



# WOTJE ATOLL DROUGHT MANAGEMENT PLAN

For The Community of Wotje Atoll (Inclusive of  
Wodmej)

Updated: [ February 17-20, 2020 ]

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With the guidance and support of  
the RMI National Disaster Management Office (NDMO), Environmental Protection Authority and Majuro Water Sewer  
Company



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## 1. OBJECTIVE

One primary goal for communities throughout the RMI is to strengthen resilience and disaster preparedness through the design and implementation of a Community Disaster Committee Plan. This template is designed to provide community members guidance in creating strategies to mitigate potential hazards and reduce vulnerabilities.

The template is designed to capture basic information to adequately meet the individual needs of each community. In order to design a thorough disaster plan, it is critical to include all requested information.

The plan should be developed by the community's disaster committee, through advice and guidance from the various community members. Once the plan is completed, the committee should relay the plan to the community members, as well as to the local or national government actors.

## 2. COMMUNITY PROFILE

Wotje, the largest and most populated of the 72 islands that make up Wotje Atoll, is the main hub. Along with Northern Islands High School, Wotje hosts the national and local governments, the power plant, Bank of Marshall Islands (BOMI), National Telecommunications and the air strip where small airplanes operated by Air Marshall Islands (AMI) are able to land.

From the RMI Census of 2011, the population of Wotje Atoll is 723 people. In Wodmej Island community there are approximately 143 people. Government employment (police, teachers, etc.) is the core dependency in Wotje. Alternate sources are fishing, running small canteens, mini stores, handicrafts, gardening, farming and copra. Some families receive money from families living abroad in USA mainland, Guam, Hawaii, Ebeye and Majuro.

The Wotje Atoll Local Government oversees activities around Wotje. Decisions are overseen by the mayor and council with close collaboration and coordination with the traditional and church leadership. Active social groups in Wotje include women's clubs and youth clubs- that are involved in activities such as farming and planting trees to beautify the community etc.. The Likjeron Club is a particularly active women's group currently involved in a gardening project.

Wotje and Wodmej communities are facing the negative impacts of Climate Change. Their coastlines are eroding. Their wells and limited crops are threatened by salt water intrusion.

Between the two communities, there are ethnic groups from China, Philippines, Kiribati, Fiji and United States of America living among the local people, mostly involved in retail businesses and teaching at the schools.

The community profile provides an outline to record and display valuable information regarding the community's population breakdown, households, resources, and valuable assets. **Please see Annex A**

### 3. COMMUNICATIONS

Communications, especially during an emergency, are important to convey the needs of the community, as well as to receive information such as early warnings, or when state representatives will be bringing assistance. According to community members during the consultations, the most reliable form of communications is emails. Although, the email is the often used form of communication, it mostly depends on the connection and strong network.

If the internet network is slow, the members use mobile cellular as the next means of communication. Again, the cellular mobile is dependent on strong the network is. If all means of daily communications are down, the community of Wotje rely on HF radios to communicate outside of Wotje.

Wodmej has no internet or cellular networks, therefore the main means of communications during times of disaster and peace time is the HF radio or as the locals call it the Outer Islands radio.

#### A. Key Contacts

Identify the key stakeholders of the community who will play a pivotal role prior to, during and after a disaster.

