VIEWS FROM THE FRONTLINE REPORT

A case study of Onerahi, Whangarei, Northland

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New Zealand

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June 2020

Contents

I.   Views from the Frontline - Project Background and Approach

Project background

The Views from the Frontline (VFL) programme was initiated by the Global Network of Civil Society Organisations for Disaster Reduction (GNDR)[1] in 2009 to highlight the views from the most vulnerable and marginalised populations. This programme empowered local actors to monitor progress against targets under the Hyogo Framework for Action (HFA) through quantitative and qualitative surveys. This community consultation process is conducted at regular intervals of two years. Since 2014, GNDR shifted their approach, from closed questions measuring the progress of the HFA targets to more open-ended questions regarding their priority threats, consequences of those threats, the actions needed, and the barriers in reducing risks from the perspectives of local actors. This new approach highlighted everyday disasters, which are small scale, recurrent, and result not only from natural hazards but also social, economic and political threats.

The aim of VFL 2019 was to strengthen the inclusion and collaboration between at-risk people, civil society and governments in the design and implementation of policies and practices to reduce disaster risks and strengthen resilience. Through surveys and consultations with local communities, local civil society organisations and the local government authorities, it collects the diverse perspectives around three key themes: risk profile, inclusiveness, and enabling environment (Fig. 1).

Risk Profile	Inclusive Risk Governance	Enabling Environment
Including their priority threats, consequences, actions and barriers; how losses are changing over time; threats in 10 years' time	Including the extent to which communities are included by different actors in assessment, planning, implementation and monitoring of risk	Including the extent to which resources, capacities, legislation, leadership, policy coherence and other factors are contributing to the inclusion of local actors in resilience-building

Figure 1. Themes of investigation (GNDR 2018)

While local voices from the less wealthy countries were raised in the previous VFL programmes, this is not the case for more affluent countries. Thus, the VFL team, through the University of Auckland, wanted to pilot the VFL programme in New Zealand. This will place a foundation for expanding this VFL programme to more affluent countries, and accordingly, increase the chance for the local voices

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[1] Global Network of Civil Society Organisations for Disaster Reduction (GNDR) is the largest International Network of organisations committed to working together to improve the lives of people affected by disasters

to be heard. As a pilot project, the GNDR approach was adjusted and conducted on a smaller scale in New Zealand.

Process of implementation

The project was implemented in four locations: Onerahi (Whangarei, Northland), Maraenui (Napier, Hawkes Bay), Petone (Lower Hutt, Wellington), and Haast (Westland, West Coast). The project team collaborated with the focal points of the four partners, Civil Defence and Emergency Management (CDEM) groups to carry out the field data collection activities using the VLF standard questionnaires for households, government staff, civil society organisation staff, and community[2] consultation. These questionnaires were adapted to fit with the local contexts and the participants' background. The CDEM groups' support included contacting and inviting participants for interviews and the organisation of group consultation meetings.

In Onerahi (Fig. 2), the project team carried out household interviews over the phone or online surveys. The online household survey link was then posted on the Facebook group page of Onerahi community with the support of the partner CDEM Group. It was also circulated via email to residents in Onerahi by some of the project interviewees and the CDEM staff. The total number of responses received is 32 (Table 1). One community consultation meeting (i.e. focus group discussion – FGD) was held with 9 local resident participants at Onerahi Fire station 6th March 2019. Furthermore, face-to-face and phone interviews were conducted with 9 representatives of stakeholders (from both government and non-government sectors) operating at different levels, from the local to regional.

Activity	Number of participants	Time
Household survey	32 (5 males, 23 females and 4 others)	March – June 2019
Community consultation	9 (7 males and 2 females)	6th March 2019
Interviews with stakeholders	9 (3 males and 6 females) (5 participants from regional and district councils and CDEM offices and 4 participants from NorthAble, Tiaho Trust, and local schools)	March – June 2019

Table 1. Numbers of participants and time of the project activities in Onerahi

Given the small number of the participants in this project location, this study has some limitations in capturing the diverse perspectives of the study community. The data from all of the interviews, surveys and consultation were entered to the online database of the Global Network of Civil Society Organisations for Disaster Reduction (GNDR) for analysis. To explore the VFL data of New Zealand, please go to this website: https://vfl.world/explore-vfl-data/.

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[2] 'Community' in this report is defined as a group of people living in the same place or having a particular characteristic in common (GNDR, 2018)
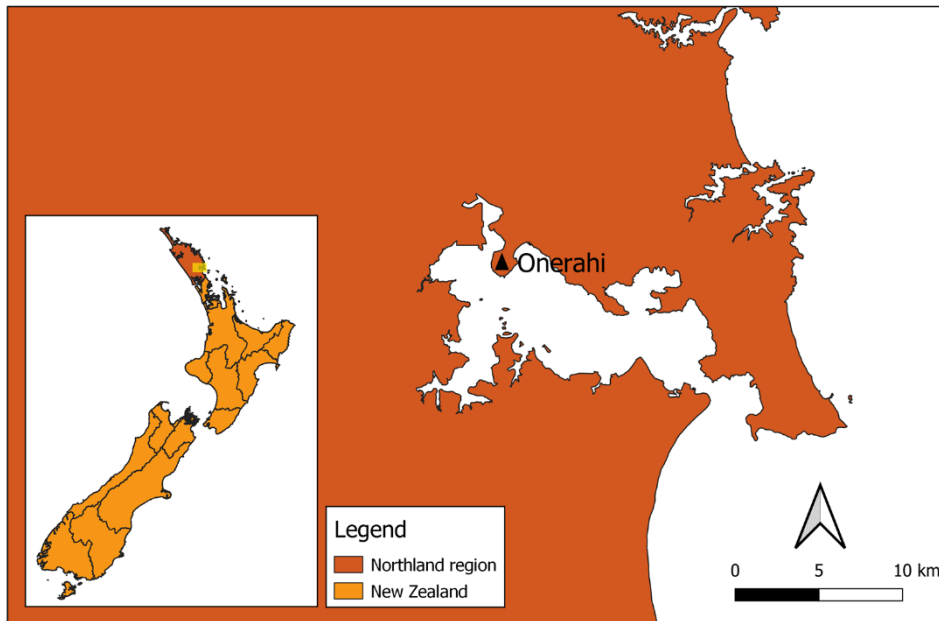
Figure 2. The location map of the study area

II. Results

1. Threats, consequences, actions and barriers:

The assessment explored people's perception on four aspects, namely: the threats that confront them; the consequences of these threats; the actions to address these threats and consequences; and the barriers that hinder the implementation of actions. The threats explored in this study are not limited to environmental ones but include economic, social and political ones. According to the participants from the participating government organisations (GOs) and civil society organisations (CSOs), the three top hazards the people in Whangarei are facing are floods, tsunamis, and storms (Fig. 3). These are also the most concerning hazards for the local people in Onerahi. The other threats raised by the participants are poverty, violence, landslips, climate change, earthquakes, epidemics, bio-hazards (e.g. fruit flies), isolation, technical failure, oil spills, and traffic accidents.
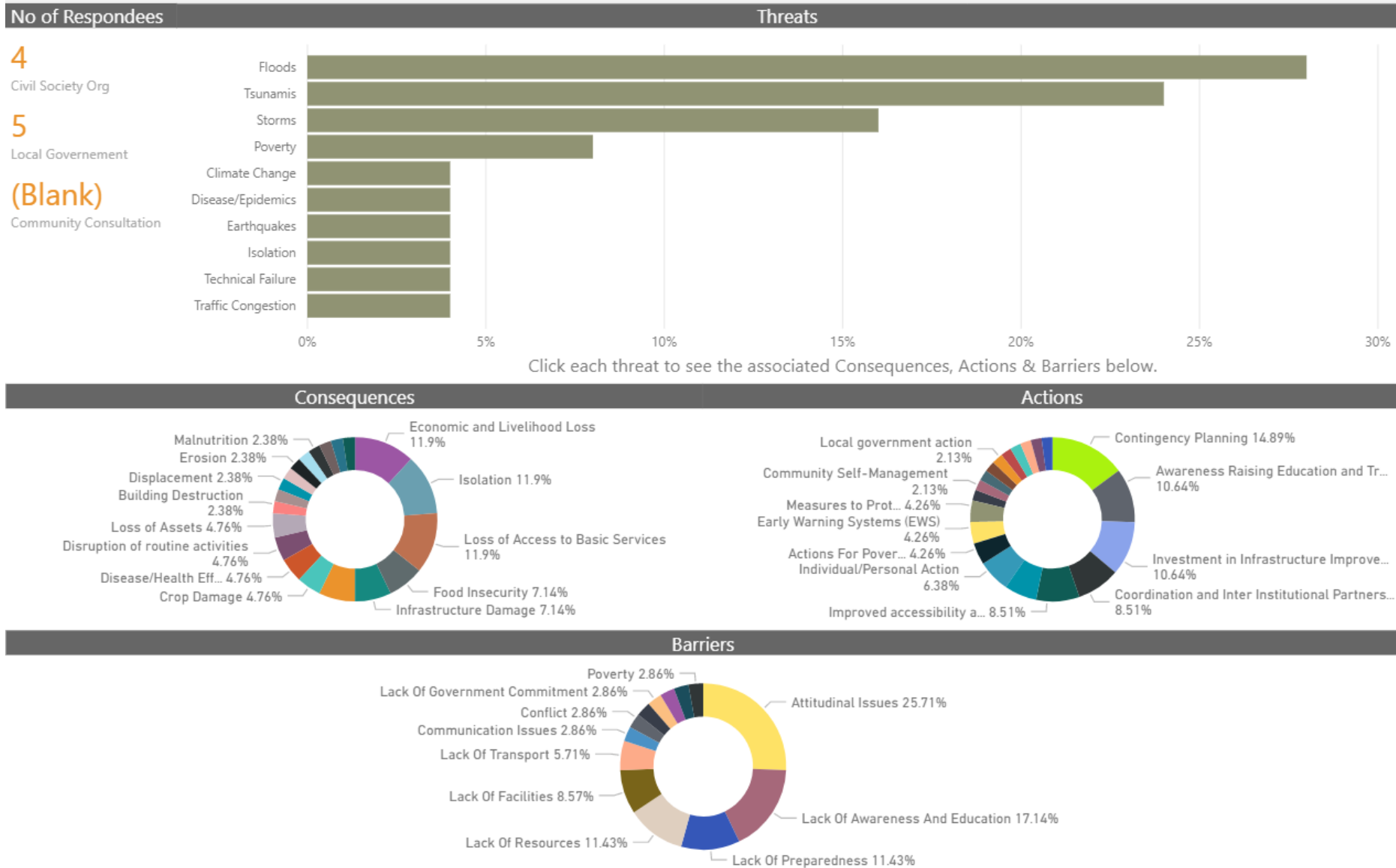
No of Respondees	Threats

