network analysis”, *The European Journal of Development Research*, Vol. 35 No. 2, pp. 323-  
54 350.  
55  
56  
57  
58  
59  
60

1  
2  
3 Armijos Burneo, T., & Ramirez Loaiza V. (2021). “Encuentros y Desencuentros con la  
4 Fórmula del Riesgo y los Desastres: Tiempos para el Cuidado y la Reciprocidad”. *REDER*,  
5 Vol. 5 No. 2, pp. 19-35.  
6  
7

8  
9 Beck, U., (1992). *Risk society: Towards a new modernity*. Sage.  
10

11 Boon, M & Van Baalen, S. (2019). “Epistemology for Interdisciplinary Research – shifting  
12 philosophical paradigms of science”, *European Journal for Philosophy of Science*, Vol. 9  
13 article 16.  
14  
15

16  
17 Bourdieu, P., & Wacquant, L. J. (1992). *An invitation to reflexive sociology*. University of  
18 Chicago Press.  
19

20  
21 Cheruvilil, K. S., Soranno, P. A., Weathers, K. C., Hanson, P. C., Goring, S. J., Filstrup, C.  
22 T., & Read, E. K. (2014). “Creating and maintaining high-performing collaborative research  
23 teams: the importance of diversity and interpersonal skills”, *Frontiers in Ecology and the*  
24 *Environment*, Vol. 12 No. 1, pp. 31-38.  
25  
26  
27

28  
29 Dalton, A., Wolff, K., & Bekker, B. (2022). “Interdisciplinary Research as a Complicated  
30 System”, *International Journal of Qualitative Methods*, Vol. 21, pp 1-13.  
31

32  
33 Davidson, R. A. (2015). “Integrating disciplinary contributions to achieve community  
34 resilience to natural disasters”, *Civil Engineering and Environmental Systems*, Vol. 32 No. 1-  
35 2, pp. 55-67.  
36  
37

38  
39 Donovan, A., Morin, J., & Walshe, R. (2023). “Interdisciplinary research in hazards and  
40 disaster risk”, *Progress in Environmental Geography*, Vol. 2 No. 3, pp. 202-222.  
41

42  
43 Dynes, R. R., & Drabek, T. E. (1994). “The Structure of Disaster Research: Its Policy and  
44 Disciplinary Implications”, *International journal of mass emergencies and disasters*, Vol. 12  
45 No. 1, pp. 5-23.  
46  
47

48  
49 Filippi, M. E., Barcena, A., Trogrlić, R. Š., Cremen, G., Menteşe, E. Y., Gentile, R., ... &  
50 McCloskey, J. (2023). “Interdisciplinarity in practice: Reflections from early-career  
51 researchers developing a risk-informed decision support environment for Tomorrow's cities,”  
52 *International Journal of Disaster Risk Reduction*, Vol. 85, 103481.  
53  
54

55  
56 Finlay, L. (2002). “Negotiating the swamp: the opportunity and challenge of reflexivity in  
57 research practice”, *Qualitative research*, Vol. 2 No. 2, pp. 209-230.  
58  
59  
60

1  
2  
3 Finlay, L. (2003). "The reflexive journey: mapping multiple routes". In, Finlay L., Gough B.:  
4 *Reflexivity: A practical guide for researchers in health and social sciences*, Wiley Blackwell,  
5 3-20.  
6  
7

8  
9 Fuentealba, R. (2024). "'Respect existence or expect... resilience?' epistemic reflexivity  
10 towards liberated disaster studies", *Disaster Prevention and Management*, in press.  
11  
12

13 Gaillard, J. C. (2021). *The invention of disaster: power and knowledge in discourses on*  
14 *hazard and vulnerability*. Routledge.  
15  
16

17 Gall, M., Nguyen, K. H., & Cutter, S. L. (2015). "Integrated research on disaster risk: Is it  
18 really integrated?", *International journal of disaster risk reduction*, Vol. 12, pp. 255-267.  
19  
20

21 Ganapati, N. E., & Mostafavi, A. (2021). "Cultivating metacognition in each of us: Thinking  
22 about "thinking" in interdisciplinary disaster research", *Risk Analysis*, Vol. 41 No. 7, pp.  
23 1136- 1144.  
24  
25

