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OVERVIEW

The International Organization for Migration (IOM) was engaged by the Government of the Republic of the Marshall Islands (RMI) to lead community engagements on the National Adaptation Plan (NAP) in eight Atolls. The engagement team was comprised of IOM staff and three Non-Governmental Organization partners; Jo-Jikum focusing on youth, Women United Together Marshall Islands (WUTMI) focusing on women and inclusion, Marshall Islands Conservation Society (MICS) focusing on livelihoods. This Summary Report reflects the results of all agencies engagements that elevate and articulate the community members voices.

COMMUNITY BACKGROUND

Kwajalein Atoll is the largest Atoll in the Republic of the Marshall Islands (RMI) and home to the second largest urban centre Ebeye Island. Kwajalein Atoll serves as a commercial hub and governance centre for the Ralik Chain. Kwajalein Atoll is densely populated in Ebeye Island (which is in the southeast) with approximately 10,000 inhabitants (based on the preliminary 2021 Census) over 0.12 square miles (0.3 square km). The median age is fairly young at 21 years of age.



Figure 1: Map of Kwajalein atoll (from RMI Office of Planning and Statistics 1989)

Due to the urban density in Ebeye very few green spaces exist on the small island. The paid employment opportunities at the nearby US base means few people in Ebeye depend on natural resources. Employment opportunities draw people to migrate from the closest neighboring islands to Kwajalein. The US base has around 1000 Marshallese working there at any given time, with most employees based in Ebeye and commuting daily. Community profiles were collected during the consultations and can be found in Annexs 1-2. The team also collected and learned as much as possible about their community from other reports, these can be found in Annexes 3-14. Ebeye is considered an urban centre.



Figure 2: Satellite image of Ebeye, Kwajalein Atoll, noting high urban density (From NASA NLT Landsat 7)

THE CONSULTATION PROCESS

The NAP consultations in Kwajalein Atoll were undertaken over several months from September 2022 – May 2023. The consultation process was different in Ebeye then the other atolls represented in the NAP community consultation process. In Ebeye, groups were targeted instead of communities...

These 11 target groups are:

- 1. Ebeye business owners 9 (1 man, 8 women)
- 2. Ebeye deportees Participants: 13 men
- 3. Ebeye persons with disabilities Participants: 16 (8 men, 8 women)
- 4. Ebeye displaced persons (those that had been displaced by public works) Participants: 13 (6 men, 7 women)
- 5. Ebeye early school leavers women Participants: 13 women
- 6. Ebeye early school leavers men Participants: 21 men
- 7. Ebeye faith-based organization Participants: 14 (7 men, 7 women

- 8. Ebeye fisherfolk Participants: 13 men
- 9. Gugeegue residents Participants: 18 women
- 10. Kwajalein Atoll Local Government (KalGov) Participants: 6 men
- 11. Ebeye women's business owners Participants: 4 women

Total: 140 participants (75 men, 65 women)

The members of these target group consultations represented nine communities within Kwajalien Atoll, including in:

- I. Ebeye
- 2. Bouj (including Batien and Jebalur)
- 3. Ebadon
- 4. Gugeegue
- 5. Loij
- 6. Monkubok
- 7. Monnin (including Lole)
- 8. Santo
- 9. Tobikile (including Loie, Eokwojaja and Lojkemlak)

The first thing to take place during the target group consultations is the introduction presentation where information is provided to the group on the purpose of the consultation and what the NAP is and how it is going to support their community in the future. This is a vital step in setting the scene for the methodologies to follow. Each target group consultation for the NAP involved 5 different data collection methods: a baseline survey to capture views on current and future adaptation; a Day in the Life (DIL) activity where participants were asked about their observations of environmental change, social impacts and how they anticipate daily activities to be affected in the future; focus group discussion; semi-structured interviews with community members from targeted groups (women, youth, fishermen and/or farmers and landowners and community leaders); and community profiles. Jo-Jikum also facilitated a standalone Youth and Arts Engagement in Gugeegue/Ebeye in May 2023. Some individuals may have participated in more than one target group consultation.

One major difference, in terms of methodologies, between community consultations and target group consultations under the NAP is the absence of Hazard, Vulnerability, and Capacity Mapping (HVCM) and transect walks. While no HVCM's/transect walks were conducted during the NAP consultation process, eight completed HVCM's were collated for eight communities during the pre-consultation process and are referenced/annexed in this report.