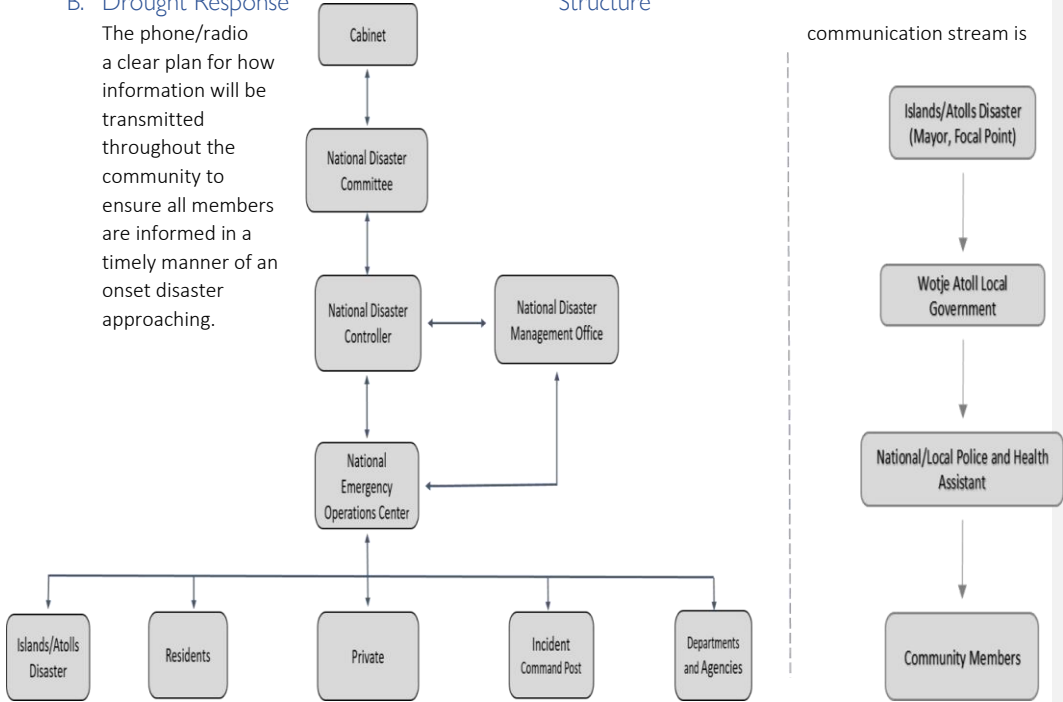
	<u>Names</u>	<u>Contact Details</u>
<b>Traditional Leaders</b>	<b>Iroj Ro (Stanny Tomeing, Marina Hermios, Melinda Tomeing)</b>	<b>545-2591</b>
<b>Mayor &amp; Council leadership</b>	<b>Joe Hanchor Depend on who is acting at the time(Acting Mayor)</b>	<b>455-9335</b>
<b>Health Services</b>	<b>Jackin Robert Jibaibe Boktok</b>	
<b>NDMO/Outer Island Focal Point</b>	<b>Harso Hanchor</b>	<b>545-2228</b>
<b>National/Local Police</b>	<b>Matthew Rufus Kino Jacob</b>	
<b>Church Leaders</b>	<b>Tommy Jacob Marshall Langidrik</b>	
<b>Marshall Islands Red Cross Society Focal Point</b>	<b>Kino Jacob</b>	
<b>Weather Man</b>	<b>Rolly Laukon</b>	
<b>Agent</b>	<b>Scott Hertin</b>	
<b>NIHS Principal</b>	<b>Larul Heine</b>	
<b>WPES Principal</b>	<b>Lokjen Hemos</b>	

<b>Alap</b>		
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## B. Drought Response

The phone/radio a clear plan for how information will be transmitted throughout the community to ensure all members are informed in a timely manner of an onset disaster approaching.

## Structure



## 4. HAZARD, VULNERABILITY & CAPACITY MAPPING (HVCM)

### A. Past Hazard Events/Historical Timeline

A hazard can be natural or manmade, sudden or slow onset, and can cause loss of life, injury or other health impacts, social and economic disruption, and/or environmental degradation. The table below lists down the impact of natural drought in Wotje Atoll during the 2013 and 2016 drought.

Hazard/ Year	How did this event impact your community?	How did the community cope/respond to event?	What signs/clues were visible to community members that the hazard was approaching?
Drought (2013, 2016)	<ul style="list-style-type: none"> <li>- Diarrhea</li> <li>- Skin rash</li> <li>- Pink Eye</li> <li>- Damaged Crops</li> <li>- Livestock</li> <li>- Salty wells</li> <li>- Disease crops</li> <li>- Dirty Environment</li> <li>- Dusty</li> <li>- Coral Bleaching</li> <li>- Warming ocean</li> </ul>	<ul style="list-style-type: none"> <li>- Share water</li> <li>- They requested RO unit from National Government</li> <li>- The DisCom worked together with the focal point to fill in the DSO form and submit to NDMO</li> </ul>	<ul style="list-style-type: none"> <li>- Result of disease outbreak from the Health Assistant</li> <li>- Plants, Crops turn brown</li> <li>- Mass text</li> <li>- Weather</li> </ul>

### B. Identify & Reduce Vulnerability

Vulnerability is the condition or circumstance of the community which makes it susceptible to being damaged by a hazard or disaster. Identify physical vulnerabilities of the community (roads, bridges, houses, community buildings, communications systems), as well as vulnerable individuals who may need additional assistance or care. Include cultural sites, and any facility important to the well-being of the community, such as medical clinic, emergency shelter, and water supply. Possible impact is what “could happen” as a result of the hazard. Identify what corrective activities are needed to reduce the identified vulnerabilities in the community. Corrective activities are actions to be taken prior to the event occurring to mitigate the effects. Please find below impacts of drought in the community of Wotje and Wodmej.

