

Global Resilience Challenge Solution Statement

Disability and Disasters: Empowering people and building resilience to risk



15 July 2015

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1 Project tile and team members

Title: Disability and Disasters: Empowering people and building resilience to risk

Region: South-East Asia with a focus on Thailand, Philippines and Cambodia

Lead Organization: University of Sydney, Australia

Team members: Listed in Table 1 below

Table 1: List of team members

Team Role	Name	Title	Organization	Email
Team Lead	Emma Calgaro	Dr	University of Sydney	emma.calgaro@sydney.edu.au
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Thailand in-country Team Lead	Parichatt Krongkant	Dr	KPC Consultant Co. Ltd	pkrongkant@gmail.com
Philippines in-country Team Lead for Deaf Community Project	Nick Craig	Mr	Craigs Consultants International (CCI)	mrnickcraig@gmail.com craigsconsultants@gmail.com
Collaborating Philippines Partner for Deaf Community Project	John Paul Ecarma Maunes	Mr	Philippine Accessible Deaf Services (PADS)	jp@gvspvolunteers.org
Philippines in-country Team Lead for DiDRR Mainstreaming Project	Jerome Zayas	Mr	Inclusive Development and Empowerment Agenda (IDEA)	jeromebzayas@ideaforall.org
Cambodia in-country Team Lead	Alexandra Gartrell	Dr	Monash University	Alexandra.gartrell@monash.edu
Collaborating Cambodia Partner	Ngin Saroath	Mr	Cambodian Disabled People's Organization (CDPO)	Director@cdpo.org

2 Innovation and Impact Pathway

2.1 Solution Statement and Theory of Change

The Problem this project will address: People with disabilities (PWDs) are unseen, unheard & unaccounted for in Disaster Risk Reduction (DRR) [1]. This affects 650 Million people who have disabilities in South East Asia alone.

The Causes ([click here for video link for overview](#))

- *PWDs are amongst the poorest in society* and are subject to disempowering stigmas, discrimination and marginalization that perpetuate existing cultural norms and beliefs [2];
- *Women and girls with disabilities are at greater risk* of violence, physical abuse and sexual exploitation after disasters due to displacement and unsafe shelters and public spaces [3-5];
- *The physical and social isolation of PWDs hampers participation in everyday life* - encouraging passivity and them being seen as *objects of care*, limiting access to education, social networks and risk knowledge [1, 6];
- *There is little empirical evidence on the challenges PWDs face when responding to hazards and disasters* [7];
- *The Sendai Framework for Disaster Risk Reduction (2015-2030) mandates stronger inclusion of PWDs in DRR.* Yet pathways to achieving these new targets and their feasibility remain unclear and fragmented due to a lack of disaggregated data on PWD needs, an ongoing disconnect between DRR policies and practices and disability rights-based laws and a lack of robust guidelines on how to mainstream disability-inclusive DRR (DiDRR) [8-12];
- *DRR stakeholders have little knowledge on how to support DiDRR and lack the skills and capacity* needed to mainstream DiDRR and measure DiDRR achievements and there are few platforms to link DRR stakeholders with those who have the skills and knowledge they lack – specifically, Disabled Peoples Organizations (DPOs) and PWDs themselves [8, 13-16].

Our 10-year vision: *Inclusion to be at the center of DRR and disaster responses in SE Asia for the benefit of all.*

Inclusion and DiDRR is a human right - disability is not a medical or charity issue [17, 18]. This requires shifts in DRR *strategy* and *practice*. First, PWDs and DPOs must be actively included at all stages of DRR from inception to delivery to ensure that DRR plans and practice are tailored to specific requirements and honor the principles of universal design [12]. DiDRR demands full integration - disability can no longer be an “add on” to existing DRR approaches. Second, it requires the empowerment of PWDs and DPOs. ***Our goal is to strengthen the voices of PWDs in SE Asia (focusing on Thailand, Cambodia and the Philippines) and provide them with the institutional and social support needed to respond effectively to hazards and disasters and to be champions of resilience and change.***

Taking a systems approach, we will create change via three interconnected pathways: Placing PWDs at the center of DRR requires a systems approach. Systems approaches demand multiple solutions that simultaneously engage with the interlinked components of the coupled human-environment system that drive vulnerability and resilience [19, 20]. Focusing on individual components of the system in isolation does not lead to fundamental shifts and often results in inappropriate or ineffective resilience-building practices [21, 22]. We will affect three changes:

1. **Knowledge & skills:** We will create a knowledge-base on the challenges and needs PWDs have when responding to risk that next users can use to underpin effective resilience-building strategies; engage PWDs, their households and DPOs as co-producers of risk solutions and share the new knowledge in accessible formats; and develop innovative training methods and toolkits to (i) empower PWDs and DPOs to increase their resilience to risk based on solutions identified by them, (ii) demonstrate how to be strong community champions, and (iii) train DRR stakeholders on the needs of PWDs and how best to support them in partnership with DPOs;
2. **Attitudes & belief systems:** Using workshops and training exercises, we will: (i) work with PWDs and DPOs to build trust and self-belief among PWDs, empowering them to see themselves as active participants of change and resilience in their own lives (instead of passive recipients of help and charity); and (ii) encourage direct interactions between PWDs, DPOs and DRR stakeholders to facilitate a change in the way DRR stakeholders perceive and engage with PWDs (from ‘stigmatized’ to ‘capable actors’);
3. **Inclusive governance:** Create supportive spaces and mechanisms where PWDs feel empowered to express their challenges, aspirations and needs; examine and improve linkages between DRR stakeholders, DPOs and PWDs (via trainings and multi-stakeholder advisory committees) to create more supportive governance processes that can better facilitate DiDRR; and provide DPOs and DRR organizations with indicators to measure how inclusive DRR plans are.

Together, these actions and processes will create the foundations needed to support effective and durable DiDRR and will provide a model of best practice for other countries in SE Asia and beyond to follow and adapt.