4
Civil Society Org

5
Local Governement

(Blank)
Community Consultation

Threats (bar chart):
- Floods ~28%
- Tsunamis ~24%
- Storms ~16%
- Poverty ~8%
- Climate Change ~4%
- Disease/Epidemics ~4%
- Earthquakes ~4%
- Isolation ~4%
- Technical Failure ~4%
- Traffic Congestion ~4%

Click each threat to see the associated Consequences, Actions & Barriers below.

Consequences
- Economic and Livelihood Loss 11.9%
- Isolation 11.9%
- Loss of Access to Basic Services 11.9%
- Food Insecurity 7.14%
- Infrastructure Damage 7.14%
- Crop Damage 4.76%
- Disease/Health Eff... 4.76%
- Disruption of routine activities 4.76%
- Loss of Assets 4.76%
- Building Destruction 2.38%
- Displacement 2.38%
- Erosion 2.38%
- Malnutrition 2.38%

Actions
- Contingency Planning 14.89%
- Awareness Raising Education and Tr... 10.64%
- Investment in Infrastructure Improve... 10.64%
- Coordination and Inter Institutional Partners... 8.51%
- Improved accessibility a... 8.51%
- Individual/Personal Action 6.38%
- Actions For Pover... 4.26%
- Early Warning Systems (EWS) 4.26%
- Measures to Prot... 4.26%
- Community Self-Management 2.13%
- Local government action 2.13%

Barriers
- Attitudinal Issues 25.71%
- Lack Of Awareness And Education 17.14%
- Lack Of Preparedness 11.43%
- Lack Of Resources 11.43%
- Lack Of Facilities 8.57%
- Lack Of Transport 5.71%
- Communication Issues 2.86%
- Conflict 2.86%
- Lack Of Government Commitment 2.86%
- Poverty 2.86%

Figure 3. Threats, consequences, actions and barriers in Whangarei

Floods:

The GO and CSO participants claimed isolation is the most concerning impact of floods for the Whangarei population in general and for the Onerahi community in particular (50% of the respondents from GOs and CSOs) (Fig. 4). The FGD participants explained that in times of flooding, Onerahi community is very likely to be isolated from outside due to road cut-offs. The floods and heavy rains may also cause landslips that may block the road access in and out Onerahi. The flooding in this area often becomes worse during the high spring tide. The FGD participants also noted that having an airport in place is an advantage for bringing relief goods to the community in the aftermaths of disasters.

Other impacts reported are sanitation problems (e.g. water pollution), loss of assets, infrastructure damage, housing damage, and disruption of routine activities. A GO participant noted that the current infrastructure such as road network and electricity mains are quite old and has limited capacity to mitigate the impacts of hazards which may be intensified in the future due to the climate change effects. In Onerahi, the FGD participants noted that some houses located in low-lying areas can be flooded or washed away. In such situations, they can come to the community hall in the town centre.

The interviews with the GO and CSO participants revealed the top priority actions for reducing the risk of floods are having an emergency plan in place (28%), raising public awareness of flood risks (17%), and improving the drainage system (17%).vA GO participant shared that in some communities, the response plan is not always written down. In such communities, many people who have lived there for a long time, know the community members very well and are able to come together in times of disaster. The communities' cohesion helped in coordinating relief as the vulnerabilities and capacities of individuals in the community are well known.

However, she emphasised that it is useful for a community to have a response plan in writing and share it with the whole community because there may be lots of new migrants in the community. In terms of raising the risk awareness of local people, few GO participants noted that it is needed to encourage individuals and families to have their own emergency plan (e.g. where to go, what route, what to do) and talk with relatives and neighbours about their plan. It is also noted by a GO participant that surface flooding is mostly due to the poor maintenance of drainage channels. Thus, it was suggested that the maintenance of drainage channels should be done regularly. However, this may be very challenging for under-resourced communities.

Other important actions suggested by the GO and CSO participants are increasing individual preparedness, improving mitigation infrastructures (e.g. dam and seawall, raising roads), improving early warning systems (EWS), and raising houses. A GO participant believed that the people in Northland, in general, are aware of flood risk and are generally prepared. He thus emphasised that it is more important to communicate the flood information and advice to local communities in time when the flooding happens. It was also noted by another GO participant that providing support to people should be specific given the diverse needs and abilities of different groups in responding to a disaster. For instance, people with disabilities may respond differently from people without disabilities, and older people may respond differently from young children.
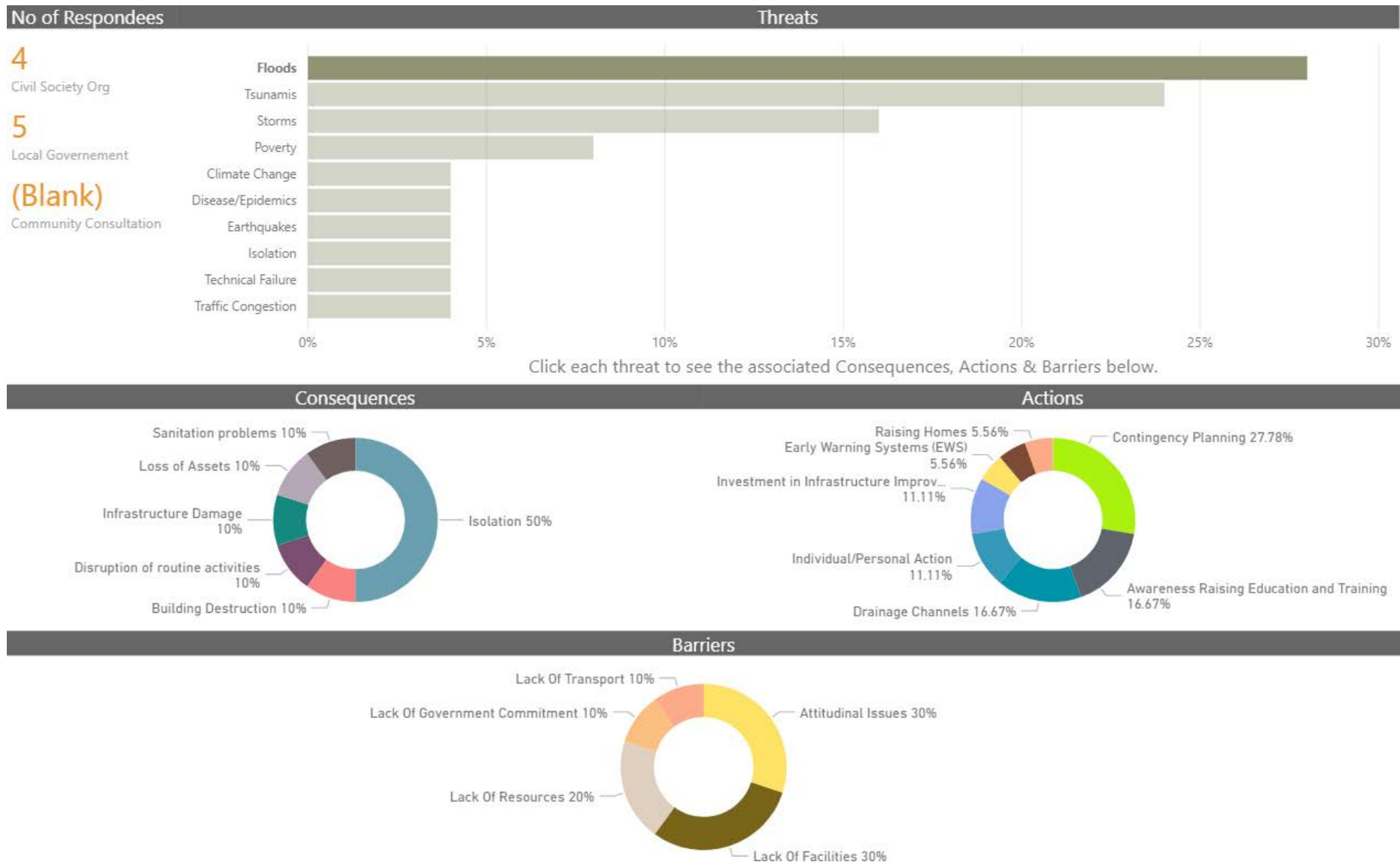
No of Respondees