Hazard	Vulnerable assets/people	Possible Impact	Mitigation/Corrective Activities
Drought	Standing water	Mosquito breed	Cover all standing water
	Water catchment	Leaking	Maintain, replace, repair or request donation

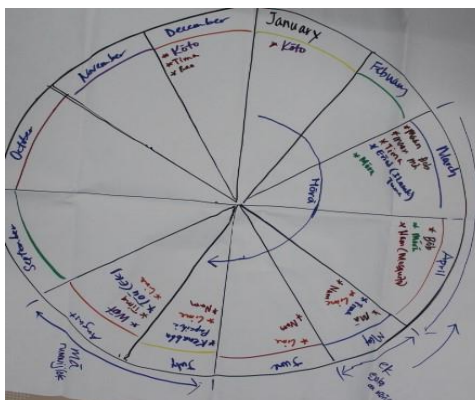
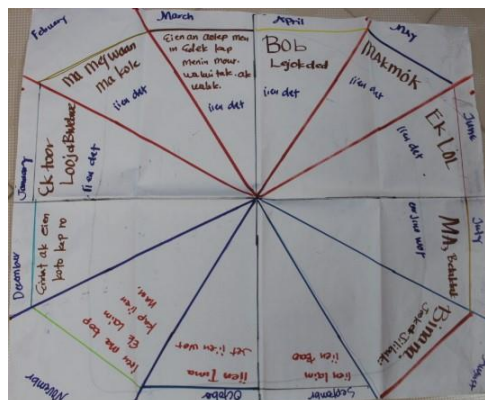
	Hauling water equipment	Distance	More jerry cans, Rear cart
	RO unit	Not enough for the population	Request more units
	Small islet	No water catchment	Provide water catchment
	Crops	Damage crops	Drought tolerant plant

### C. Seasonal Calendar

For disaster preparedness, a seasonal calendar is able to capture environmental changes and their impact upon natural resources utilized by the community. A seasonal calendar also communicates the extent to which economic activities are affected by the seasonal changes and how communities adapt. Please find below the seasonal calendar of the Wotje and Wodmej communities.

Season	How long did this season last?	How were natural resources affected during this time?	How were economic activities affected in this season?	How do you prepare for this season?
Dry Season	: 6 months (January-June)	Fish migrate further out into the sea due to warmer coastal	Spend more money on fuel for boat to go fishing to: <ul style="list-style-type: none"> <li>- Make fish jerky</li> <li>- Sell to MIMRA</li> <li>- Fund raising</li> <li>- Ddily substance</li> </ul>	It depend on the imported salt availability because the community members have lost the traditional skill of making sea salt and also availability of fuel.
		Coral bleaching	Harder to catch fish to sell them at the fishing market	Make environmental ordinance for marine waste management
		Size of coconuts (smaller)	Harder to find coconuts, means harder to trade goods	
		Handcrafting of roses (Wut-trademark handcraft of Wotje Atoll)	No handcraft means no income for the family whom their income depend on handcraft	Preparation for dry season is difficult because the weaving strips made from coconut leaves have to be used right away because long storage makes the leaves brittle.
		Crops are dying	Spend more money on imported food	Plant more drought tolerant crops
		Size of breadfruit (smaller)	Harder to preserved BWIRO, means they can't ferment breadfruit to have food during dry period	