2.2 Impact Pathway Diagram

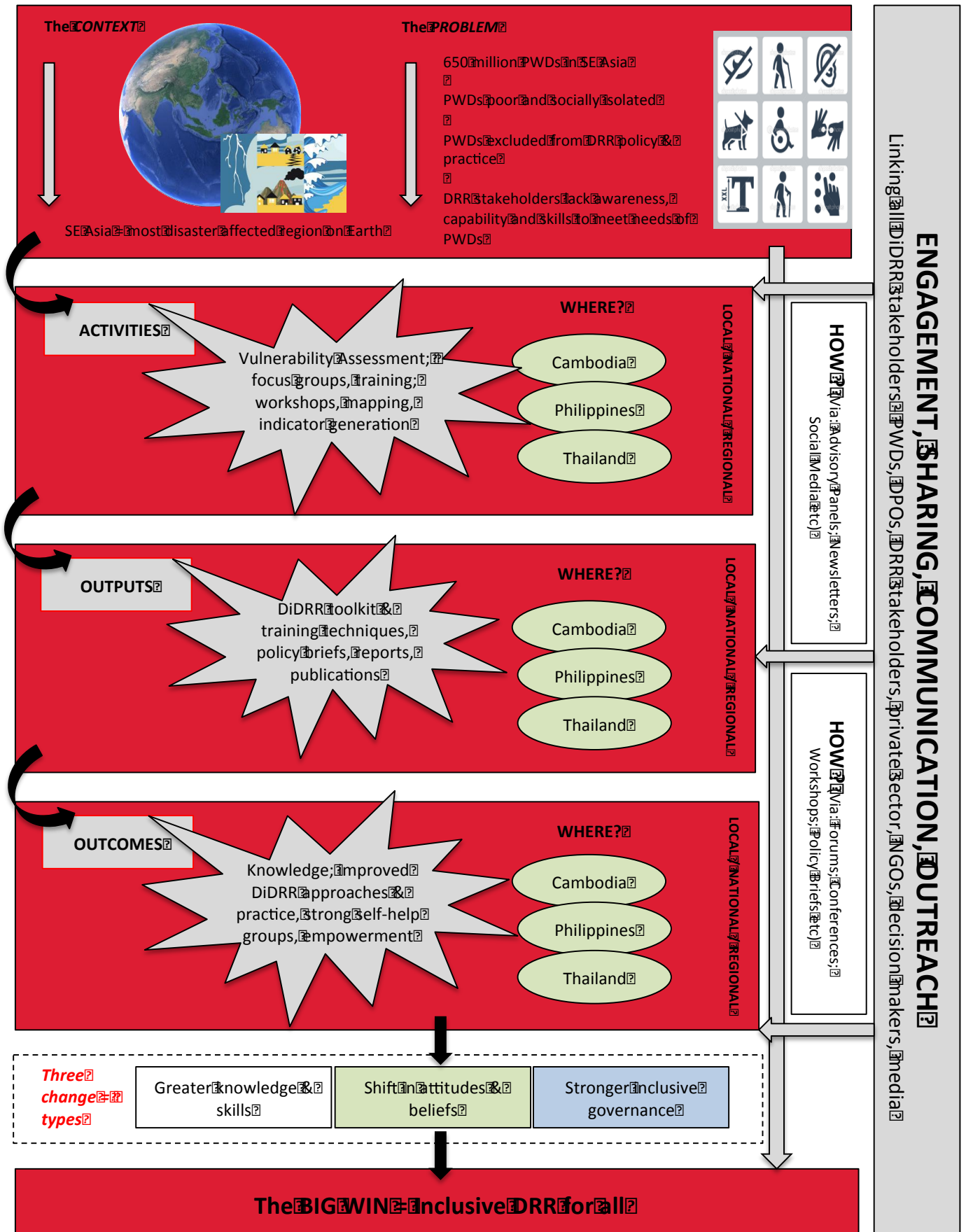


Figure 1: Impact Pathway for achieving inclusive DRR

2.3 Innovation and Impact

Our project demonstrates three innovations

1. **We are disability inclusive:** From the start, *PWDs are the centerpiece of our approach*. Disaster resilient communities cannot become a reality without full inclusivity of PWDs who are among the poorest and most vulnerable to natural hazard risk. First, our inclusion of team members that have disabilities (two Deaf people and one with mobility limitations) and a DPO (CDPO in Cambodia), harnesses cultural relevance and expertise (insights that fully-able people cannot understand), empowers PWDs by providing them with the opportunity and knowledge to be DiDRR champions and builds further capacity. Second, our capacity-building activities (via training workshops and multi-stakeholder advisory committees consisting of next users (i.e. PWDs, DPOs, key DRR stakeholders and academics who are DRR and disability specialists) will not only enable the co-creation of grounded DiDRR solutions, but will also facilitate greater ownership by next users and create DiDRR champions, trainers, advocates, allies and educators that promote durability beyond the project's funding period.
2. **We take a systems approach:** We aim to achieve a fundamental shift in how DRR is conceptualised and operationalized via policy and practice to ensure that DRR is inclusive. Focusing on one aspect of the system will not bring about the whole-system change required. Consequently, we simultaneously focus on achieving three types of change in the below areas through multiple and complimentary activities and actions:
 - i. Increase knowledge & skills;
 - ii. Foster changes in attitudes and beliefs - from passive receivers of charity to knowledgeable champions; and
 - iii. Facilitate inclusive governance processes that support DiDRR.
3. **We demonstrate DiDRR best practice:** We will not only develop a DiDRR toolkit in collaboration with next users (to ensure relevance, effectiveness and sustained impact beyond the two years of project funding) but we will also demonstrate *how* to do DiDRR in practice by testing and refining the toolkit and methods with next users throughout the project. This will provide DRR and disability next users with working examples of DiDRR in action and will ensure the participation of PWDs in planning, implementation and evaluation phases of DRR.