4
Civil Society Org

5
Local Governement

(Blank)
Community Consultation

Threats

- Floods
- Tsunamis
- Storms
- Poverty
- Climate Change
- Disease/Epidemics
- Earthquakes
- Isolation
- Technical Failure
- Traffic Congestion

Click each threat to see the associated Consequences, Actions & Barriers below.

Consequences

- Sanitation problems 10%
- Loss of Assets 10%
- Infrastructure Damage 10%
- Disruption of routine activities 10%
- Building Destruction 10%
- Isolation 50%

Actions

- Raising Homes 5.56%
- Early Warning Systems (EWS) 5.56%
- Investment in Infrastructure Improv... 11.11%
- Individual/Personal Action 11.11%
- Drainage Channels 16.67%
- Contingency Planning 27.78%
- Awareness Raising Education and Training 16.67%

Barriers

- Lack Of Transport 10%
- Lack Of Government Commitment 10%
- Lack Of Resources 20%
- Attitudinal Issues 30%
- Lack Of Facilities 30%

Figure 4. Threats, consequences, actions and barriers for floods in Whangarei

The participants revealed a range of barriers that hinder the implementation of actions to reduce flood risk. These include local people's attitude toward disasters (e.g. delay in getting prepared for floods) (30%), lack of facilities (e.g. hospitals and other basic services) (30%), lack of resources (mainly funding) (20%) (Fig. 4), lack of government commitment (10%), and lack of transport (especially in remote areas) (10%). A GO participant noted that lack of funding and political will prevented the government from bringing up the potential impacts of floods and investing in mitigation infrastructure to deal with such flood risks. Politicians make decisions based on their political desires rather than being good for communities. When it comes to lack of facilities, a GO participant commented that in the aftermaths of disasters, if one service is shut down, people may have no choices but wait for that service to be reopened. Also, many low-income families do not have cars and public transport is very limited in suburban areas of Whangarei. These factors would greatly influence local people's mobility in the recovery phase of disasters.

Tsunamis:

Although the participants did not experience any tsunami events in the past, they anticipated that the impacts would be huge. The top consequences the GO and CSO participants reported are economic and livelihood loss (30.77%), loss of access to basic services (23.08%) which may be linked to infrastructure damage, loss of life (15.28%) (Fig. 5). Some participants also raised their concerns about the occurrence of diseases and health effects on local people. A local participant noted that a tsunami can force many families living in low-lying areas in Onerahi to be displaced due to housing damages.

The main actions the participants suggested for reducing the tsunami risk are having emergency plans (31.25%), enhancing the coordination between government and other actors (18.75%), and improving the accessibility of information (18.75%). A local participant in Onerahi noted that the CDEM Group needs to have a specific plan for lower areas in the valley. This plan also needs to prioritise the measures to support at-risk people. For instance, lots of local people do not have cars or cannot afford fuels to enable their mobility. Similarly, many families in Onerahi are living with the elderly or those with a chronic illness whose ability to evacuate is very limited.

Few participants emphasised the need for strengthening the coordination between government and other actors (e.g. NGOs or organisations providing social services to local communities) in resilience building. For example, some participants believed that such non-government organisations can help the CDEM Group in communicating the risk information to local communities. Efforts to enhance the collaboration between Northland Regional Council and City/District councils are also deemed to be necessarily critical.

In terms of the accessibility of information, a GO participant explained that the government should consider diversification of risk communication channels as many local people have no access to the internet. In addition, the format of the risk information needs to be considered to enable people with low literacy or poor vision ability to access and understand the information.

Other actions suggested are improving individual preparedness, raising risk awareness of local people (e.g. evacuation routes, alerting sources, resources available to them, how to cope with disasters), and improving early warning systems (EWS) (e.g. more sirens and mobile alerts through SMS or hazard application). Knowing neighbours (e.g. who they are, who will be at home, who need help,…) and evacuation drills were also suggested as important actions to cope with a tsunami in Onerahi. A local participant working for a local community development project in Onerahi shared that they can promote community connection by encouraging them to get to know their neighbours through "whanau fun day" events.
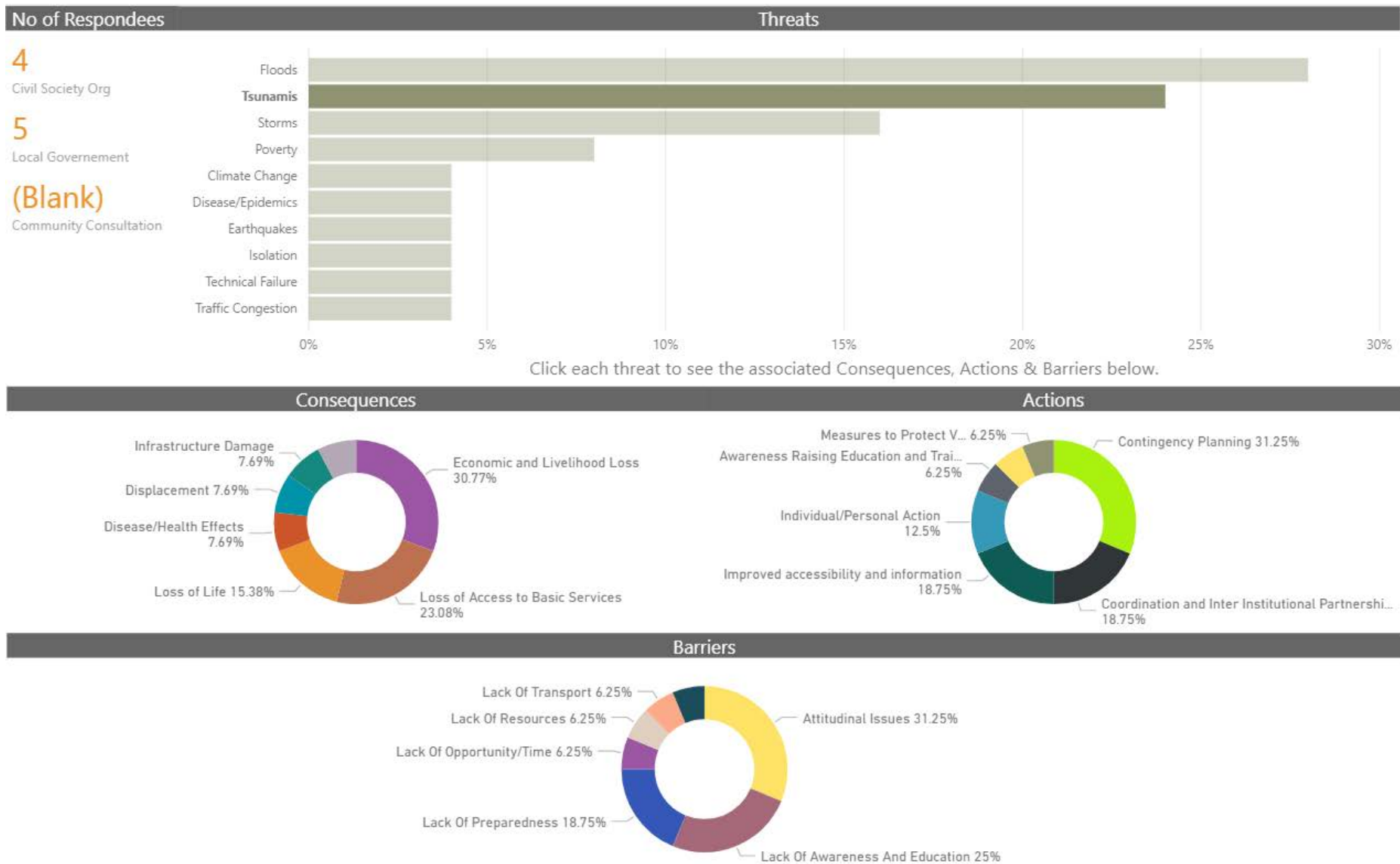
Figure 5. Threats, consequences, actions and barriers for tsunamis in Whangarei