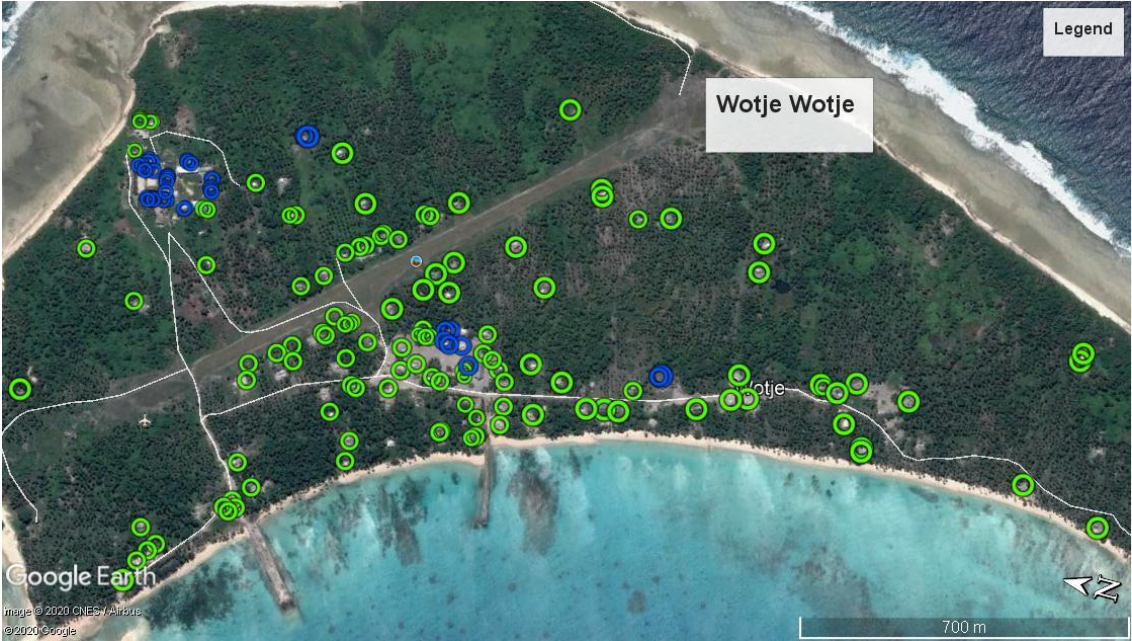




#### D. Capacity for Immediate Response

The following members of the community were identified for their skillset to assist with preparedness and response during a drought.

Community Member	Skill	Description of training and practice with the skill
Johnny Luke Harso Hanchor	RO unit (Charlie)	RO unit setup (2016) December 2018 (Carrol)
Ojinel Hanchor	H2S Test	
Harso Hanchor	Water Quality Drought Situation Overview	
All community members	Water Filter	KIO water filter training 2019
	CPR First Aid (MIRCS)	Red Cross CPR First Aid 2018
All teachers HS,Elem.	CPR First Aid	Walton Bohanny 2019
Kino Jacob	Emergency Response Training	MIRCS 2019





#### F. Identified Communicability Water Sources

Identify the drinking water sources in your community that have been designated as water distribution points during disaster emergencies. Identified water distribution points need to be approved by the WASH Cluster.

Identified Water Source	Capacity (gal)	Consumption Rate	Remarks
Wotje National Police Station	2000gal	71 people for 1 week	
Wotje Public Elementary School	3*1250gal + Conc tank 2142gal = 5892gal	210 people for 1 week	
Northern Islands High School	27,600gal in plastic tanks + conc tank 30,000gal = 57,600gal	2057 people for 1 week	
Protestant Church	50,000gal conc tank		

Dispensary			
Wodmej Protestant Church, Dispensary	25,000gal conc tank		
Wodmej Dispensary	2*1500gal + 7,500gal conc tank = 10,500		

## G. Basic Survival Water Needs

The quantities of water needed for domestic use is context based, and may vary according to the climate, the sanitation facilities available, people's habits, their sacred and cultural practices, the food they cook, the clothes they wear, and so on.

Where possible, 3.96 gallon per person per day (l/p/d) can be exceeded to conform to local standards where that standard is higher.

Basic Survival Water Needs		
Survival needs: water intake (drinking and food)	0.66-0.79 gal/day	Depends on the climate and individual physiology
Basic hygiene practices	0.56-1.6 gal/day	Depends on social and cultural norms
Basic cooking needs	0.79-1.6 gal per day	Depends on food type and social and cultural norms
Total basic water needs	2.0-4.0 gal per day	

Source: SPHERE Standard 2011

Estimated Water Use for Average HH of 7		
Water intake	5.53 gal/day	Drinking and food
Sanitation	11.2 gal/day minimum	5.28 gal 2x shower est. 5.28 gal laundry est. 2.64 gal flush toilet est.
Cooking needs	11.2 gal/day	Depends on food type and social and cultural norms
Total water use	27.93 gal/day x 7 = <b>195.51 gal minimum</b>	18 day supply from a 1585.03 gal tank for HH of 4

## 5. COMMUNITY DISASTER COMMITTEE

The Disaster Committee (DisCom) is made up of community members representing all factions of the community which include men, women, youth, elderly, people with disabilities, and other vulnerable groups. Members of the Community Disaster Committee can be self-appointed and/or voted in, but the process for selecting the committee members should be fair and transparent. There should be a representation of at least three individuals selected for each category (with the exception of the NDMO focal point), taking into consideration equal gender distribution during the selection process. Add any additional responsibilities the committee finds necessary.