We will maximize impact for inclusive DRR via four complimentary pathways:

1. Focusing on three countries with different socio-political and developmental contexts increases impact in three ways. First, it creates a broader knowledge-base on the natural hazard-related challenges PWDs face and offers multiple examples of DiDRR successes and failures that next users across the world can use to create more effective DiDRR practices. Second, our focus on different disability types - deaf people, those with visual impairments, those with mobility limitations and women with disabilities - will enable us to develop a DiDRR toolkit that pairs general good practice applicable to all disabilities with disability-specific content. This will create an evidence-based, comprehensive and highly transferrable DiDRR toolkit (output) that can be easily shared and adapted by multiple next users within and beyond SE Asia to suit different circumstances. Third, the development of standardized indicators that DPOs and DRR stakeholders can use to measure how inclusive DRR plans are is a universal output that can be applied to all organizations and contexts.
2. We will include next users - PWDs, DPOs (e.g. CBM and CDPO), major DRR stakeholders with local, regional and international reach (e.g. Australian Red Cross and UNISDR), and DiDRR academic specialists - from the project's inception. This inclusive process ensures the relevance of our outputs and facilitates greater next user ownership and buy-in across all scales (local, national, regional and international). We will do this by creating two levels of advisory committees to inform and steer our project: (i) an overarching Strategic Advisory Committee comprised of international DRR stakeholders (e.g. Australian Red Cross, Plan International) DPOs (e.g. World Federation of the Deaf, International Deaf Emergency, CBM), and DiDRR academic specialists (e.g. University of Sydney and University College London) and four in-country advisory committees that draw from localized DRR and disability stakeholders (including government representatives) and civil society (including the media and private sector where applicable).
3. We will extend the impact and reach of our work (up-scaling our impacts) by leveraging and mobilizing the established and wide-reaching networks of our next users to: (i) widely disseminate information on the natural hazard-related challenges PWDs face and DiDRR best practice; and (ii) promote the distribution and use of our products (our DiDRR toolkit and standardized Inclusive Resilience Scorecard) in different locations and contexts.
4. Capitalizing on our team's existing media connections, we will collaborate with the media to disseminate information on how PWDs can best prepare for future hazards and raise DiDRR awareness. We will also explore how to best use social media (Facebook and text messaging) to widely disseminate DRR preparedness advice to PWDs.

2.4 Outcomes

We seek to bring about simultaneous change in three key areas: 1) Increasing the knowledge and skills of PWDs, DPOs, and DRR stakeholders; 2) Changing attitudes and negative stereotypes towards PWDs by empowering them to become active agents of change; and 3) Strengthening inclusive governance. This will help achieve inclusive DRR for all (this includes PWDs and women) and increase community resilience to future disasters. The key outcomes our project will achieve in order to bring about change in these three areas are summarised in Box 1.

Box 1: Key outcomes classified by change type

Greater knowledge and skills

- Improved empirical knowledge-base on the challenges PWDs face in responding to natural hazards and disasters, their needs and the resilience-building strategies they find most effective - this can be used by DRR stakeholders and DPOs to co-design effective resilience building strategies;
- Greater awareness and capacity of DRR stakeholders and DPOs at multiple levels to support PWDs to respond to natural hazards and disasters;
- The production of natural hazard risk and disaster response information that is made available to people with a range of different disabilities in accessible formats (e.g. braille and audio material for the Blind; sign language videos for the Deaf);
- PWDs gain a better understanding of natural hazard risk and more knowledge on the resources they need to better respond to hazards and know how to access those resources; and
- DRR stakeholders are sensitive to inclusion and gender and are equipped with the knowledge and skills needed support PWDs in their activities.

Shifts in attitudes in beliefs

- PWDs are empowered with the DiDRR knowledge, skills and confidence needed to directly participate in DRR activities and are recognized as active agents of change within their communities and by DRR stakeholders;
- PWDs are confident in voicing their needs before, during and after disaster to DRR stakeholders, DPOs and their communities;
- Disabled DRR trainers and champions engage in DiDRR advocacy with the support of DPOs; and
- DiDRR champions take ownership of DiDRR and advocate for inclusion and resources from DPOs and DRR stakeholders.

Stronger inclusive governance

- Strengthened DiDRR networks and improved institutional coordination for DiDRR activities among DRR stakeholders, DPOs and local and national governments;
- Improved cross-country knowledge sharing and mutual learning on DiDRR for DRR stakeholders, DPOs and governments through the Strategic Advisory Committee;
- Increased trust and engagement between DRR stakeholders, DPOs, PWDs, governments and local communities through greater number of joint activities;
- DPOs and DRR stakeholders co-develop and co-implement DiDRR to make activities more inclusive; and
- Strengthened partnerships between women's representative organizations (e.g. through the in-country Advisory Committee), DPOs and DRR stakeholders that support gender-sensitive DiDRR for truly inclusive DiDRR.

2.5 Next Users and Use

Next users in DiDRR in Thailand, Cambodia and the Philippines: Inclusive DRR requires [12]: (i) active engagement and collaboration by all society members i.e. PWDs, DPOs, local stakeholders, government, civil society (including the media and the private sector) and multiple sources of expertise in DRR, DiDRR, community-based resilience-building techniques and community engagement (particularly with PWDs) at the local, national and regional level; and (ii) access to strong, trusted networks that have the potential to reach a broad spectrum of people and experiences in focal countries. Our team includes some of these next users:

- **Cambodia:** *CDPO* is the overarching DPO for Cambodia and has the reach, knowledge and networks required to support our vision in the Cambodian context. *Monash University* (via Dr Gartrell) adds research expertise in gender-specific community engagement and disabilities in Cambodia and works closely with CDPO;
- **Philippines:** *PADS* have experience working on disability (particularly Deaf) issues in the Philippines and have recently established the Deaf Disaster Assistance Team-DRR (DDAT-DRR). *IDEA* (via Jerome Zayas) has a decade of advocacy experience working on disability-inclusive initiatives in the region (in DiDRR and health);
- **Thailand:** *KPC Consultant Co. Ltd* (via Dr Krongkant) is one of the key instigators of DiDRR activities in Thailand and has reach to key DRR actors (including the national government), DPOs and PWDs; and
- **Regional DRR expertise:** *SEI-Asia* has supported DRR research, policy engagement and capacity building in the region for 10 years and will work closely with in-country partners and the Team Lead to inform research and capacity building activities.