Method	Female	Male	Undisclo sed	Youth	Middle aged	Elderly	Undisclos ed
Baseline survey			5	0	0	0	5
Day in Life	70	46	0	43	62	11	0
Focus groups	65	75	0	n/a	n/a	n/a	140
Interviews			10	n/a	n/a	n/a	10
Youth and Arts Engagement	30	26	0	56	0	0	0
TOTAL	165	147	15	99	62	11	155

Figure 3: Participant demographics by research method

GUIDING VALUES FOR ADAPTATION

Participants in the target groups said how they valued living in a safe community where they worked together in a respectful and caring way and where traditional values were at the centre of how the community worked together. Some participants mentioned how they valued their freedom to do what they wanted (compared to life in the US) and not having to pay rent.

When asked about their daily activities (DIL survey) participants demonstrated strong values related to spending time with family and friends (48 out of 75 participants); having an easy life including the freedom to nap over the weekend (14 out of 75 participants, and mostly men); access to natural resources to support livelihoods and recreation (13 out of 75 participants); and being able to practice their religion and attend church activities in their community (9 out of 75 participants). Compared to other atolls that took part in the NAP community consultations, there was a higher proportion of participants who said they enjoyed drinking kava and playing bingo with their friends, and less of a focus on fishing and access to natural resources. These values are relevant to adaptation in that they demonstrate the community's attachment to living in Ebeye for its social and cultural activities.

The youth consultations led by Jo-Jikum in Kwajalein Atoll – specifically working with high school students - asked participants to develop artwork to express their thoughts and feelings about climate change. Figures 4, 5 and 6 demonstrate some of the creative outputs from these workshops. They demonstrate how climate change is linked to local experiences of pollution and contamination (including nuclear fallout), and yet carry a message of collective action and the value placed on continuity.

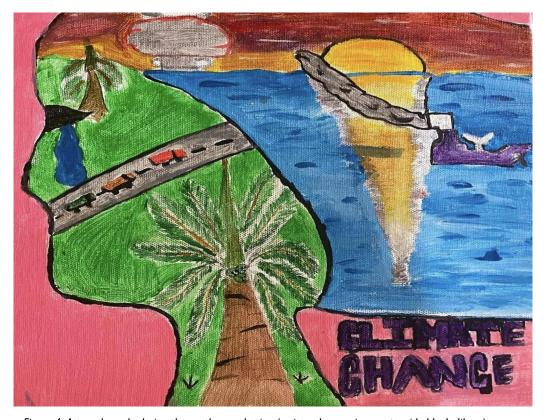


Figure 4: Art work made during the youth consultation (artist unknown, images provided by Jo-Jikum)



Figure 5: Art work made during the youth consultation (artist unknown, images provided by Jo-Jikum)

Leading the fight against
climate change
Lots of obstacles that we will
change
Global warming is coming
soon
But we'll still see the sun and
moon

Figure 6: Excerpt from poem "Climate Change" by Antuan Beio written during the youth consultations (provided by Jo-Jikum)

CLIMATE CHANGE EXPERIENCES

Based on DIL survey responses (figure 6), the climatic change most frequently reported by Kwajalein Atoll participants was increased air temperature (n=64, DIL) which was described as 'intense' and 'scorching' in focus group discussions. The second most reported climate change observation was sea level rise (n=46, DIL) and drought events (n=7, DIL). It is worth noting that the count for participants who observed drought in figure 6 is likely to be underreported as there is some overlap between drought and hotter air temperature, and it is clear from past hazard mapping activities that drought has been a major issue for most of the communities in Kwajalein Atoll (see discussion below).

Current observations of climate change in Kwajalein (DIL3A)

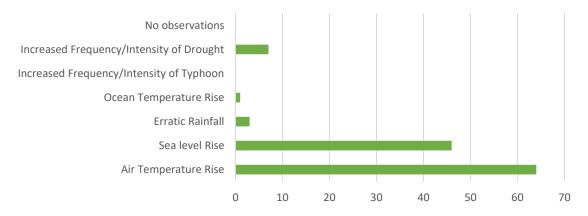


Figure 7: Observations of climate change in Kwajalein Atoll

The previous HVCM activities in eight communities around Kwajalein Atoll demonstrate community-specific climate change concerns and priorities across the atoll (see figure 8). Drought was the single most experienced climatic change that participants reported in this hazard mapping activity, followed by typhoons, king tides, and flooding. In Gugeegue, the community was most concerned about drought and linked this to concerns about wildfire risk due to the dry conditions of vegetation.