26  
27 Ge, Y. G., Zobel, C. W., Murray-Tuite, P., Nateghi, R., & Wang, H. (2021). "Building an  
28 interdisciplinary team for disaster response research: A data-driven approach", *Risk analysis*,  
29 Vol. 41 No. 7, pp. 1145-1151.  
30  
31

32  
33 Giddens, A. (1991). *Modernity and self-identity: Self and society in the late modern age*.  
34 Stanford university press.  
35  
36

37 Gilligan, J. M. (2021). "Expertise across disciplines: establishing common ground in  
38 interdisciplinary disaster research teams", *Risk Analysis*, Vol. 41 No. 7, pp. 1171-1177.  
39  
40

41 Guzzardo, M. T., Todorova, I. L., Engelman, A., Polidoro Lima, M., Dean-Olmsted, E., &  
42 Guzzardo Tamargo, R. E. (2021). "Reflexivity and humility evoke a transformable  
43 methodology in a post disaster context", *Health Psychology and Behavioral Medicine*, Vol. 9  
44 No. 1, pp. 1-24.  
45  
46  
47

48 Hardy, R. D. (2021). "A sharing meanings approach for interdisciplinary hazards research",  
49 *Risk Analysis*, Vol. 41 No. 7, pp. 1162-1170.  
50  
51

52  
53 Hicks, A., Barclay, J., Simmons, P., & Loughlin, S. (2014). "An interdisciplinary approach to  
54 volcanic risk reduction under conditions of uncertainty: a case study of Tristan da Cunha",  
55 *Natural Hazards and Earth System Science*, Vol. 14 No. 7, pp. 1871-1887. Honey, P., &  
56  
57  
58  
59  
60

1  
2  
3 Johnston, B., & van de Lindt, J. W. (2022). "Barriers and possibilities for interdisciplinary  
4 disaster science research: Critical appraisal of the literature", *Natural Hazards Review*, Vol.  
5 23 No. 1, 04021053.  
6  
7

8  
9 Kendra, J., & Nigg, J. (2014). "Engineering and the social sciences: historical evolution of  
10 interdisciplinary approaches to hazard and disaster", *Engineering Studies*, Vol. 6 No. 3, pp.  
11 134- 158.  
12  
13

14  
15 Knaggård, Å., Ness, B., & Harnesk, D. (2018). "Finding an academic space: reflexivity  
16 among sustainability researchers", *Ecology and Society*, Vol. 23 No. 4.  
17  
18

19  
20 Lemon, L. L., & Hayes, J. (2020). "Enhancing trustworthiness of qualitative findings: Using  
21 Leximancer for qualitative data analysis triangulation", *The Qualitative Report*, Vol. 25 No.  
22 3, pp. 604-614.  
23  
24

25  
26 Marchezini, V. (2020). "'What is a sociologist doing here?' An unconventional people-  
27 centered approach to improve warning implementation in the Sendai framework for disaster  
28 risk reduction", *International Journal of Disaster Risk Science*, Vol. 11 No. 2, pp. 218-229.  
29  
30

31  
32 Marchezini, V. (2023). "Transnational Dialogues on Interdisciplinary Approaches for  
33 Advancing People-Centered Warning Systems", *International Journal of Disaster Risk  
34 Science*, Vol. 14 No. 5, pp. 868-872.  
35  
36

37  
38 Martinez, G., Armaroli, C., Costas, S., Harley, M. D., & Paolisso, M. (2018). "Experiences  
39 and results from interdisciplinary collaboration: Utilizing qualitative information to formulate  
40 disaster risk reduction measures for coastal regions", *Coastal Engineering*, Vol. 134, pp. 62-  
41 72.  
42  
43

44  
45 Masterson, J., Meyer, M., Ghariabeh, N., Hendricks, M., Lee, R. J., Musharrat, S., ... & Van  
46 Zandt, S. (2019). "Interdisciplinary citizen science and design projects for hazard and disaster  
47 education", *International journal of mass emergencies and disasters*, Vol. 37 No. 1, pp. 6-24.  
48  
49