Our team will use this solid foundation of connectivity and experience to engage and encourage buy-in with a broad spectrum of next users that will gain direct benefit from our project. These next users are mapped out in Figure 5 (Stakeholder Map) located in Appendix 1.

Evidence of demand for the project outputs: International non-governmental organizations working in DRR (Plan Norway and the Australian Red Cross), DPOs (World Federation of the Deaf, International Deaf Emergency, CBM) and academic institutions (University of Sydney and University College London) have expressed strong interest in our project and its outputs.

Incentives and barriers for next users in using our outputs

Incentive 1: The Sendai Framework for DRR advocates for inclusive DRR policies. Whilst non-binding, this Framework does give legitimacy to the push for DiDRR and can be used to influence policy decisions. Thailand, Cambodia and the Philippines are also signatories of the UN Convention on the Rights of Persons with Disabilities (UN CRPD), which states that signatories must ensure the protection and safety of PWDs in emergency and disaster situations and provide equal access to resources and assistance for all (Articles 9 and 11) [18].

Barrier 1: Despite demand for inclusive DRR, many DRR stakeholders do not know *how* to do DiDRR and lack the knowledge or skills needed to effectively support PWDs. **Solution:** Firstly, we will provide these stakeholders with clear tools - DiDRR toolkit and clear training methods that bring PWDs and DRR stakeholders together in the same training session - to give them an easy step-by-step guide on how to do DiDRR and verse DRR stakeholders in what PWDs need to better respond to natural hazards. Secondly, we will develop and test these tools in partnership with DRR stakeholders to ensure their relevance. This will facilitate greater DRR stakeholder ownership and buy-in of both the process of DiDRR (which we will be demonstrating as we work with them) and the tools (products) we will collaboratively produce and hand over to them at the end of the project. This process of co-development and co-production of tools will also create an incentive for them to use the tools that they themselves have helped to create.

Barrier 2: There are few platforms to link DRR stakeholders with those who have the skills and knowledge they lack, namely DPOs and PWDs themselves. **Solution:** Our training techniques will create a platform for PWDs, DPOs and DRR stakeholders to learn from each other. PWDs and DPOs will learn what they need to do to better respond to natural hazards and where to access the help they need from DRR stakeholders. DRR stakeholders will learn from PWDs what PWDs need from them in terms of support and the forms this support should take to ensure greatest accessibility. This will also create a platform for developing stronger linkages between DPOs and DRR stakeholders (as support providers) and the people they assist (PWDs).



Figure 2: Stakeholder map

Barrier 3: PWDs and DPOs don't always grasp DRR concepts and may show initial reluctance. **Solution:** We will include sessions in our PWD/DPO-focused training on: (i) what natural hazards are and the types of natural hazards that can affect them in their area; (ii) what DRR is; and (iii) the steps they and those in their households need to take to respond effectively to future natural hazards. DPOs will also be instructed on how best to support PWDs and how to partner effectively with DRR organizations.

Barrier 4: DRR stakeholders lack the skills needed to mainstream DiDRR and measure DiDRR achievements.

Solution: We will develop a set of standardized indicators that DPOs and DRR organizations can use to measure how inclusive their DRR plans are. This will be done in consultation with DPOs and DRR organizations (next users).

Barrier 5: There is a high turnover in government staff and political appointments. This can mean that government officials advocating for disability and DRR may leave their positions before changes are realized. This is one aspect that is out of our control. However, we will raise this issue and work with government officials to explore solutions that help ensure that the expertise in government channels is not lost.

Capacity needed for next users to understand and effectively apply the project outputs

As stated above, PWDs, DPOs and DRR stakeholders face challenges in understanding key concepts and lack the skills and capacity needed to *do DiDRR* - to make DiDRR a lived reality. However, our highly inclusive three-pronged approach - increasing knowledge and skills, changing attitudes and beliefs, and facilitating inclusive governance via training and stakeholder engagement activities - will provide them with this capacity.

Our approach in ensuring equitable outcomes for all, including women

The concept and practice of inclusive DRR benefits everyone, including PWDs and women. It is a cross-cutting concept. Consequently, all the activities we are proposing in our Solutions Statement are designed to benefit women and PWDs who are amongst the poorest and most vulnerable to natural hazard risk.

Strategies and activities to maximise the use of our outputs

Our approach is highly inclusionary and requires active engagement and collaboration between PWDs, DPOs, DRR stakeholders, local partners, government, civil society (including the media and the private sector) and specialists in DRR, DiDRR, community-based resilience-building techniques and community engagement (particularly with PWDs) at the local, national and regional level. To achieve immediate buy-in and greater ownership of the DiDRR process, we will set up two levels of advisory committees at the outset of the project:

1. The Strategic Advisory Committee will comprise representatives from high-level DRR organizations (e.g. Plan Norway, the Australian Red Cross, UNISDR) and DPOs (e.g. World Federation of the Deaf, International Deaf Emergency, CBM) operating at the regional and international level, and academic specialists in DRR and Disability (University College London, University of Sydney); and
2. In-country Advisory Committees for each in-country project (two in the Philippines and one in Thailand and Cambodia respectively) made up of representatives from DPOs, DRR stakeholders, local partners, government, civil society (including the media and the private sector) and DiDRR specialists.

Together, these advisory committees will work with our Management and in-country teams to:

- a. Ensure that our activities and outputs are relevant to them as next users;
- b. Contribute to the co-production of our outputs (e.g. knowledge, DiDRR training materials, methods and techniques, the development of DiDRR indicators); and
- c. Help share and disseminate information and techniques on *how to do DiDRR* on the ground and distribute our outputs by mobilizing their wide-reaching networks at the international, regional and local levels.

Close engagement with our next users via these committees will promote maximum next user buy-in and ownership from the outset. These advisory committees will also be a key component of our communication plan. This form of communication engagement will also be supplemented by social media activity (where appropriate) and publications (in various forms) to extend our reach and impact.