<b><u>Name of Identified Team Members</u></b>	<b><u>Titles</u></b>	<b><u>Contact Information</u></b>	<b><u>Determined Responsibilities</u> (need to check with NDMO that TORs are consistent)</b>
Joe Hanchor Harso Hanchor  Wodmej: Donald Lajar	Iroj Stanny Tomeing Mayor Focal Point/EPA  Councilman		<b>Disaster Response Focal Point (CFP) Key</b> decision maker; Maintains emergency communications; Updates partners of latest action plans; Calls for DRC meetings; Reports the results of assessments to DCO; Liaises with government partners and ensures community-level plans are in line with national priorities; Continuously reviews and updates emergency action plans and climate adaptation plans as needed
Harso Hanchor	Focal Point		<b>Vice Focal Points</b> Undertakes all CFP responsibilities while the CFP is off island or otherwise unavailable
Kioji L. Mike  Wodmej: Rosemela Juto	Tax Collector  Teacher		<b>Secretaries</b> Takes notes at meetings; Coordinates venue and members for meetings; Writes and distributes reports of meetings and plans; Keeps record of the community population updated; Updates and maintains contact list of community members
Matthew Rufus  Wodmej: Abraham Hanchor Bikej Kiotak	Sergeant  Local Police Local Poilice		<b>Rescue Team</b> Ensures that all loose/dangerous objects are secured during a disaster; Performs implementation of disaster plan; Ensures emergency equipment is maintained and in stock; Responsible for participating in any relevant training opportunities to update their skills/knowledge; Helps in evacuating elderly, disabled, and sick people to the evacuation shelter; Ensures that each community member has been safely relocated to the evacuation shelter
Harso Hanchor  Wodmej: Gabriel Elbon	Focal Point/EPA		<b>Water Monitors</b> Rain gauge monitor; Maintains monthly monitoring of rainwater and wells by reporting water levels to CFP; Responsible for securing water catchments and wells before a disaster hits; Ensures the water is not wasted during and after a disaster; Reports contaminated drinking water to CFP
Lokjen Hemos Larul Heine  Wodmej: Dennis Kiosa	WPES Principal NIHS Principal		<b>Community Liaisons</b> Reports Disaster Response Plan back to the community; Provides feedback from community to DRMC; Updates community on any changes to the plan
Matthew Rufus Lokjen Hemos Larul Heine	Sergeant WPES Principal NIHS Principal		<b>Evacuation Shelter Managers</b> Ensures the evacuation shelter is well-maintained and resources are ready

## 6. PREPAREDNESS ACTION PLAN

For each hazard your community is prone to there should be a detailed and step-by-step plan. The plan should be created by the DisCom primarily including feedback from the community members. The best way to create a plan is through a consultative meeting process, in which all committee members agree on each step of the plan. The DisCom should present the completed plan to the community members ensuring each community member is updated on where to go for each type of hazard. The DisCom should also create a timeline to regularly review the plan with community members, as well as conduct community-wide drills of the plan. As soon as the plan is completed, the NDMO/Outer Islands Focal Point should relay it to the relevant government counterpart. For a copy of the Initial Situation Overview (ISO) or Drought Situation Overview (DSO) form, please see Annex D.

### A. Hazard Specific Action Plan

#### SLOW ONSET HAZARD: Drought

	<b>Point to consider...</b>	<b>How will your community respond?</b>
Pre Drought	<p>* refer to the DSO for more points</p> <p>When did it last rain?</p> <p>Was the rain light or heavy?</p> <p>What kind of water catchment does the HH have?</p> <p>Number of households with adequate water levels?</p>	<ol style="list-style-type: none"> <li>1. DisCom to ensure the water source inventory is updated</li> <li>2. Each household to maintain their own water tank</li> <li>3. Health Assistant to ensure there's enough medicine on stock</li> <li>4. School principals to ensure all leaking pipes and tanks are fix</li> <li>5. Weather man to keep track of monthly rainfall average and report to the DisCom</li> <li>6.</li> </ol>
During Drought	<p>Is the underground water brackish? Depths of underground water?</p> <p>What are the drinking water capacities of the community water centre (usually schools and churches)?</p> <p>Is the community drinking alternative sources of water? E.g. coconuts</p> <p>Is the HH practicing water conservation methods?</p> <p>Are there changes in the community's crops?</p>	<ol style="list-style-type: none"> <li>1. The DisCom will meet and plan</li> <li>2. Community Liaison to ensure all community members and the sub-committee on wodmej are aware of the committee plan</li> <li>3. All community members to start conserve water</li> <li>4. HS principal to ensure the boarding students are conserving water</li> <li>5. Water monitor team to start monitor all HH and community water tanks (Monthly before the drought and weekly during the drought)</li> <li>6. Committee to ensure all community members are aware to fix their leaky pipes, tanks and gutter</li> <li>7. Health assistant to ensure the clinic is equipped</li> <li>8. Everybody work together to clean the water tanks</li> <li>9. Ensure all student wash their hand constantly</li> <li>10. Community clean up</li> <li>11. Wodmej sub-committee to ensure their report get to the focal point</li> <li>12. The community members will start preserve local food (Bwiro, Jenkun)</li> <li>13. Parents to ensure children are not playing with water</li> <li>14. Committee to ensure people are boiling their water or treat it with Clorox</li> </ol>