	Drought	Flooding	Typhoons	King tides
Bouj (incl Batien and	1 (2013,	3 (rainfall)	2	
Jebalur)	2016, 2017)			
Ebadon	1	3 (2015		2
		coastal)		
Gugeegue	1 (incl.	2		
	wildfire)			
Loij		1	2	
Monkubok	1			1
Monnin (incl Lole)	2	3 (2015	1	
		coastal)		
Santo	1			2
Tobikile (incl Loie,	1			2
Eokowojaja and				
Lojkemlak)				

Figure 8: Table demonstrating the top 2 observations of climate change in each of the Kwajalein communities for the NAP consultations. Darker shades represent more intense and/or frequent experiences.

As part of the HVCM exercises, communities mapped areas highly exposed to damage from these hazards with a particular focus on flooding and coastal erosion. Please refer to the annex for these eight maps.

SOCIAL IMPACTS OF CLIMATE CHANGE

Participants reported many impacts stemming from these climatic changes. Health impacts were reported far more in Kwajalein Atoll compared to the other atolls included in the NAP consultation. This may be linked to the exacerbation of already significant health issues in Ebeye, linked to housing density, sanitation, and waste management issues.

"We need help from the government to stabilize the structure of the homes. They need to help build seawalls around our homes. So we wouldn't have to. It makes me very sad. If people started leaving there wouldn't be much of a community anymore. And without a community there's no help."

(Ebeye participant)

Participants discussed how cases of pink eye and dengue were increasing and a couple of participants explained that people get sick 'because they lack nutrition' and sufficient water (FGD15 Kwajalein workforce). The impacts on livelihoods, fish catch, crop decline and handicrafts are also less when compared to other atolls and this is most likely linked to Ebeye participants who have less dependence on natural resources compared to non-urban communities.

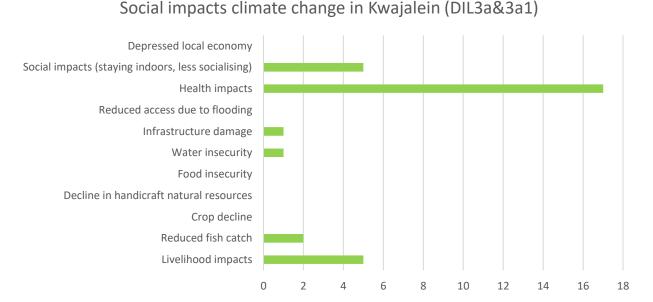


Figure 9: Social impacts of climate change in Kwajalein Atoll

The prior HVCM exercises provided a deeper understanding of how climate change is impacting communities in Kwajalein Atoll. According to participants drought has had the following impacts:

- Water insecurity (lack of supply and contamination) leading to more health issues. The lack of safe water combined with dustier environment has increased cases of dehydration, pink eye, cough, and diarrhea especially amongst children (reported in Bouj, Ebadon, Gugeegue, Monnin, Santo, Tobikile).
- The lack of water affects daily activities with school closures reported due to no water and community members buying water for those who can afford to (Gugeegue). Some communities reported no access to Reverses Osmosis (RO) units and insufficient water tanks to meet basic needs in non-drought periods.
- Participants reported food insecurity due to damage to vegetation and reduced crop yield related to drought (reported in Bouj, Ebadon, Gugeegue, Monnin, Santo, Tobikile).
- Increased risk of fire leading to damaged vegetation and risk to community safety (a fire had taken place in Gugeegue).

The impacts of coastal erosion, flooding and king tides are interwoven and participants described the following impacts:

- Floods increasing food insecurity due to crop damage (reported in Bouj and Gugeegue)
- Floods increasing water insecurity due to saltwater contamination of water supplies
- Infrastructure damage from flooding (houses and powerlines), including electricity cuts for several days (in Monkubok, Ebadon, Santo and Tobikile)

- School and work closures till flooding subsides (Ebadon, Ebeye and Santo)
- Damage to reefs and shorelines (Ebadon, Santo)
- Safety concerns for fishers (Ebadon)

Participants described the following impacts related to typhoon events in Bouj and Monnin:

- Damage and destruction of housing, roads and power lines
- Damage to vegetation
- · Damage to seawalls
- Food and water insecurity (people going hungry and thirsty as drinking water contaminated)
- Health issues from injuries sustained during typhoon and subsequent health issues related to contaminated water
- School and work closures

In the target group with displaced people in Ebeye, participants said they were living in cramped conditions, with no running water or access to electricity. One participant expressed frustration that they had not received support to replace their lost housing:

"It's too small, we piggyback on other relatives just so we can have a place to stay, and it gets overcrowded at times.... they promised us homes, but never came through with their end of the deal." (FGD13, displaced persons)

The target group with faith-based organizations (mostly women) discussed how they felt that issues that disproportionately affected women were not getting prioritized. They discussed how the lack of water made their day to day lives difficult in terms of cleaning, cooking, washing and hygiene. The big impact water security has on households was echoed in the target group in Gugeegue: 'We end up having to bathe with the freshwater we buy because the water coming out of our showers is saltwater.'