2.6 Outputs

To reach the desired outcomes, this project will undertake country- and context-specific activities, resulting in both general (spanning all countries) and case-specific outputs. To achieve maximum impact and visibility for the main stakeholders in DiDRR, two types of project outputs will be produced for specific target audiences:

1. Information, Education & Communication (IEC) materials

IEC materials aim to provide directly “usable” information and knowledge to the target audience in a clear, easy-to-understand and accessible format. This includes outputs such as training modules, factsheets, leaflets, and audiovisual material. The next users of our project that IEC materials are largely intended for include PWDs, DPOs, organizations working on DRR, local governments and other civil society organizations.

2. Research/policy outputs

Research and policy outputs are meant to provide insights on DiDRR to governments and key disability and DRR stakeholders at the local, national and international levels with the aim of influencing policy and practice. These outputs include policy briefs, reports, publications, guidelines and indicators. The next users of our project that research and policy outputs are largely intended for include local and national governments, disability and DRR-focused government agencies, UN agencies, INGOs (e.g. Australian Red Cross, CBM, Plan), researchers and academics.

Examples of outputs this project will produce are listed in Box 2.

Box 2: Key outputs categorized by type

IEC materials	Research/policy outputs
<ul style="list-style-type: none"> • DiDRR Training materials for PWDs, DPOs and DRR stakeholders • A “disaster knowledge” package for PWDs • DiDRR brochures, posters for DPOs • Portfolio of accessible learning materials for different disability sub-groups 	<ul style="list-style-type: none"> • Policy briefs • Vulnerability assessment reports • DiDRR implementation guidelines • Academic journal articles

2.7 Research Questions and Methodologies

The main objectives of this project are to:

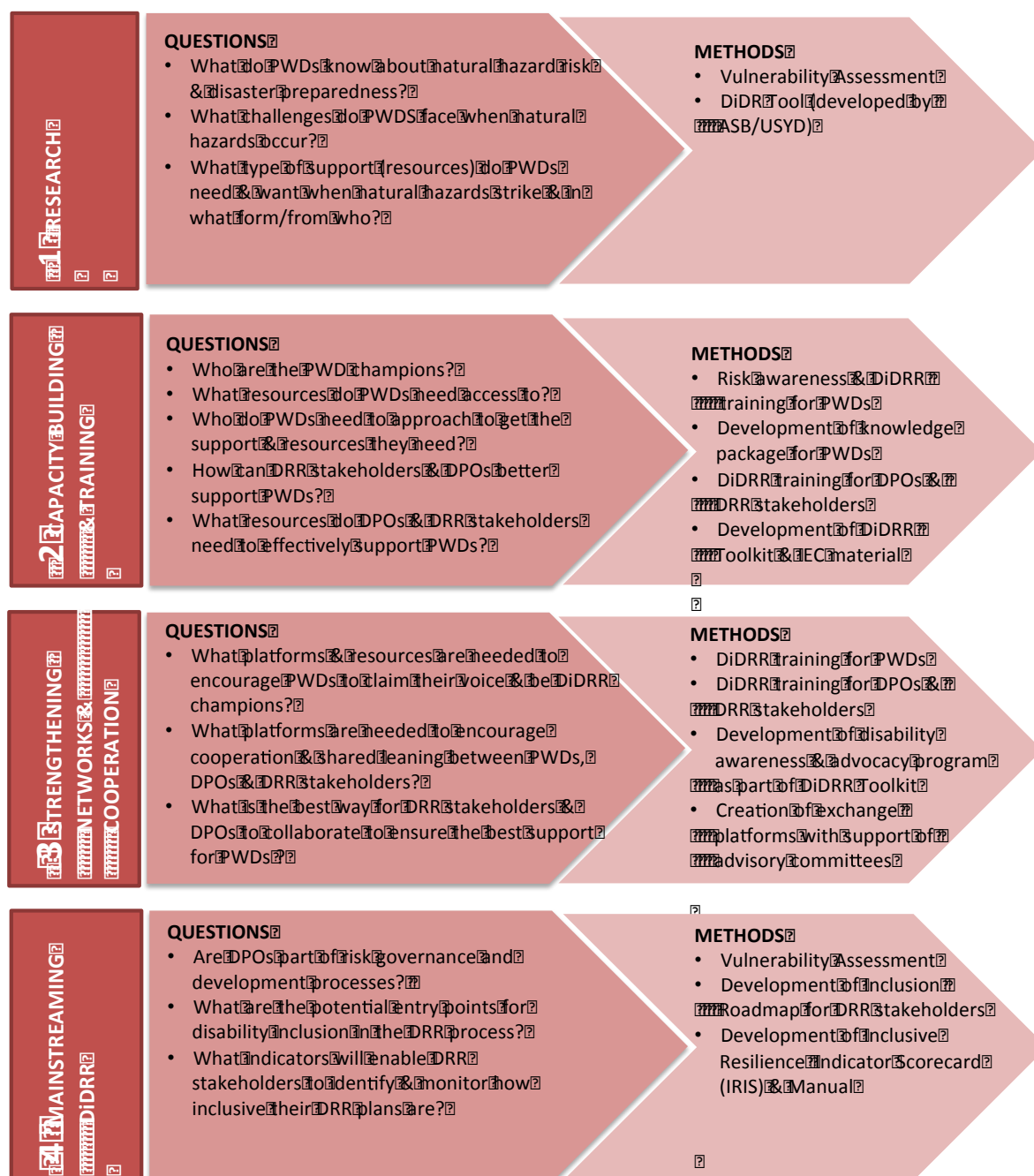
- Examine the challenges PWDs face in responding to disasters and risk in Thailand, the Philippines and Cambodia;
- Develop solid platforms for empowerment, inclusion and positive transformation in DiDRR; and
- Identify solutions to mainstream DiDRR planning and action.

To achieve these objectives and inclusive DRR, three types of change are needed: (i) increased knowledge and skills; (ii) changes in attitudes and beliefs; and (iii) strengthening inclusive governance. To achieve change in each of these areas, we have created a research design comprising of four complimentary components.

- Research component (for knowledge and skills);
- A capacity building/training component (for knowledge and skills plus changes in attitudes and beliefs);
- Networks and collaboration component (for changing attitudes and beliefs plus strengthening governance);
- DiDRR mainstreaming component (for strengthening inclusive governance).