Post  
Drought

	<ol style="list-style-type: none"><li>15. Use well for livestock and cleaning</li><li>16. Take photos when conducting the DSO</li><li>17. Focal Point to ensure report get to NDMO office</li><li>18. Request RO from NDMO and make sure Wodmej also get one</li><li>19. Council, Focal point and DisCom to help install RO units</li><li>20. Focal point and local government to work closely with all deploy and assessment team from Majuro</li></ol>
Gaps identified during the drought. E.g. Water harvesting system, jerry cans,	<ol style="list-style-type: none"><li>1. The DisCom meet again</li><li>2. Community Liaison to inform community members and Wodmej sub-committee about DisCom meeting mins</li><li>3. Inform all community members to clean their roof, guttering and tanks</li><li>4. Replant all ruined crops</li><li>5. Community clean up</li><li>6. Monitor team to test again all the tanks in each households before they start drink from it.</li><li>7. DisCom to ensure people are boiling their drinking water until all tanks are safe</li><li>8. DisCom (Relief Team)</li></ol>



## RESPONSE PLAN

<b>NORMAL STAGE PREPAREDNESS</b>	<b>RISK MATRIX<sup>1</sup> - LEVEL 1 – Normal</b> Applies right throughout the year
<b>CONDITIONS</b>	<ol style="list-style-type: none"> <li>1. Normal or near normal seasonal rainfall</li> <li>2. Normal or near normal water storage levels</li> </ol>
<b>EFFECTS</b>	<ol style="list-style-type: none"> <li>1. All groundwater sources available</li> <li>2. Community and household water storage tanks &gt; 75% of total capacity</li> </ol>
<b>ACTIONS</b>	<ol style="list-style-type: none"> <li>1. Normal day-to-day water supply operations</li> <li>2. Routine leak control</li> <li>3. Check rain harvesting and storage systems are working effectively</li> <li>4. Routine maintenance of water-related systems and infrastructure</li> <li>5. Routine monitoring of weather forecast</li> <li>6. Stocktaking of water capacity at all level by Water Monitor and Weather Man</li> <li>7. Each household maintain and monitor their water catchment</li> <li>8. DisCom to update inventory of all water catchment (twice a year)</li> </ol>
<b>INDICATION</b>	2013/2016 El Nino Drought Response. <ul style="list-style-type: none"> <li>• Rainfall reduction beginning in late 2016 through mid-2017</li> <li>• The water level of the wells were very low and the water became salty</li> <li>• Fruits began to get smaller and trees brown, breadfruit branches, breadfruits not ripe but rotted</li> <li>• Community and household water storage began to decrease</li> <li>• Water catchment not sufficient</li> <li>• Disease outbreak (Pinkeye and Diarrhea)</li> <li>• Warming ocean which led to coral bleaching</li> <li>• Dusty</li> <li>• Disease crops (breadfruit, pandanus, coconuts, banana)</li> <li>• RO units deployed ( 2 RO units, 1 for Wotje and 1 for Wodmej)</li> <li>• RO unit donated by IOM in 2016 has not been installed due no pvc pipes</li> <li>• RO unit not operational due to low voltage batteries</li> </ul>
<b>MANAGEMENT ACTIONS</b>	WATER SUPPLY IMPROVEMENT ACTIVITIES <ul style="list-style-type: none"> <li>• Capacity Building in Water Monitoring processes</li> <li>• Community awareness on water conservation</li> <li>• Engage community in water management procedures and decision making.</li> <li>• Shared water with families whom their water catchments were empty</li> <li>• Community Disaster Committee has been established</li> <li>• Police fetch water for the disable and elderly people</li> <li>• Identified fresh groundwater to serve as a backup during dry periods</li> </ul>