A variety of barriers that prevent the implementation of DRR actions were revealed in this study, including local people's attitude, limited risk awareness of local people, lack of time and resources (for both the government and local people), people's lack of transport, lack of individual preparedness and health conditions (e.g. old age). A GO participant said that the CDEM group is trying to encourage vulnerable people like people with disabilities not to live in tsunami zones. However, because people love the beaches and may find it easy to access utilities (e.g. schools, restaurants) in the areas near the beach (which is also associated with land-use planning issues), they have chosen to live in tsunami zones. Few GO participants claimed that local people are often not active or procrastinate getting prepared for tsunamis because, in contrast with floods and storms which frequently occur, they have not experienced any tsunamis (and earthquakes) before, which may lead to denying the occurrence of this hazard in the future. Some GO participants recognised that this attitudinal issue may be linked to a lack of knowledge regarding tsunami risks. They explained that limitations in terms of resources including human forces prevented them from providing local people with tsunami-related information through awareness-raising activities. It was also noted that people with low incomes may have limited resources for get prepared for tsunamis. Their concerns of other living aspects (e.g. meeting their daily needs) may outweigh the need to get prepared for disasters that are not likely to happen, such as tsunamis. Therefore, they do not prioritise preparing for low frequency disaster risks. All of these factors may explain for lack of individual preparedness.

Storms:

The top consequences of storms reported by the participants are economic loss, food insecurity (due to crop damage and loss of agricultural produce), infrastructure damage (Fig. 6). The participants also noted that storms could cause landslides and trees falling that lead to road cut-offs. The time to clear the roads and get things back to normal would cause some economic loss for the government and businesses. In Onerahi, the FGD participants raised their concerns about a power outage, water supply loss, and property damage in the aftermath of a storm.

Given the impacts of storms, the participants suggested DRR actions such as infrastructure improvement and having emergency plans. The participants in Onerahi also suggested upgrading the local electricity systems and improving the local EWS. However, as raised by most of the participants, lack of funding is always a significant barrier.
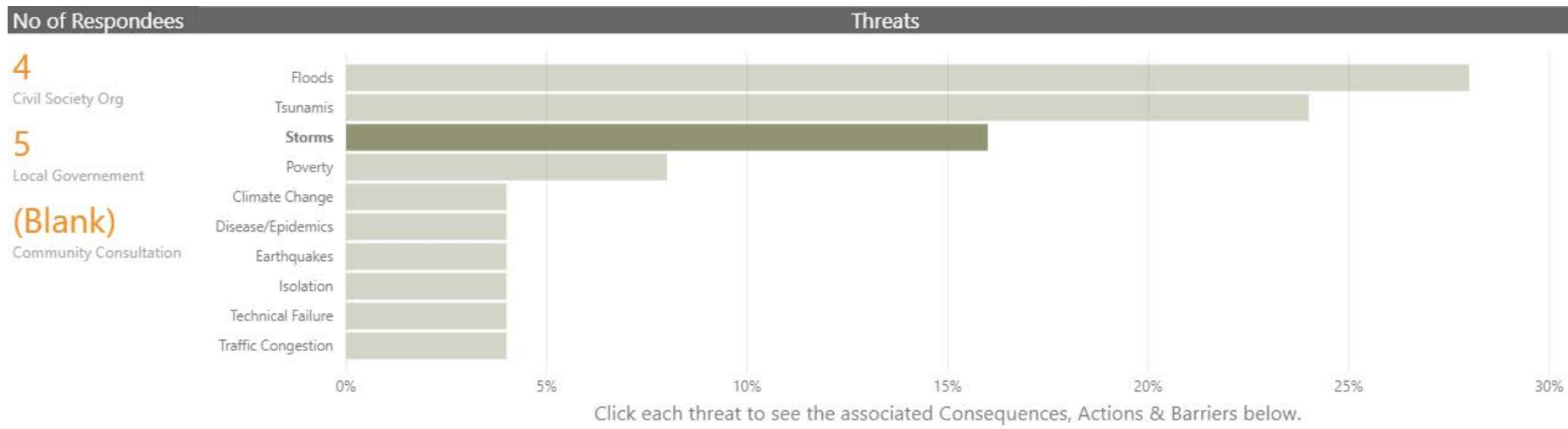
Figure 6. Threats, consequences, and actions for storms in Whangarei

Poverty:

In this study, poverty was raised not only as a social threat to local communities but also deemed to be strongly associated with disasters. The participants claimed limited access to basic services, malnutrition, school dropouts and social and family disintegration as the top impacts of poverty on local people's lives (Fig. 7). A local participant commented that many low-income families in Onerahi are living in social or rental houses that are of low quality. The unemployment rate in this community is still high (5.9 percent for people aged 15 years and over according to the 2018 census) and many people must live hand to mouth, meaning there may be little income left over for savings. .

A few participants noted the Onerahi community is strong but is being divided, with wealthy families living on the high ground near the airport and low-income families living on the low ground. Many low-income families, especially those who live in rental houses, have lost their houses (because the landlords sell the houses) due to the recent rise of the housing market and are being marginalised to live in more socio-economically deprived areas. The malnutrition and going to schools without food are still seen for students from low-income families. However, these students are often provided free meals at schools. Other social impacts of poverty such as school dropouts and parents' neglect of educating and taking care of their children were also raised in this study. Few local participants believed that poverty is the main driver that leads to a lack of resources people face in coping with disasters.

Given the high socio-economic deprivation index in some areas in Onerahi, few participants suggest projects for poverty reduction and employment. Some actions initiated by local groups were seen in the study location, e.g. community pantry, food bank, community gardens. A participant commented that, despite the high unemployment rate in Onerahi, she was not aware of any government programme designed to target this issue. Most of the support in terms of poverty reduction and employment was driven by NGOs or small businesses in the study location. She accordingly raised a need for strengthening the coordination between government and non-government sectors to mobilise their resources in tacking poverty issues. Few local participants also commented that as many low-income families may have hardships in getting prepared before a disaster as well as in recovery after a disaster, distribution of survival kits to these families is needed.

Some barriers to poverty reduction were revealed by the participants. Some participants raised issues related to people's attitudes (e.g. reliance on others) and communication issues (e.g. limited access to information about livelihood projects and employment). Lack of education (e.g. low literacy for low-income families) was also reported as a barrier for local people to have a job. This barrier, as discussed earlier, can also prevent people from understanding the warnings or risk information. In addition, few participants noted that there are not many employment opportunities in the area, and the local government may face a shortage of resources for implementing poverty reduction projects.
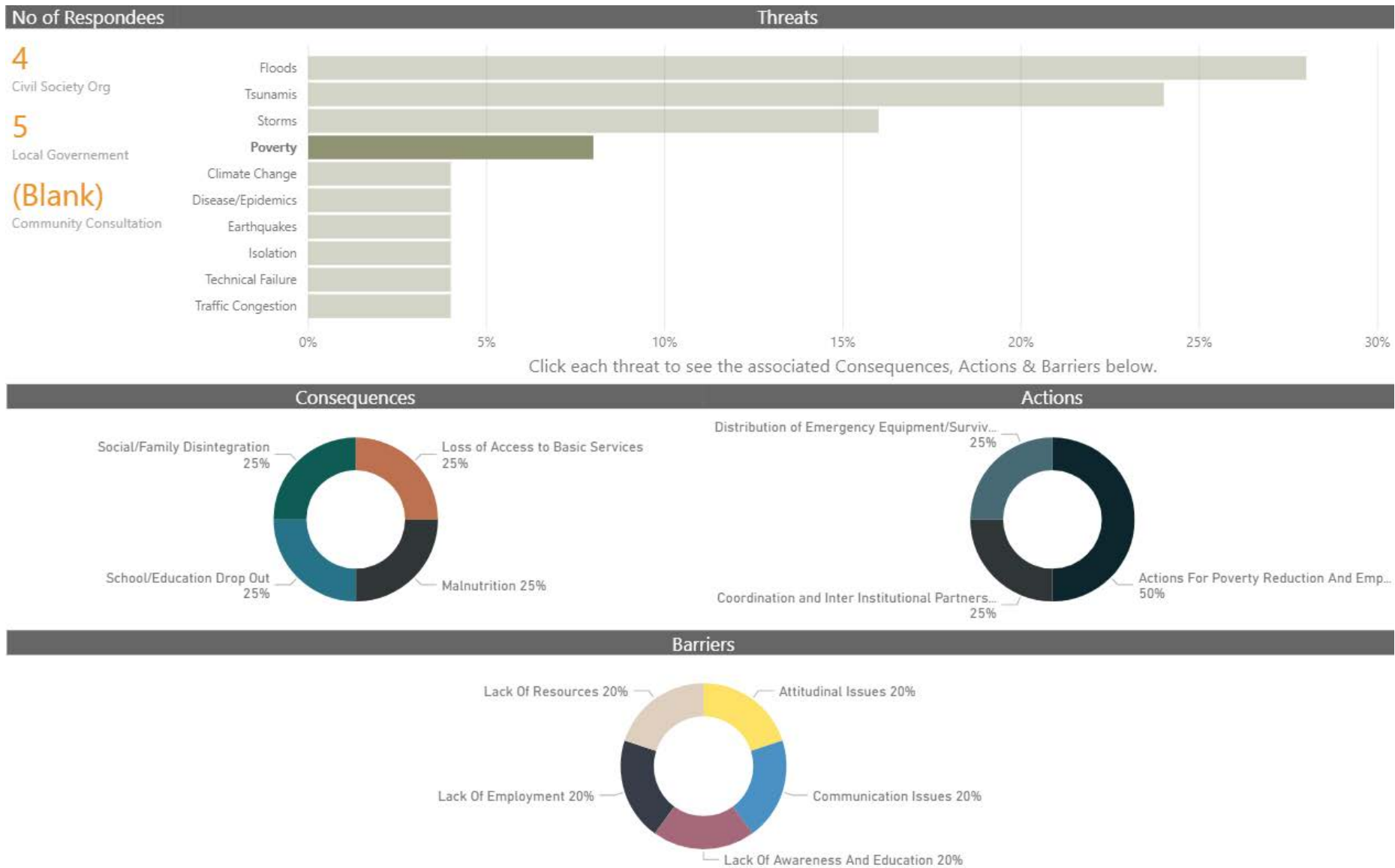
Figure 7. Threats, consequences, actions and barriers for poverty in Whangarei