The four components and the corresponding research questions and methods that will be used are presented in Figure 4.

Figure 3: Overview of the research design



3 Achieving the Resilience Challenge

3.1 Gender and Equity

Inclusion and DiDRR is a human right. A human-rights approach to DRR is therefore needed. As a concept, inclusive DRR is also all encompassing; it demands equity for all. This includes the poorest and the most vulnerable, such as PWDs and women [12]. Gender and equity lie at the heart of this approach. By championing DiDRR, our project is also honouring and championing gender and equity. We will do this in two ways:

1. Women (generally) and women with disabilities (specifically) form the core of our team. For example, our Team Lead, Dr. Emma Calgaro, is a female early career researcher (defined as a researcher who is within 5 years of finishing their PhD) who has expertise in vulnerability, resilience, DRR and DiDRR. Our Alternate Lead, Leilani Craig, is a culturally-Deaf women who has expertise in advocacy, education and professional and community outreach for Deaf Communities. Empowering women and PWDs to publicly lead and promote gender equitable and universally accessible response, recovery, rehabilitation and reconstruction approaches is key [12].
2. Our project will address equity and gender concerns in two ways:
 - a. Our project's focus on inclusion naturally promotes equity for all (including PWDs and women). Consequently, all in-country projects will incorporate the needs of both PWDs and women. We will also include at least one women's rights organization on each of the in-country advisory committees to ensure that gender concerns are addressed throughout the duration of the project;
 - b. We also recognize that women with disabilities are among the most vulnerable to natural hazard risk in SE Asia. Women and girls with disabilities are often at greater risk, both within and outside the home [18]. After a disaster, women with disabilities are at higher risk of violence, physical abuse, and sexual exploitation over and above the heightened risk they already face [3, 4]. Women with disabilities may find public spaces (including emergency shelters) unsafe and intimidating [5]. Furthermore, greater numbers of women are classified as disabled and poverty rates for women are higher, compounding their vulnerability [5]. Multilateral and bilateral agencies have advanced inclusive development frameworks but disabled women are poorly included and continue to be the most vulnerable to entrenched disability poverty, violence, stigmatization and exclusion [23, 24]. Effective pathways to address these issues are still missing despite increased global attention on disability inclusion and there is very little information or evidence of effective programs that promote disabled women's poverty alleviation and resilience [25, 26]. Consequently, we have chosen to focus our Cambodian work solely on women with disabilities. This in-country project will explore the gender-specific dimensions of disability and how these are heightened during disasters. We will examine how socio-cultural, institutional and other contextual stakeholders shape the risk and resilience of women with disabilities. We will identify the sources of support (both formal and informal) that women with disabilities consider most effective to reduce their risk and increase their resilience to disasters and will uncover the institutional conditions required to effectively support women with disabilities' risk reduction, resilience and pathways out of poverty in particular contexts.

By doing this, we are placing gender and equity concerns at the forefront of our approach.

3.2 Resilience

Our project will build resilience to natural hazard risk for PWDs who are amongst the poorest and most vulnerable. This requires a fundamental shift in the way DRR is conceptualised and practiced; it requires the adoption of inclusive DRR that benefits all. To achieve this, we will adopt an inclusive systems approach that simultaneously targets change in the three interconnected areas:

1. Knowledge and skills;
2. Attitudes and beliefs; and
3. Inclusive governance processes that support DiDRR.

The multiple activities and actions that we will use to bring about change in these three areas will:

- Provide PWDS with the knowledge, skills and self-belief needed to become active leaders (champions) in advocating for equal access to the resources they need to better cope with and respond to natural hazards;

- Provide DPO and DRR stakeholders with knowledge on the challenge PWDS face in responding to hazards and their subsequent needs. This knowledge can be used by these next users to design appropriate and targeted risk reduction and resilience building strategies;
- Provide DPOs and DRR stakeholders with the knowledge and connections (i.e. help develop strong working relationship between each other and other civil society actors in the private sector and media) needed to best support PWDs when natural hazards strike;
- Create platforms for shared learning and engagement between the main actors in DiDRR (PWDs, DPOs and DRR stakeholders), enable the co-creation of grounded DiDRR solutions and ensure the participation of PWDs in planning, implementation and evaluation phases of DRR; and
- Foster maximum DiDRR buy-in and ownership from next users.

Together, these actions and processes will create more disaster resilient communities for the benefit of all.

By taking this three-pronged systems-approach, we are also ensuring alignment with three guiding frameworks: the Global Resilience Partnership's approach to building resilience; the Sendai Framework for Disaster Risk Reduction 2015-2030 [12]; and the UN Convention on the Rights of Persons with Disability [18]. We are reducing vulnerabilities (via awareness raising and knowledge creation, capacity building and supporting equal access to needed resources), empowering PWDs and facilitating greater participation in DRR, strengthening disaster risk governance (via multiple engagement activities, identifying entry points for disability inclusion in existing systems and developing DiDRR indicators) and applying manifold approaches to bring about multiple yet complementary changes in the interlinked human-environment system.

3.3 Sustainability

The practice of effective DiDRR aims for sustainability and durability. Our three-pronged inclusionary approach (underpinned by systems thinking) will: (i) empower PWDs to become active champions of DiDRR and transformative change; and (ii) increase next user ownership of DiDRR practices and broad use of our DiDRR outputs (knowledge, DiDRR toolkits and techniques and DiDRR indicators). Together, this will facilitate greater sustainability for individuals with disabilities, DPOs, DRR stakeholders (including governments), local stakeholders, civil society (including the media and the private sector) and academics specializing in DRR, DiDRR, community-based resilience-building techniques and community engagement at the local, national and regional level. Specifically:

- **Individuals and communities** will be empowered by knowledge to become self-sufficient and therefore more resilient to disasters. Interventions and guidance from in-country project Team Leads will be phased out over the course of the project to allow partner organizations and DPOs to take greater ownership of DiDRR outcomes. At the community level, the in-country projects (with the exception of the Philippines DiDRR Mainstreaming Project) will support PWDs to formulate and take ownership of solutions aimed at increasing DiDRR sustainability in their own context via advocacy and greater engagement in DRR processes;
- **PWDs** will be seen as valued members of the community and worthy of inclusion - it is their human right. They will know when natural hazards strike and how to prepare to limit losses. They will be able to gain access to knowledge and useful information for preparedness and response. PWDs will have the knowledge, confidence, be able to participate meaningfully and equally in DRR processes - the starting point towards DiDRR;
- **DPOs and DRR stakeholders** will have the knowledge on how to *successfully do DiDRR and support best DiDRR practice*. DRR stakeholders will also have the tools, knowledge, skills and capacity needed to mainstream DiDRR into national disaster management systems. This outcome will improve and strengthen contingency planning and provisions for disaster preparedness and response, emergency relief and population evacuation to ensure the wellbeing for all, including PWDs and women.