<b>STAGE 1 WATER WATCH GOALS</b>	<b>RISK MATRIX: LEVEL 2 ..... DRY PERIOD; WATERWATCH</b>  The goals of this stage are to heighten awareness of the public on water conditions and to maintain the integrity of the water supply systems.
<b>TRIGGERS</b>	This stage is triggered by any one of the following conditions: <ol style="list-style-type: none"> <li>1. If the rainfall is below 8"/past month</li> <li>2. Reticulation ground water systems are low or salty</li> <li>3. Household water storage are <b>less than 50%</b> of total capacity</li> <li>4. Community water system are <b>just above 75%</b> of total capacity</li> <li>5. Low rainfall is forecasted for the next month</li> <li>6. Murrar kein ekkan ko</li> <li>7. <b>Menin mour rej kakure nien dren ko</b></li> <li>8. There are cases of pinkeye and diarrhea</li> <li>9. Dusty</li> </ol>
<b>AWARENESS ACTIONS</b>	<ol style="list-style-type: none"> <li>1. The National Disaster Management Office in conjunction with the National Weather Service Office will provide early warnings as required.</li> </ol>
<b>MANAGEMENT ACTIONS</b>	<ol style="list-style-type: none"> <li>1. Establish baseline information on water stocks at all level (Quarterly)</li> <li>2. Clean and repair all rainwater harvesting systems at a community and household level to ensure maximum capture and storage of water.</li> <li>3. The Water Monitor along with the police men will monitor use of water at household and all community tanks and provide reports to National Disaster Management Office via the Outer Island Focal Point utilizing the Drought Situational Overview form. (School Principal, Health Asst, Churches) (7 Seven day, Protestant, Mormon, Ba'Hai, Full gospel, Catholic, Assembly of God)</li> <li>4. Monitor Salinity and Water Quality where possible in coordination with EPA (Local, national and focal point)</li> <li>5. Monitor agricultural impacts and report to the National Disaster Management Office utilizing the Drought Situational Overview form. (Principals and Focal Point)</li> <li>6. Ensure RO units are fully operational (Police men and Focal Point)</li> <li>7. Business sector and Government SOE (MEC, Postal)</li> </ol>
<b>REGULATION ACTIONS</b>	<ol style="list-style-type: none"> <li>1.</li> <li>2.</li> </ol>
<b>INDICATION</b>	<ul style="list-style-type: none"> <li>• When monitoring action fails, Water Watch stage sometimes skipped to Stage 2.</li> <li>• Create local Water saving tips and disseminate to school and households</li> <li>• DisCom to educate people about the important of water</li> <li>• Request RO units from the National Disaster Management Office</li> </ul>

**Commented [A1]:** Again community will change and add depending on their experiences and needs

<b>STAGE 2</b>	<b>RISK MATRIX: LEVEL 3. WATER WARNING -DROUGHT</b>
<b>WATER WARNING</b>	
<b>GOALS</b>	The goals of this stage is to heighten water conservation by reducing water demands by <b>20%</b> and to reduce overall consumption
<b>TRIGGERS</b>	<p>This stage is triggered by any one of the following conditions:</p> <ol style="list-style-type: none"> <li>1. Rainfall is below <math>\leq 4''</math>/month</li> <li>2. The community storage has fallen <b>below 50%</b> capacity.</li> <li>3. The household water tanks are <b>below 25%</b> capacity.</li> <li>4. Reticulated ground water system is very low and ground water is salty</li> <li>5. Low rainfall is forecasted for the next month or two</li> </ol>
<b>AWARENESS ACTIONS</b>	<ol style="list-style-type: none"> <li>1. Continue of previous awareness action</li> <li>2. Discourage Water demand activities such as sports, ceremonial activities and watering sand, etc.</li> </ol>
<b>MANAGEMENT ACTIONS</b>	<ol style="list-style-type: none"> <li>1. National Emergency Operation Center and WASH Cluster continue to monitor and mitigate prior to State of Emergency</li> <li>2. Ministry of Health and Human Services continue to monitor closely for health impacts via the outer island dispensary system</li> <li>3. Maintain adequate water level and/or access for Schools to continue operation</li> <li>4. Local Police to identify very vulnerable group, elderly, newborn and the sick, deliver water to their house.</li> <li>5. Deploy emergency RO units for mitigation if required</li> <li>6. The Water Monitor will monitor use of water at household and all community tanks and provide reports to National Disaster Management Office via the Outer Island Focal Point utilizing the Drought Situational Overview form.</li> <li>7. Monitor Salinity and Water Quality where possible in coordination with EPA</li> <li>8. Monitor agricultural impacts and report to the National Disaster Management Office utilizing the Drought Situational Overview form.</li> </ol>
<b>REGULATION ACTIONS</b>	<ol style="list-style-type: none"> <li>1. The public will be asked to cut back on Daily Water</li> <li>2. DisCom to draft a water conservation resolution</li> <li>3. Community access points and quantities to be identified and communicated to the public.</li> </ol>
<b>INDICATION</b>	<ul style="list-style-type: none"> <li>• High salinity in Groundwater systems</li> <li>• Water catchment leak due to emptiness</li> <li>• Water taste not favorable</li> </ul>