2. Change in disaster loss and future risk:

The perceptions of both the community and stakeholders on changes in disaster losses (lives and assets) over the last 5 to 10 years and on future risks were also explored. The participants were asked to rate this change using the following scale: 1- Decreased significantly; 2 - Decreased a little; 3 - Remained the same; 4 - Increased a little; 5 – Increased significantly. The majority of the participants from the interviews and household surveys believed that the disaster losses have remained the same or decreased a little over the last 5-10 years (Fig. 8). This is in line with the results of the FGD. The FGD participants explained that the disaster loss trend was the same or decreased a little because local people were more aware of the risks and disaster preparedness. However, it can be observed that natural hazards (e.g. rains and storms) have been increasingly worse under the climate change effects. From the government perspective, it was generally believed the loss decreased over time. Some GO participants argued that the arrangements by the government were better (despite being under-resourced). More human resources were added to the CDEM group. DRR plans were developed and reviewed periodically. Better risk information (e.g. tsunami mapping) was created for local people to use. The establishment of community response groups and development of community response plans have been promoted (e.g. Onerahi response group has been established and operated for 8 years.) The EWS were enhanced (e.g. tsunami siren) and children were educated about DRR in schools (e.g. identifying hazards, know what to do, evacuation drills). It was also noted that, after the earthquake in Christchurch in 2011, many people started searching for what hazards in their areas and some also had emergency bags in their car.

In terms of future risk, the participants believed that the main hazards or threats that younger generations will face in the next 10-15 years are the same as what they are facing now, including floods, storms and tsunamis (Fig. 8). A number of participants considered climate change as a threat as of now and in the future. They believed that climate change may lead to sea-level rise and intensify hydrometeorological hazards such as storms, droughts, and flooding. Other threats raised are earthquakes and psychological problems. A GO participant commented that people tend to be insular or isolate themselves from other community members. This may raise the risk of losing interest in socialising with other people or participating in community activities, which thereby would contribute to reducing the sense of community, one of the important social resources for DRR.

Figure 8. Change in disaster losses and future risk in Whangarei

3. Risk governance:

This section explores the extent of community inclusion initiated by GOs and CSOs in disaster risk governance processes. Inclusive disaster risk governance is defined as mechanisms put in place to foster full and meaningful participation of relevant stakeholders at all levels of the disaster management and preparedness cycle (GNDR, 2018). In examining the inclusivity of existing mechanisms in disaster risk governance, the research took into consideration the elements and processes below (Fig. 9).

Figure 9. Elements of inclusive risk governance

The below graphs (Fig. 10 – 14) show the status of community inclusion in risk governance from the perspectives of GOs, CSOs and local people.

Community engagement

From the CSO perspective, the CSO participants claimed that they are not working with the whole community but only with the target groups of their organisations. Many CSO participants acknowledged that they did not engage their target groups in disaster risk assessment and DRR planning phases initiated by the government (Fig. 10). The engagement of their target groups is mostly promoted within the working scope of their organisations. For example, local schools have school safety plans which are developed annually with parents and local boards of trustees (representatives from the community). In these plans, the needs of vulnerable children such as those with disabilities are taken into account, though, these considerations are not always written down in the plans. In the implementation of the plans (e.g. evacuation drills and traffic operation), children are engaged and their parents are invited to participate. However, the participants commented that the parents hardly participate because of their being at work.

In terms of knowledge-sharing, the participants from the local schools claimed that they promote te ao Māori in schools (E.g. environmental issues) which is part of their curriculum. Children learn about disasters as part of the environment and mātauranga Māori can contribute to resilience. The students are also encouraged to share their risk knowledge obtained from the schools with their parents. A local participant noted that indigenous knowledge from local iwi, can provide insights of the relationship between humans and nature, and therefore, often aims to early prevention rather than dealing with effects after a disaster. However, this kind of knowledge was not tapped well.

Figure 10. Community engagement by civil society organisations

Building capacity for communities to participate in resilience processes was also reported to be occasionally conducted. One of the capacity building forms reported is increasing the access to the risk information (e.g. how to get prepared in the face of disasters) for the children through school activities. Another participant also claimed that their organisation mainly focus on the supply of disability equipment for people with disabilities to reduce the barriers for their participation in social life and consultation meetings/workshops, and the information about accessibility and disability-related standards for stakeholders to consider when they conduct their activities or design their workplace. She added that when council groups hold consultation meetings with vulnerable people, they often come along with their target groups to support them.

For most of the CSO participants, participation in the national platform for DRR is not possible. At the regional or district levels, however, they claimed that they often participated in the regional coordination meetings organised by the CDEM group or Citizens Advice Bureau. In such meetings, they did share the concerns of their target groups. The participants from the local schools commented that they only share the information and needs (e.g. in terms of wellbeing, fire safety and traffic risks) with some stakeholders (e.g. social work organisations, fire brigade, police) to seek their support but it is not on a regular basis.

Most of the GO participants claimed that the government engaged the communities to a very limited extent in the disaster risk assessment, DRR planning, implementation of actions to reduce the risk, and monitoring the resilience progress (Fig. 11). They thought that the community engagement in resilience processes is the responsibility of the CDEM group although few of them acknowledged that it is part of their role to raise risk awareness for people when they conduct community meetings in their sector.