4 Risk Management

4.1 Risk Matrix and Mitigation

Risk & probability	Consequence level	Measure to control risk
Project partners are unable to contribute to the activities within the allocated time frame, resulting in delays or non-completion of deliverables. Probability: Low	Medium	Partner sub-contracts will include a ToR of the expected work and timelines for deliverable will be set and agreed upon as will consequences for non-delivery. The Project Lead will monitor progress and maintain regular communication with all partners to ensure deliverables are completed on time. If a partner is unable to finish the allotted task, the Project Lead may renegotiate with other partners to take on additional tasks upon approval from GRP Challenge team
Local, regional and global stakeholders (conflicting priorities, entrenched charity model and passivity, political and economic factors) may reduce the interest, focus and engagement of stakeholders. Probability: Medium	Medium	We will allow for some flexibility in the project design to address emerging issues over the course of the program to ensure that the work will remain relevant. Including key stakeholders on our in-country and strategic advisory committees will also help facilitate ongoing dialogue and engagement as the project progresses to heighten relevance and stakeholder buy-in. Emphasis will also be placed on finding and empowering champions with disabilities in order to facilitate greater ownership and activism of PWD in DiDRR.
Political instability or natural hazards in case study countries may cause delays in data collection and activity implementation. Probability: Medium	Low	The Project Lead will change the locations of planned meetings or case studies if necessary. The in-country partners will discuss realistic timing and contingency plans to deal with possible risks based on their local knowledge and social capital in their country. That might include flexibility in work sites, workshop venues, and making use of electronic communications if necessary.
Money paid by the lead organization to sub-grantee is misused. Probability: Low	High	The University will use a central Financial Management System to track and account for all payments. Sub-contract terms with partners can be written in such a way that payments are made in instalments once milestones are completed to ensure compliance (as per standard legal clauses). The Team Lead will liaise with KPMG to ensure that we are complying with established strategies that ensure transparency and accountability.
Unforeseen changes in the work plan may result in line items specified in the proposal budget to change. Probability: High	Low	Any proposed changes in the budget will be communicated to the GRP and approval will be sought where needed (international travel) before any deviations are made.
Acquiring some supporting financial documents (e.g. receipts) is not realistic in some locations. Probability: High	Low	If receipts are not possible to obtain (normal for small amounts), the amount will be recorded in a notebook or claim-sheet.
Financial management practice in some partner organizations might require the withholding of original documents. Probability: Low	Medium	The project partners will discuss and agree on compliance with KPMG's financial policy and requirements at the start of the project. This will be shared with the Financial Manager in the School of Geosciences at the University of Sydney, who will be responsible for managing the budget in partnership with the Team Lead.
Unequal voice and participation of women and other marginalized sub-groups in the research and engagement activities. Probability: Medium	Medium	Local authorities and disability support organizations will be informed well in advance of the purpose, benefits and requirements for participation. We will ensure that the time, space and location of discussions/interviews are convenient for women and other marginalized groups to participate. We will include PWDs as meaningful participants and co-producers of knowledge and solutions. They offer cultural knowledge, lived experience, technical inputs and social capital in the form of networks with community members, DPOs, and government.
Project findings might be unwelcome by some stakeholders given that project activities may reveal negative aspects of policy and practice and challenge power systems. Probability: Medium	Low	We will develop a sound research and engagement methodology and confer with in-country partners and gatekeepers to navigate localised sensitivities.
Research findings might be challenged by contradictory empirical experiences elsewhere. Probability: Low	Low	We will develop a sound research methodology and triangulate methods and findings to ensure scientific rigour.

4.2 Social and Environmental Impact Assessment

Environmental and social safeguards lie at the heart of research and action on global environmental change. We do not foresee that our work will have any negative impacts on the physical environment. Our project focuses on the social sphere since natural hazards are the trigger event for destabilizing the system in question (a population or community). The population we are concerned with are PWDs, a group regarded as highly vulnerable to hazards and risk. For this reason, our safeguard measures will focus on the social sphere.

Ethical and social safeguards are central to responding to the humanitarian considerations and harmful effects of human actions and determining the fair distribution of responsibility for harm prevention [27]. Our research and resilience-building activities with PWDs may include participants who have experienced trauma from disasters or be subject to ongoing harm associated with risk. To ensure that we do no harm to participants, we will adhere to strict ethical standards set out by the University of Sydney's Research Integrity Office, who ensure that that all research is conducted in accordance with State and National Codes of Practice. These codes of practices include the Australian Code for the Responsible Conduct of Research and the National Statement on Ethical Conduct in Human Research. Specifically, we will:

- a. Respect the truth, rights and cultural sensitivities of our participants;
- b. Secure informed consent from participants and give them the choice of withdrawing consent at any time of the research process;
- c. Ensure that all team members are trained in conducting ethical research that respects people, their privacy, confidentiality and cultural sensitivities and minimises participant risk; and
- d. Take measures to ensure that project outputs are communicated according to the highest academic standards. This includes protecting the identity and privacy of informants where appropriate by using pseudonyms or generalized descriptors in written research outputs.