Figure 10: Ebeye consultations

OTHER COMMUNITY EXPERIENCES AND CONCERNS

Participants in the focus groups and interviews described several challenges within their communities that exacerbate climate change impacts and vulnerability (co-drivers). These insights are organized by the target groups.

The target group with **displaced persons** demonstrated key concerns around the quality of housing and services to support their welfare:

- · Over-crowding within houses
- Lack of water and electricity for some houses: 'water runs for only an hour, that is not enough time to fulfill our needs' (FGD13 Ebeye displaced persons), and 'the electricity turns off too often, and some cases the half of the house would be off while the other half would remain on. It's weak and cannot fulfill our electrical needs' (FGD13 Ebeye displaced persons)
- Lack of good credit services so that people can access affordable loans
- Concerns about domestic violence

The main concerns discussed by the **persons with disability** target group was medical services and a lack of support for service repairs:

- · Lack of wheelchairs
- Lack of transportation and easy access in shops for people with disabilities
- · Lack of doctors and a distrust of existing medical staff
- Slow support for fixing water, electricity and sanitation services (participant estimates average of 6 months for KAJUR repairs)
- Concerns about domestic violence

The target groups involving the Kwajalein workforce, business owners, fisherfolk, early school leavers and deportees identified similar issues within their communities:

- Lack of reliable services for water, electricity and telecommunications. Power outages are frequent and water pressure is low.
- Overcrowding within houses and the poor quality of housing makes these communities particularly at risk of typhoon events.
- Road and draining infrastructure needs updating, currently large pot holes and poor drainage alongside roads leads to transportation issues but also health issues as children play in dirty puddles and there are health risks associated with this.
- Land scarcity is an issue such that new buildings are difficult to get permission to build and there is a lack of land for burials of the deceased.
- Lack of reliable transport to help children get to school
- Insufficient supply of medication and not enough doctors. Distrust of medical advice given by doctors and lack of fuel to ensure a reliable ambulance service
- In each of the target groups, participants raised concerns about domestic violence.
- In some cases participants raised concerned about alcohol abuse and concern that child support needs to be in place for mothers that are widowed or otherwise without financial support.
- The target group with deportees made an important link between food security and increased violence: 'when the mentally disabled get hungry we tend to see them become more aggressive to the public. People would bring them in to the police station because they were hitting and kicking kids because they were hungry.'

In the youth consultations, participants had concerns about finding job opportunities and wanted a trade school so that they have skills in future and can find jobs.

Participants from Ebadon who participated in the hazard mapping exercise reported feeling neglected by their local government, saying that they frequently describe their home as 'the island left behind'.

ADAPTATION PRACTICES AND IDEAS

Few participants shared current adaptation practices in their communities. This is not to say that adaptation is not occurring, but rather that it was not discussed in detail. The following adaptation practices were mentioned:

- In Ebadon participants said they use their schools and churches as safe spaces for sheltering during extreme weather events;
- In Ebeye participants from the displaced persons target group and the fisherfolk target groups discussed that the government had built a seawall but that construction had been stalled and that it did not protect inundation from the lagoon. There was also a RO unit in Ebeye.
- Participants from the Kwajalein workforce target group said that solar streetlights had been installed, a water treatment plant, sewer pipelines, and a washing station at the schools.

Participants shared their ideas about future adaptation. Notably, only one participant discussed migration as an adaptation idea in this DIL activity. Most adaptation ideas related to coastal protection measures (n=31) and nature-based solutions (n=20). Where communities in RMI's neighboring islands tended to prioritize water security measures more, here in the urban environment, there is greater attention on infrastructure and land-use planning reflecting many participants' concerns about urban density.