A GO participant shared that the CDEM Group have well engaged the communities with some limitations in the disaster risk assessment, DRR planning, implementation of actions to reduce the risk, and monitoring the resilience progress. She argued that the CDEM group is promoting a 'community response planning process' to improve community participation and preparedness. In this process, community members come together and organise a community response group. The community response group are often knowledgeable of their community. They then hold their own meetings which are open to all community members to identify hazards, resources and capacities, and make the plans of how they reduce the identified risk. This process was initiated by the CDEM group in Onerahi eight years ago. The GO participant, however, acknowledged that some limitations in engaging a wider community, especially vulnerable people in such community-based processes. She explained some community members cannot participate in such planning meetings due to the accessibility (for people with disabilities) or timing (e.g. elderly people may not want to go out after 7 pm). She also acknowledged that the current community response plans still focus on responding to emergencies rather than risk reduction at large.
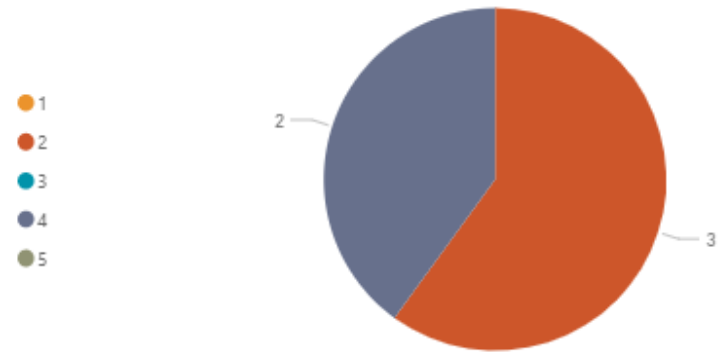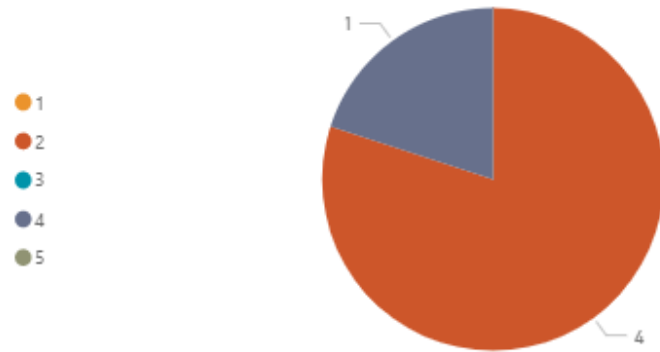
Another GO participant commented that the regional council did well in involving communities in developing the long-term development plan. The council used a variety of channels such as website advertisements, local newspapers, media releases, radio, and 'Have Your Say' events around the region, to inform local people of the plan and encourage them to give feedback on it. The risks people raised for considerations in the plan were mainly related to floods and pests.
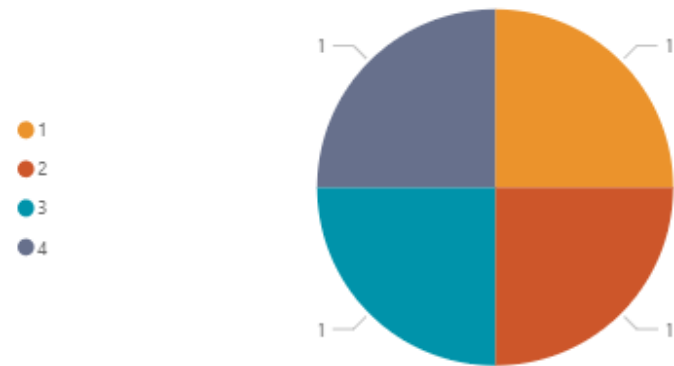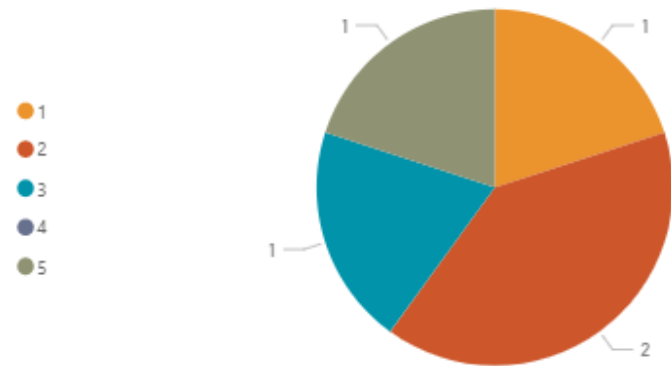
Figure 11. Community engagement by government organisations

From the local community perspective, the community engagement is generally very limited in all community resilience processes, including disaster risk assessment, DRR planning, implementation of actions to reduce the risk, and monitoring the resilience progress (Fig. 12). Some FGD participants noted that the CDEM group did try very hard to reach a wider community. However, their reach remains limited.

Regarding the community response plan of Onerahi, some local participants raised their concerns that many local people are not aware of the existence of the group and plan as well as the support available to them. The household survey shows that while almost 70% of the respondents were aware of the Regional CDEM Plan, it was only 30% for the community response plan. A local participant also commented the current local evacuation plan does not address issues for people's survival after disasters. Few FGD participants, who are part of the community response group, reported that they put up a call in public and post the call on the Facebook group of the Onerahi community to inform local people of the meetings and invite people to get involved in this process. However, not many people showed up. Many FGD participants believed that people are apathetic and not interested in disaster-related issues because the Onerahi community has not experienced any significant disaster that can wake people up and encourage them to take action for disaster preparedness.

When it comes to the implementation of the community response plan, a FGD participant claimed that the community can look after themselves as they know their neighbours and vulnerable people in their community, and can give support where needed. From the CDEM perspective, vulnerable people need to have a plan for their safety in times of disasters. They cannot rely on other people. If they have a plan, and in the plan, they need someone from the community response group to support them, they can contact and seek that person's support in times of disasters.

1 - Not at all   2 - To a very limited extent   3 - Occasionally   4 - Yes, with some limitations   5 - Yes, very effectively

Assessment: Does local government regularly talk to the community, including the most vulnerable, to assess the most significant threats?
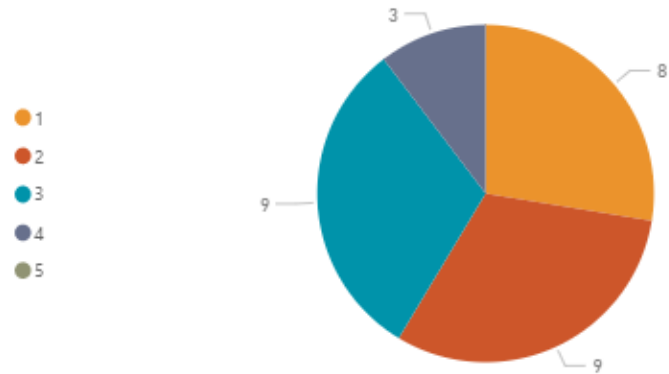
Planning: Does local government talk to communities, including the most vulnerable, when preparing policies, plans and actions to reduce risks/threats?
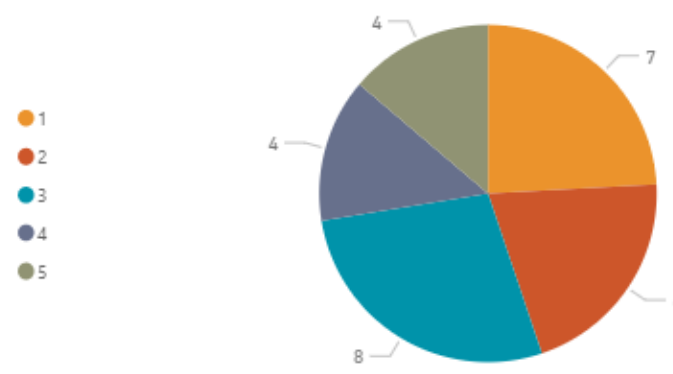
Implementation: Does local government involve communities, including the most vulnerable, in the implementation of actions to reduce risks/threats?
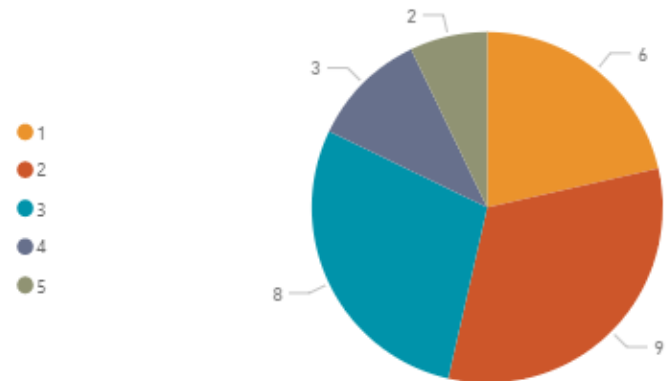
Monitoring: Does local government include community representatives in teams responsible for monitoring progress towards resilience?
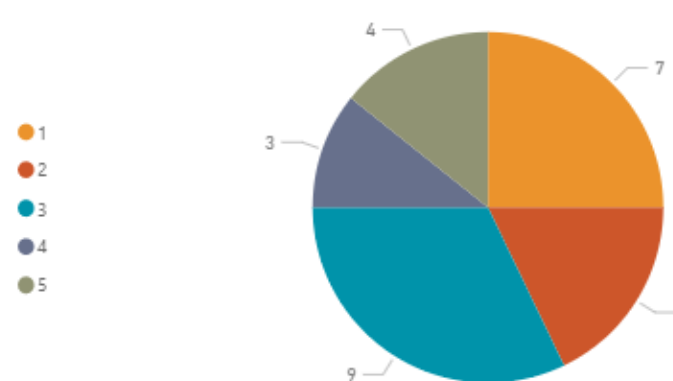

Figure 12. Community engagement from the local community perspective

Enabling environment for inclusion:

Enabling environment refers to factors such as leadership, resources, legal mechanisms and policy that enable and encourage proactive engagement of communities and relevant stakeholders (GNDR 2019). The interviews show that some GO participants are not well aware of the CDEM work, and therefore, they could not provide information in this section. However, they believed, in general, that the CDEM group is doing DRR well at the regional and local levels (Fig. 13). When it comes to a DRR strategy, a GO participant emphasised that it is not the only responsibility of the CDEM group but a council-wide responsibility.