5 Team composition and expertise

The strengths and expertise of team members are listed below:

Dr Emma Calgaro: Emma has 10 years experience in DRR, vulnerability and climate change research with a strong regional focus on SE Asia, Australia and the South Pacific. Her research focuses on understanding the complex set of contextual and cultural factors that impede and/or improve resilience and vulnerability levels to risk. She also has a proven record in DRR research that focuses on improving DiDRR by identifying PWD needs and identifying solutions (in partnership with Deaf community members and emergency services) that empower Deaf people, boost their participation in DRR efforts and increase their resilience to hazards. Her strengths include: community-based DRR, community and cross-cultural stakeholder engagement, and project management on publically funded projects.

Leilani Craig: Leilani has 10 years of experience working in professional and community development for Deaf Communities. She has expertise in providing training and workshops for professionals and community members in the areas of Deaf education, interpreting, health and safety, and advocacy. She also has international experience in community outreach, fundraising/marketing, and building networks between Deaf Communities around the world. Recently, she has secured funding for the establishment of the first Deaf DRR Team in Cebu (based at PADS). This work will serve as a model for other regions of the Philippines to replicate. Leilani will also mobilize her networks in Thailand and the Philippines to harness support and participation in this project (in partnership with Nick Craig).

Dale Dominey-Howes: Dale has 20 years experience in leading research on the impacts of environmental changes and risks on natural and human systems, and the capacity of society to cope with and adapt to such changes. His multi-disciplinary research aims to strengthen theory, methods and tools for vulnerability and adaptation assessment and support policy development and practice with a focus on Southeast Asia and the Asia Pacific. He is an active contributor to several research and capacity building networks including the South East Asia Centre (University of Sydney), the Climate Change Alliance (Pacific), the Australian Institute of Australian Geographers, and National Study Group of Hazards, Risks and Disasters. He is also Chairman of the UNESCO – IOC Post Disaster Working Group.

Karlee Johnson: Karlee has extensive experience conducting research on context and culture-specific DRR in the Asia-Pacific region. Now based in Thailand, her research focuses on the underlying drivers of disaster risk and vulnerability in coastal communities throughout South and SE Asia. Her background in international development and humanitarian relief allows her to explore the linkages between equitable DRR and sustainable development through multi-disciplinary research. Her strengths include: community-based and culturally-sensitive DRR; program management; cross-cultural stakeholder engagement in the region; and issues relating to humanitarian aid interventions.

Parichatt Krongkant: Parichatt has 15 years experience in disaster management in SE Asia, with an emphasis on DiDRR, and community-based disaster risk management (CBDRM) (monitoring and evaluation, planning and policy development). She pioneered DiDRR training programs in Thailand, Vietnam, and the Philippines and has developed DiDRR and CBDRM training packages for DRR practitioners in Thailand. Organizations she has worked for include: JICA, UNDP, Asian Disaster Preparedness Center (ADPC), Asia-Pacific Injury Prevention Foundation (APIF) and the Thailand, Vietnamese and Philippines governments.

Nick Craig: Having a working background in community resilience and emergency preparedness in Australia and the Philippines (via PADS), Nick has expertise in providing Deaf Community workshops on DRR, partnering with local emergency services on meeting Deaf Community' DRR needs, and advocated for DiDRR. Whilst at PADS, Nick has spearheaded the establishment of the first Deaf DRR Team in Cebu (Deaf Disaster Assistance Team – Disaster Risk Reduction or DDAT-DRR), a DiDRR programme designed to have wide-reaching DRR benefits for the Filipino Deaf Community.

John Paul Maunes: John Paul is the co-founder of PADS (formerly GSVP), an NGO that brings local and international volunteers together to assist Filipino Deaf people become capable and confident citizens. Harnessing PADS's strengths in advocacy and improving services and information access for PWDs, PADS partnered with local and international organisations (VSO Bahaginan and Fully Abled Nation) to support 15,000 local survivors (particularly PWDs in Central Visayas) following Typhoon Yolanda in 2013 and establish the first Deaf DRR team in Cebu. His expertise in community outreach and humanitarian networking, engagement in advocacy for PWDs and DiDRR initiatives provides a strong basis for understanding PWDs needs and broadening DiDRR in SE Asia.

Jerome Zayas: Jerome has over 15 years of high-level and on the ground experience in disability inclusion and DRR focusing on SE Asia and South Asia. His expertise covers inclusive education, disability mainstreaming in public health, prevention of violence against women with disability, disability and conflict, interfaith partnerships, and recovery and rehabilitation including using disability in measuring recovery outcomes. He has also helped set up disaster risk management systems for Mumbai, Dhaka, Kathmandu, and major cities of Metro Manila and was key in developing participatory and inclusive approaches to DRR planning. He has authored a guidebook on urban resilience master-planning and is developing a toolkit to make DRR plans gender and disability inclusive.

Alexandra Gartrell: As a human geographer, Alex brings qualitative research skills and expertise in social disadvantage and vulnerability to this research project. Alex has conducted applied research for non-government organizations, councils and universities for 15 years in Australia, Cambodia, Solomon Islands and Papua New Guinea. Alex has developed a solid applied knowledge of disability in Cambodia and has been following disability issues theoretically, politically and socially in Cambodia since the 1990's. Focal areas include: the lived experience of disability in north-west Cambodia; disability employment issues; and the inclusion of women in decision-making processes in the private sphere. I thus have a when I first lived in Cambodia. She has a close working relationship with CDPO and will work closely with CDPO to explore and address the challenges women with disabilities face in responding to risk.

Ngin Saorath: Mr. Saorath has been serving as the Executive Director of CDPO since 2005. Under his leadership, CDPO has produced significant achievements such as the development of 56 DPOs within 24 provinces and municipalities, including 8 Women with Disability Forums in 8 provinces and development of the Law on the Protection and the Promotion of the Rights of Persons with Disabilities. His organization is the main advocacy organization and connector for DPOs in Cambodia. He was voted as Chair of the ASEAN Disability Forum in 2012 and as Chair of ASEAN GO-NGO Forum in 2013, and was as Chair of Board of NGO Forum-Cambodia. Saorath has also worked on multiple research projects covering diverse issues like equal resource access and capacity building for PWDs, violence, gender and disability, impact of disasters on PWDs. As a person with a disability, he has a strong commitment and is working toward the promotion of dignity and equal rights and social welfare for PWDs.

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