50  
51 Mertens, K. (2021). "Reassembling disaster risk: towards a more self-reflexive and enabling  
52 geography", *Belgeo. Revue belge de géographie*, Vol. 4.  
53  
54

55  
56 Moezzi, M., & Peek, L. (2021). "Stories for interdisciplinary disaster research collaboration",  
57 *Risk Analysis*. Vol. 41 No. 7, pp. 1178-1186.  
58  
59  
60

1  
2  
3 Morss, R. E., Lazrus, H., & Demuth, J. L. (2021). “The “inter” within interdisciplinary  
4 research: Strategies for building integration across fields”, *Risk Analysis*. Vol. 41 No. 7, pp.  
5 1152-1161.  
6  
7

8  
9 Mosurska, A. (2022). “The reflective research diary: a tool for more ethical and engaged  
10 disaster research”, *Disaster Prevention and Management*, Vol. 31 No. 1, pp. 51-59.  
11  
12

13 Mumford, A. (1992). *The manual of learning styles*. Maidenhead: Peter Honey.  
14

15 Nicholls, R. (2009). “Research and Indigenous participation: critical reflexive methods”,  
16 *International journal of social research methodology*, Vol. 12 No. 2, pp. 117-126.  
17  
18

19 Nguyen-Trung, K. (2023). “Reflexivity, habitus and vulnerability: Vietnamese farmers'  
20 attribution of responsibility in a post-disaster context”, *Disaster Prevention and*  
21 *Management: An International Journal*, (ahead-of-print).  
22  
23  
24

25 Oliver-Smith, A., Alcántara-Ayala, I., Burton, I., & Lavell, A. (2017). “The social  
26 construction of disaster risk: Seeking root causes” *International journal of disaster risk*  
27 *reduction*, Vol. 22, 469-474.  
28  
29

30 Patton, M. Q. (1999). “Enhancing the quality and credibility of qualitative analysis” *Health*  
31 *Services Research*, Vol. 34 No. 5, 1189-1208.  
32  
33

34 Peek, L., & Guikema, S. (2021). “Interdisciplinary Theory, Methods, and Approaches for  
35 Hazards and Disaster Research: An Introduction to the Special Issue”, *Risk Analysis*. Vol. 41  
36 No. 7, pp. 1057-1058.  
37  
38

39 Petts, J., Owens, S., & Bulkeley, H. (2008). “Crossing boundaries: Interdisciplinarity in the  
40 context of urban environments”, *Geoforum*, Vol. 39 No. 2, pp. 593-601.  
41  
42  
43

44 Rebotier J., Pigeon P., Metzger P. (2019). “Returning social context to seismic risk  
45 knowledge & management. Lessons learned from an interdisciplinary research in the city of  
46 Esmeraldas, Ecuador”, *Cybergeo: European Journal of Geography*, 886,  
47 <http://journals.openedition.org/cybergeo/31787>  
48  
49  
50  
51

52 Sevilla, E., Jarrín, M. J., Barragán, K., Jáuregui, P., Sabag, C., Dupeyron, A., ... & Narváez,  
53 P. (2023). “Envisioning the future by learning from the past: Arts and humanities in  
54 interdisciplinary tools for promoting a culture of risk”, *International Journal of Disaster Risk*  
55 *Reduction*, Vol. 92, 103712.  
56  
57  
58  
59  
60

1  
2  
3 Snijder, M., Steege, R., Callander, M., Wahome, M., Rahman, M. F., Apgar, M., ... & Ateles,  
4 J. (2023). "How are research for development programmes implementing and evaluating  
5 equitable partnerships to address power asymmetries?", *The European Journal of*  
6 *Development Research*, Vol. 35 No. 2, pp. 351-379.  
7  
8  
9

10  
11 Sutley, E. J. (2021). "An Approach for Guiding the Development and Assessing the  
12 Interdisciplinarity of New Methodologies for Community Disaster Resilience", *Risk Analysis*.  
13 Vol. 41 No. 7, pp. 1066-1071.  
14  
15

16  
17 Uekusa, S. (2024). "A conceptual exploration of researcher positionality and critical  
18 reflexivity in disaster research through the lens of Bourdieu", *Disaster Prevention and*  
19 *Management: An International Journal*.  
20  
21

22  
23 Wilkinson, S. (1988). "The role of reflexivity in feminist psychology", *Women's Studies*  
24 *International Forum*, Vol. 11 No. 5, pp. 493-502.  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60



Figure 1: Some of the shared pictures and images.