In terms of mechanisms for community engagement in resilience building, few GO participants believed that existing mechanisms such as online platforms or local advisory groups are not sufficient (Fig. 13). For the online form, a GO participant recognised that these platforms may be challenging for deaf and those who struggle with reading. They may not be able to use phones or fill in online forms. Many of them also raised their concerns about the lack of funding to address the risks in their region. A GO participant noted that the funding for research for generating risk knowledge is very small. Thus, the CDEM group has to seek financial and technical support from non-government organisations and research institutions (e.g. GNS Science for tsunami mapping).

Regarding the access to information, most of the GO participants agreed that the government generally have well communicated the risk information to local people through a variety of channels such as community meetings, the internet, local libraries, and social media. However, few participants raised a concern of reliance on the internet to communicate the risk information to communities as not everyone can have access to the internet (around 80% of the households in Onerahi have access to the internet according to the 2018 national census). Few GO participants believed that there is still room for improvement, especially in terms of accessibility of the information for people with disabilities and migrants.

From the community perspective, there are various opinions on accessing the information from the government about the actions to reduce disaster risks (Fig. 14). In terms of the access to resources for communities, there is a general agreement among the local community participants that they have no access to or are not aware of financial resources (money, material, equipment) from your local government to address their risks/threats (Fig. 14).

Key

1 - Not at all   2 - To a very limited extent   3 - Occasionally   4 - Yes, with some limitations   5 - Yes, very effectively

Structures: Is there a designated office responsible for assessing and addressing the main threats of communities?

Policies: Do you have a DRR strategy in place to address the identified risks / threats?_____

Mechanisms: Is there a legally recognised mechanism to engage communities in resilience building?

Resources: Is there government budget specifically allocated for addressing identified risks and threats of the community?

Access to resources: Can communities access resources from local government to address risks/threats?
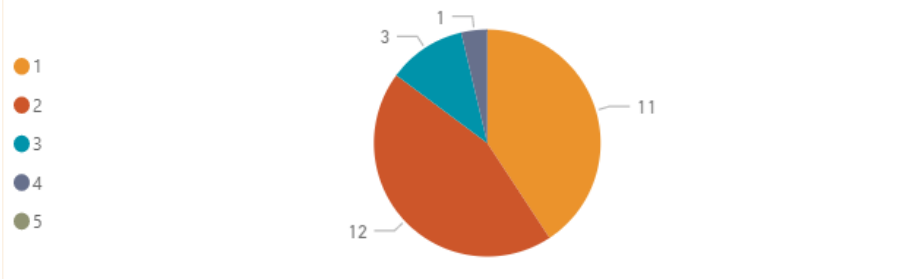
Access to information: Can communities access information from local government about the actions to reduce risks/threats?
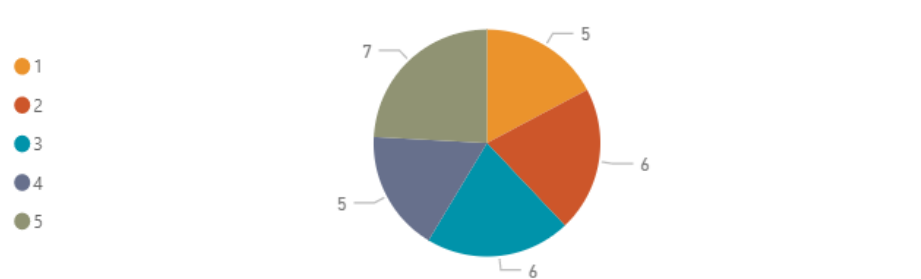
Figure 13. Enabling environment for inclusion from the government perspective

Figure 14. Access to resources and information from the community perspective

Factors that prevent and facilitate the community inclusion in the decision-making processes about risks/threats

The research explored a variety of factors that prevent and facilitate the inclusion of communities in the decision-making processes about risks/threats. These factors were reflected by the GO, CSO and community perspectives and summarised below.

Barriers:
- Attitude of local people: Some interview participants noted that disaster preparedness is not a priority in life, especially for local people who live in poverty. Some local participants (from the FGD and household survey) also raised the issue of apathy or lack of trust in the local government. Many participants believed that people are not interested in participating in disasters-related discussion meetings. It may be because no emergency has happened recently, or they may think that someone will take care of it for them.
- Lack of knowledge: Some local participants felt that they are not able to contribute to the planning as they do not have the knowledge of the plans. A local participant explained that it may be because people are not engaged at the beginning of the plan development but only when the plan has been drafted by 'the top' and shared with the people for feedback.
- Lack of communication: Some local participants claimed that they are not informed or aware of the activities. Some participants felt that the local government is not reaching out as much as they should.
- Time: The timing may not fit with people's schedules. For instance, the meeting is held during their working time or the elderly may not want to go out at night. Also, as people are busy dealing with day-to-day living issues, participation in disaster-related decision-making processes are not their priority.
- Lack of resources: Some local people do not have their own means of transport and public transport is also limited in some areas. Some GO participants also reported that the local government face limitations on resources to reach the population at large.
- Lack of collaboration: some participants argued that the collaboration between the sectors within the government and between the government and non-government organisations is not strong enough. Thus, resources are not well mobilised and synergies are not achieved for the common objectives such as people's well-being and safety in times of disasters.
- Weak community relationship and culture mismatch between generations and among groups of people within the community. A local participant noted that tangata whenua may not feel comfortable to join formal consultations in a 'hygienic' room (e.g. council chambers).
- Stigma and discrimination: If there is a meeting, people with disabilities are often forgotten or are not officially invited. Many local people may think that people with disabilities may not be able to have inputs or it is over their head.
- Inaccessibility: The inaccessibility was raised in terms of distance (e.g. the meetings held in the town centre), venues of the activities, transport to the venues, or limitations in communication abilities (e.g. for people with disabilities).
- Top-down leadership: A participant said that it is better for local leaders to come to the ground and get connected with local people.

Facilitators:

- Attitude: Few participants claimed that they are seeing the increasing enthusiasm of staff and community in building disaster resilience.
- Policy: The government has work programmes to include people. The CDEM group has a Marae preparedness project which will promote working with iwi and taking advantage of their knowledge in building resilience.
- The support of advisory groups: Some participants believed that the existing advisory groups (e.g. youth, elderly, disability advisory groups) can contribute to promoting the inclusion of vulnerable groups and bringing up their voice in decision-making processes with regard to disaster resilience.
- Iwi services and Māori representatives in the local government.
- Accessibility: The accessibility to building and transport is being improved as reported by a few participants.
- Support of CSOs: The CSOs such as Salvation Army, churches, and local groups are believed to contribute to the community connection and inclusion through their projects.
- Community plan: The CDEM group is promoting the development of community response plans which is led by communities themselves. This platform is believed to promote community inclusion in resilience building.

4. Coherence:

Coherence in this study refers to the efforts of different actors and organisations (government and non-government) to effectively respond to a crisis by identifying ways of working together based on their respective expertise, values and mandates (GNDR 2018). Coherence is the logical connection or consistency between household and community-focused resilience-building activities, on the one hand, and development activities, on the other. When required, activities under these two types of interventions should converge together to deliver the common outcome of development that can tackle future risks, decrease vulnerability and build resilience (GNDR 2018). This study looks at the coherence between strategies to reduce risks, adapt to climate change and reduce poverty.

From the interviews with GO and CSO participants, it shows that disaster risk and climate issues are well considered in local development plans (Fig. 15). The majority of the GO and CSO participants also believed that risks and approaches to reducing the risks are carefully considered in local investment projects (Fig. 15).

In addition, the GO participants claimed that the local government is making efforts to ensure the coherence between the strategies to reduce risks, adapt to climate change and reduce poverty. A GO participant commented that the local government is increasingly aware of disaster risks and climate change and considers these issues when developing the development plans. These considerations can be seen in the growth strategy to come. However, when it comes to poverty reduction, a CSO participant claimed that she is not aware of actions taken by the government to reduce poverty in communities and raised a need to strengthen the collaboration with CSOs in tackling poverty-related issues.

The CSO participants also shared that they have very limited ability to influence such coherence at the local level (Fig. 15). It was explained that this goes beyond the strategies of their organisations.

From the local community perspective, there is no consensus on the consideration of risks and approaches to reducing the risks in local development plans among the community members surveyed. Many respondents also believed that these issues are not carefully considered in local investment projects (Fig. 16).
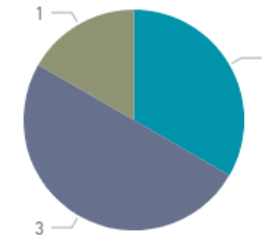
Key

1 - Not at all   2 - To a very limited extent   3 - Occasionally   4 - Yes, with some limitations   5 - Yes, very effectively

Have the impacts of disasters increased in your community due to public or private development?
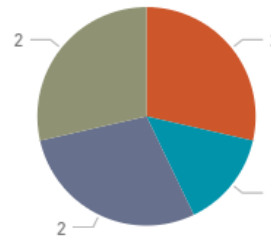
- 1
- 2
- 3
- 4
- 5

Are disaster risk and climate issues taken into account in local development plans?_____

- 3
- 4
- 5

Are risks and approaches to reduce those risks considered carefully in proposing or approving local investment projects?