Adaptation ideas from participants in Kwajalein

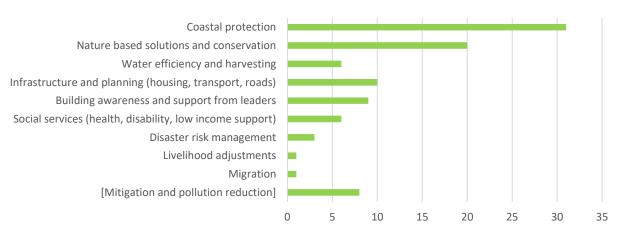


Figure 11: Adaptation ideas from participants in Kwajalein Atoll

These adaptation ideas are extensive and demonstrate a good local understanding of the impacts of climate change on the community. The ideas demonstrate the need for a cross-sectoral approach to climate change. Many of these ideas are low-cost and relatively easy to implement. Through the HVCM exercise, participants developed consensus on the following ideas for adaptation and disaster risk reduction:

- Coastal strengthening through planting of mangroves and tree planting (Bouj and Loije)
- Establish more water catchments and RO Units for improved water security (and ensure the wastewater from RO units is safely disposed) (Bouj, Gugeegue, and Monnin including Lole)
- Early warning system and alarm for extreme weather events and transport for those with special needs (Bouj)
- Rehabilitation of the community evacuation centres to ensure minimum standards and safety measures (identified as a need by all sites)
- Training and awareness raising with community members on enhancing disaster response capacity, supported by formation of community working group (identified as a need by all sites)
- Strengthening disaster preparedness through establishments of emergency kits, medication and transportation (Ebadon, Santo, Monnin including Lole).

Other adaptation ideas that were raised through consultation with participants included infrastructure ideas:

- Typhoon proofing housing as well as fixing gutters and roofing to support household water harvesting
- Introducing solar energy to communities and electricity generators
- Improving sanitation by connecting all homes to sewer and water pipelines (note that participants said that Gugeegue has no running water for toilets)
- Improving roadside drainage in Ebeye to protect kids from playing in dirty water
- Fixing the roads in Ebeye and the causeway between Ebeye and Gugeegue that are currently exposed to erosion and flooding
- Elevating houses and land
- Building a new seawall or expand existing seawall to protect up to Gugeegue
- Investigate the possibility of floating islands

Ideas to improve social services:

- Improving boat transportation between islets and buses around the island
- Make the cost of living more affordable (particularly given some communities are relying on buying water and imported foods). Ideas included introducing price controls, increasing the minimum wage, and reducing local taxes
- Provide more wheelchairs, walkers and supplies for persons with disabilities as well as improving wheelchair access (ramps, sliding doors), and funds to support those with disabilities.
- Provide support for the safety of fisherfolk given their livelihood now involves longer travel
 (as fish move to cooler waters) and in less stable conditions (storm events): communication
 devices, life jackets.

Training and capacity building ideas:

- Improving curriculum in schools around climate change
- Learning new methods for growing crops (such as aeroponic towers) in Ebeye to improve food security.

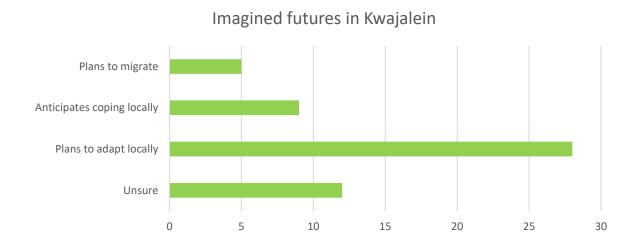


Figure 12: Participants imagined futures, noting few plans for migration and a commitment to adapt locally

Finally, participants demonstrated a strong preference to stay and adapt locally rather than migrate. Figure 7 shows participant responses to being asked about how they imagined their future. This question was asked after a presentation on climate change scenarios. Note that even after being shown extreme sea level rise scenarios, only five participants expressed thoughts about migrating: one had plans to return to their home atoll in RMI, and the other participants considered migration internationally as a last resort. The majority of participants expressed their preference to stay and adapt with climate change impacts (n=28).

ADAPTATION PRACTICES AND IDEAS

The consultation in Kwajalein Atoll has demonstrated various strengths of the communities. Each of the communities expressed pride in their community groups that play a large role in community decision making and implementation of community plans. These groups included traditional leaders, church groups, strong family leadership, and the youth and women's groups. Community members across the consultation sites described how they were driven by a strong sense of culture and tradition. Participants were mostly aware of the climate risks and shared good ideas for a suite of adaptation options (food and water security, social services, land-use planning). The consultation also identified several factors that exacerbate climate impacts including urban density and overcrowding, a lack of sufficient medical services to meet high health needs, and a lack of reliable electricity and water supply.