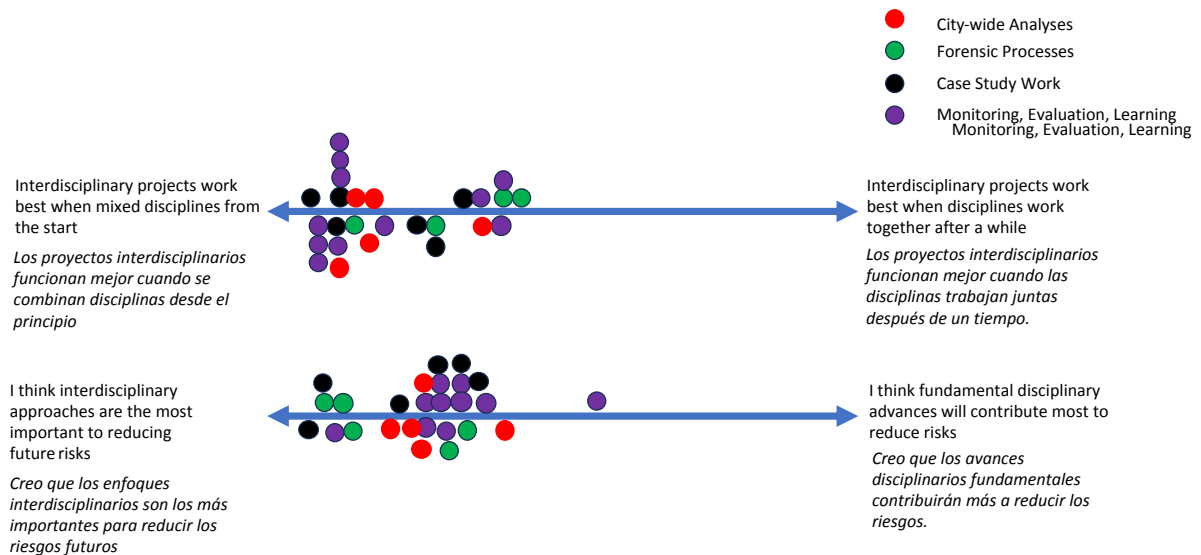


Figure 2: Motivations and thoughts about interdisciplinarity. The colour identifies the broad research area each member was assigned within the Quito Team workplan, and these groupings were composed of researchers from different disciplinary backgrounds.

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60



Figure 3: Word-clouds of risk definitions emerging from the homework, in English (left) and Spanish (right).

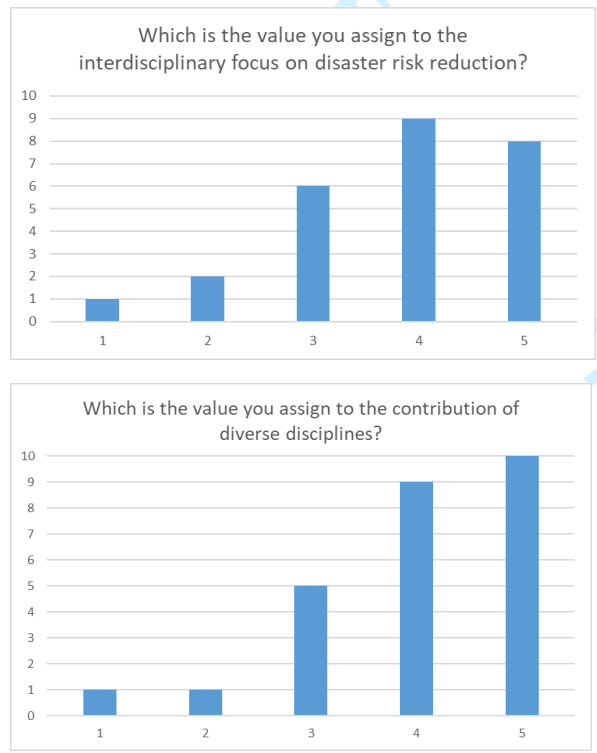


Figure 4: Scores from 1 (I value a lot less) to 5 (I value a lot more) assigned by team members about how much they valued the interdisciplinary focus on DRR (above) and the contribution of diverse disciplines (below) in comparison with past months (n=26).