- 1
- 2
- 3
- 4
- 5

Is national government working to ensure coherence between strategies to reduce risks, adapt to climate change and reduce poverty?

To what extent are you able to influence coherence between strategies to reduce risks, adapt to climate change and reduce poverty at the local level?
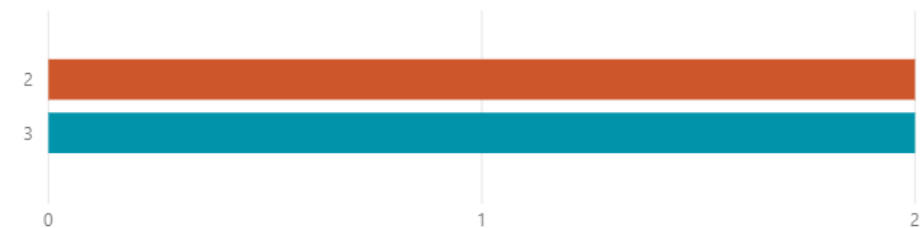
*Figure 15. Coherence from the government and non-government perspectives*

1 - Not at all   **2 - To a very limited extent**   **3 - Occasionally**   **4 - Yes, with some limitations**   **5 - Yes, very effectively**

Have the impacts of disasters increased in your community due to public or private development?

- 1
- 2
- 3
- 4
- 5

Are disaster risk and climate issues taken into account in local development plans?_____

- 1
- 2
- 3
- 4
- 5
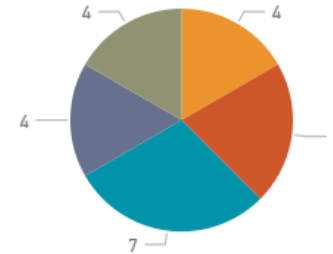
Are risks and approaches to reduce those risks considered carefully in proposing or approving local investment projects?
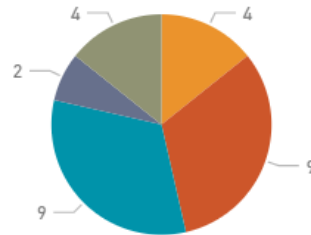
- 1
- 2
- 3
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- 5

Figure 16. Coherence from the community perspective

5. Ecosystem-based disaster risk reduction

Ecosystem-based disaster risk reduction refers to the sustainable management, conservation and restoration of ecosystems to provide services that reduce disaster risk by mitigating hazards and by increasing livelihood resilience (GNDR 2019). Many CSO and GO participants claimed in general that ecosystem-based approaches are used in a very limited way in building community resilience (Fig. 17). Community members, however, have diverse opinions on this. Some participants reported few community-led ecosystem-based practices are community gardens and waste collection.
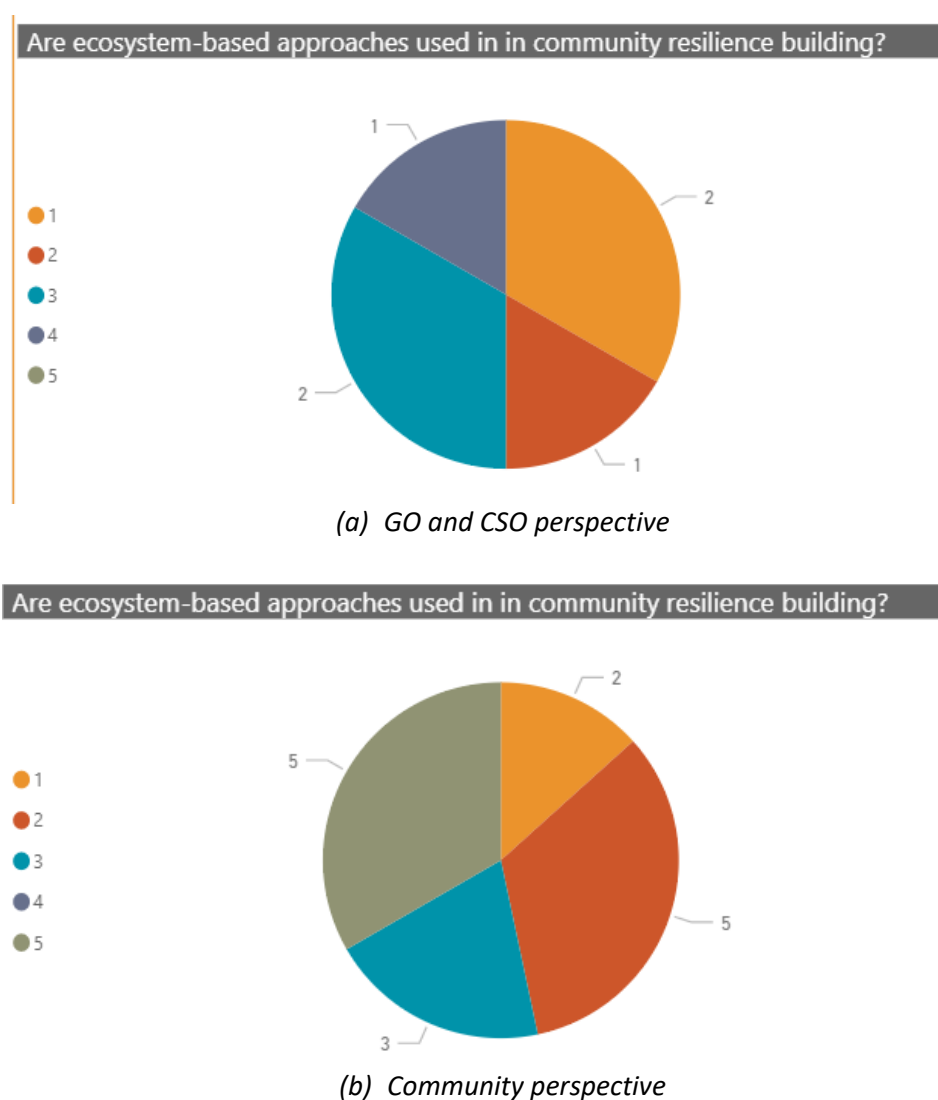

(a) GO and CSO perspective

(b) Community perspective

Figure 17. Ecosystem-based DRR approach from (a) government and non-government and (b) community perspectives

III. Conclusions

This study contributed to raising the voice of local people in resilience building processes in the study area. The local community had a chance to share their concerns and needs with regards to the disaster risk reduction processes (e.g. their concerned threats/hazards, their priority actions, barriers for taking

the actions and participation in disaster resilience processes, and access to information and resources).

A variety of threats being concerned in the study community were explored. These threats were not only natural ones such as storms, tsunamis, and floods but also social ones such as poverty and violence. For most of the threats identified, increasing the access to the risk information (including local knowledge of risk and approaches to risk reduction) through awareness-raising campaigns and other communication channels, having a community resilience plan with careful considerations of the needs of at-risk groups, investment in mitigation infrastructure (particularly for floods and storms) and improving the coordination among the government sectors as well as between government and non-government organisations are the most important actions in building community resilience to disasters. The assessment also revealed a variety of barriers that prevent people from taking actions in reducing with disaster risk, and many of them had roots in local people's everyday lives, e.g. lack of resources and apathy.

In addition, this study provided a chance for both government and non-government stakeholders to reflect how inclusive their risk governance is and for communities to evaluate their inclusion in this risk governance. From the local community perspective, in general, the community engagement in the disaster risk assessment, DRR planning, implementation of actions to reduce the risk, and monitoring the resilience progress remained limited in the study location.

A variety of factors that prevent and facilitate community inclusion in decision-making processes (e.g. local development planning or community response planning) regarding disaster resilience were also revealed. These factors did not operate in silos but were often interrelated in causing effects (preventing or facilitating) on the community inclusion. Personal barriers such as attitudes (e.g. apathy and low interest) and lack of resources may need a long-term strategy to address and should be integrated into local development plans. External factors such as communication and accessibility are also necessarily improved to create more opportunities for people to participate in the decision-making processes.

Furthermore, though the local development plans, in the study area, considered disaster risk and climate change issues, poverty issues have received insufficient attention from the local government. Similarly, while ecosystems are believed to provide services that reduce disaster risk by reducing the exposure of communities to hazards and by increasing livelihood opportunities, ecosystem-based approaches were considered in a very limited way in building community resilience at the study area.

It was also evident that the Onerahi community can organise themselves to cope with disasters. However, the community connection, communication regarding the local community resilience processes, and inclusion of vulnerable people need to be strengthened. When it comes to the collaboration of multi-stakeholders in disaster resilience building, although elsewhere the important role of CSOs is recognised in building local resilience, their contribution to or influence on the local disaster resilience remained limited in the study location. This raises a need to enhance their engagement and thereby mobilise their capacity and resources for building the local resilience.

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