Analysis of these findings suggest several low-cost, no regret-sense options for Kwajalein (see tables below).

Adaptation activities that could begin immediately

(identified by community and low risk of regret)

Increase the number and capacity of rainwater tanks

Increase the capacity and sustainability of water production through reverse osmosis units

Tree planting to help protect shorelines, reduce heat, and increase food supply

House repairs and strengthening of roofs and gutters to support water harvesting and resilience for typhoon events

Improve sanitation by connecting all homes to sewer and water pipelines

Road repairs and drainage to increase community access

Support for medical services to increase medication supplies and medical staff

Strengthening disaster preparedness through early warning communications, emergency

kits (including medication, food and water supplies) and rehabilitating evacuation centres

Improve waste disposal systems and increase composting

Adaptation activities that could begin in the next five years

(identified by community and require further consultation and planning)

Site assessments to determine the causes of erosion and the most appropriate adaptation response

Introduce solar energy to communities and electricity generators

Training and supplies for new methods for growing crops (such as aeroponic towers) in

Ebeye to improve food security

Pilot new housing systems that are elevated, cooler, and able to withstand strong winds

KEY OBSERVATIONS FROM FIFI D FNGAGEMENT TEAM

During a final debrief and workshop session with project team members shared their naturalistic observations that were observed in the field. These are key takeways from each community and key action points for each community provided by IOM, Jo-Jikum, WUTMI, and MICS.

Takeaways

- Youth girls form Kwajalein think the local government needs to prepare for the future and they also think that they police need more training on gender based violence
- Need for better climate change curriculum in schools

Key actions

- More water catchments for households that do not have and those that do and are broken.
- Fix the gutters for criteria 1 to 5 (related to the Rapid Vulnerability Assessment from COVID-19).
- Safer RO unit required, the wastewater from the current RO is going back to the ocean by the dock and is affecting ocean life.
- Requested floating islands.
- Elevate households (and land down the line).
- Connect all homes to sewer and water that are not connected.
- Request that police attend mandatory training on GBV.
- Improve curriculum in schools around climate change.
- Fix the road in Ebeye and the causeway between Ebeye and Gugeegue.
- The community would like to learn more about more ways to grow crops, like aeroponic towers, in Ebeye to improve food security.
- Coastal protection, both sea walls and nature-based solutions. Expand the current sea wall
 project goes all way to Gugeegue.
- Fix drainage system in Ebeye when it rains it floods, turns green and kids play in it.
- Price control required.
- Minimum wage increase is needed to have a living wage.
- Too many local taxes on top of other taxes, after deductions the pay is too little to survive.
- Solar panels requested, there are some being distributed but only to those that need it most.
 It's creating social tensions on who needs it most and some think it should be distributed to all.
- Need to reinforce the road between Gugeegue and Ebeye to be able to withstand the king tides and wave events – link to sea wall request.
- Gugeegue has no running water for toilets, needs to be improved.
- Gugeegue needs water catchments and RO units, sometimes right now the people are still going to Kwajalein (on base) to collect water.
- Request for more wheelchairs, walkers and supplies for persons with disabilities. Need sliding
 doors and wheelchair accessible ramps. Funds as well to support persons with disabilities.
- Youth are concerned about finding job opportunities the youth want a trade school so that they have skills in future and can find jobs.
- Communication devices for fishermen specifically, for the boats. They don't have on personal boats. Other safety equipment is requested such as lifejackets.
- Fishing gear, the fishermen aren't making enough money and need fishing gear.

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Annex

- 1. Community Profile Ebeye, Kwajalein Atoll
- 2. Community Profile Gugeegue, Kwajalein Atoll
- 3. HVCM of Communities in Kwajalein Atoll
- 4. HVCM Buoj, Kwajalein Atoll
- 5. HVCM Ebadon, Kwajalein Atoll
- 6. HVCM Ebeye, Kwajalein Atoll
- 7. HVCM Ebadon and Mejatto, Kwajalein Atolll
- 8. HVCM Loij, Kwajalein Atoll
- 9. HVCM Tobikle, Kwajalein Atoll
- 10. HVCM Santo, Kwajalein Atoll
- II. HVCM Monnin, Kwajalein Atoll
- 12. HVCM Gugeegue, Kwajalein Atoll
- 13. Kwajalein Household Rapid Vulnerability Assessment
- 14. HVCM Ebeye, Kwajalein Atoll (short)