Meetings	Dates	Goals
Introductory Meeting 1 and Meeting 2	March-April 2020	<ul style="list-style-type: none"> <li>• Introducing and knowing each other</li> <li>• Exploring team potential</li> <li>• Recognizing diversity</li> <li>• Exploring options for pandemic adaptation</li> </ul>
Discussion Group 1: Diverse Interpretation of DRR Concepts <ul style="list-style-type: none"> <li>• <i>S1: Disaster risk terminology</i></li> <li>• <i>S2: Multi-hazard</i></li> <li>• <i>S3: Exposure</i></li> <li>• <i>S4: Vulnerability</i></li> <li>• <i>S5: Urban risk</i></li> </ul>	May-June 2020	<ul style="list-style-type: none"> <li>• Exploring how we can 'meet' along different lines of key DRR concepts and terminology to promote team collaboration</li> </ul>
Discussion Group 2: Historical Approaches for DRR <ul style="list-style-type: none"> <li>• <i>S1: Public History</i></li> <li>• <i>S2: Risk memories</i></li> <li>• <i>S3: Risk communication</i></li> </ul>	June-July 2020	<ul style="list-style-type: none"> <li>• Exploring methodologies, challenges and opportunities of history for studying and communicating disaster-related knowledge</li> </ul>
Discussion Group 3: Participation Methodologies for Interdisciplinary Research Innovation and Impact <ul style="list-style-type: none"> <li>• <i>S1: Citizen Science</i></li> <li>• <i>S2: Interdisciplinary Methods</i></li> <li>• <i>S3: Participatory Methods for Interdisciplinary Research</i></li> </ul>	August 2020	<ul style="list-style-type: none"> <li>• Exploring citizen science methodologies to work with community members who participate in scientific data production and gathering</li> <li>• Exploring interdisciplinary and participatory methodologies for knowledge co-creation</li> </ul>
Seminar series <ul style="list-style-type: none"> <li>• <i>S1: Urban growth in Quito</i></li> <li>• <i>S2: Risk governance in Ecuador</i></li> <li>• <i>S3: Volcanic hazards analysis</i></li> <li>• <i>S4: Applied risk anthropology</i></li> <li>• <i>S5: Political ecology</i></li> </ul>	May-July 2020	<ul style="list-style-type: none"> <li>• Presenting topics of interest for the project based on researchers' expertise and skills</li> </ul>
Review and Learning Workshop 1	September 2020	<ul style="list-style-type: none"> <li>• Reflecting on the interdisciplinary path, the research process, and its lessons, with a focus on the new generated knowledge</li> </ul>
Review and Learning Workshop 2	September 2020	<ul style="list-style-type: none"> <li>• Reflecting on the interdisciplinary path, the research process, and its lessons, with a focus on impacts</li> <li>• Reflecting on the reflexive journey and its lessons</li> </ul>
Quito Risk College Meetings 1, 2 and 3	March 2021	<ul style="list-style-type: none"> <li>• Integrating the Quito Team's work with other project's case cities</li> <li>• Establishing baselines to support the integration of case cities for moving the project in the Phase 2</li> <li>• Identifying how and where Quito Team Phase 1 informs its development in Phase 2</li> </ul>
Final Quito Team Meeting	July 2021	<ul style="list-style-type: none"> <li>• Concluding Phase 1</li> <li>• Wrapping up our experiences</li> </ul>

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60

Other meetings (smaller groups meetings; informal meetings; meetings with stakeholders)	March 2020 - March 2021	<ul style="list-style-type: none"> <li>• Discussing and organizing smaller group activities</li> <li>• Meeting stakeholders around project activities</li> </ul>
---	-------------------------	--

Table 1: The meetings of the reflexive journey of the Quito Team.

Disaster Prevention and Management