STAGE 3 WATER EMERGENCY	RISK MATRIX: LEVEL 4 ; SEVERE DROUGHT & WATER EMERGENCY
GOALS	The goals of this stage is to heighten water conservation by reducing water use/peak demands and consumption
TRIGGERS	<p>This stage is triggered by any one of the following conditions:</p> <ol style="list-style-type: none"> <li>1. Rainfall is below <math>\leq 2''</math>/month</li> <li>2. The community storage has fallen <b>below 25%</b> capacity.</li> <li>3. The household water tanks are <b>below 10%</b> capacity.</li> <li>4. Low rainfall is forecasted for the next month</li> <li>5. The crops are damage</li> <li>6. Disease outbreak due to drought</li> <li>7. Lack of sustainable livelihoods due to drought</li> </ol>
AWARENESS ACTIONS	<ol style="list-style-type: none"> <li>1. Continue of previous awareness action</li> <li>2. Make announcement during Sunday service</li> <li>3. The Disaster Committee will hold public meetings to discuss the status of the water supply and further actions, which need to be taken.</li> </ol>
MANAGEMENT ACTIONS	<ol style="list-style-type: none"> <li>1. Disaster Committee meets bi-weekly</li> <li>2. The community water tanks will be monitored twice weekly.</li> <li>3. Continue household water level monitoring</li> <li>4. Health Cluster Surveillance of water borne vector and diseases</li> <li>5. Sustainable livelihoods monitored</li> <li>6. RO units deployed</li> </ol>
REGULATION ACTIONS	<ol style="list-style-type: none"> <li>1. Limit - activities.</li> <li>2. Waste of water will be prohibited.</li> <li>3. Water rationing from RO and distribution hours established</li> </ol>
INDICATION	

<b>STAGE 4</b>	
<b>SEVERE SHORTAGE</b>	<b>RISK MATRIX: LEVEL 5 STATE OF DISASTER</b>
<b>STATE OF EMERGENCY</b>	
<b>GOALS</b>	The goal of this stage is to heighten water conservation and provide assistance.
<b>TRIGGERS</b>	<p>This stage is triggered by any one of the following conditions:</p> <ol style="list-style-type: none"> <li>1. Island ground water supply sources have dried</li> <li>2. There is no longer sustainable livelihoods</li> <li>3. The Island Public storage has fallen <b>below 25%</b> capacity.</li> <li>4. The Household Water tanks are <b>below 5 days</b> capacity.</li> <li>5. Salinity Level is over 1500ppm</li> <li>6. Low and no rainfall is forecasted for the next months</li> <li>7. On-set of water borne illnesses</li> </ol>
<b>AWARENESS ACTIONS</b>	<ol style="list-style-type: none"> <li>1. Continue of previous awareness action</li> <li>2. The Disaster Committee will hold regular Public meetings to discuss the status of the water supply and further actions, health indicators and agricultural impacts. Coordination of external assistance.</li> </ol>
<b>MANAGEMENT ACTIONS</b>	<ol style="list-style-type: none"> <li>1. Continue Salinity monitoring actions.</li> <li>2. Continue Surveillance of water borne vector and diseases</li> <li>3. Sustainable livelihoods monitored</li> </ol>
<b>REGULATION ACTIONS</b>	<ol style="list-style-type: none"> <li>1. Household must have water containers, 5 gallon hard sided jerry cans preferred.</li> </ol>
<b>INDICATION SEVERE DROUGHT</b>	"Declare State of Disaster" to open up assistants from abroad at the direction of the Cabinet in Coordination with the National Disaster Committee.

**Commented [A2]:** Is this correct for EPA here

## 7. CONCLUSION

The purpose of this plan is to serve as a framework to guide the Disaster Committee in assisting the community in preparedness and response during the different levels of drought to reduce the negative impacts of the hazard. Although the plan was developed through consultations with relevant stakeholders from the community, the Disaster Committee has identified the need to establish an ordinance to rapid and slow onsets hazards in the community to align with the national disaster laws. It will be a legal platform for better coordination of capabilities, responsibilities and resources between the local and national governments. Therefore, the document will continue to change based on the community's experiences in mitigation and preparedness in water management during droughts.

## 8. COMMUNITY ACTION PLAN TABLE

Kauatata ko rejelet jukjuk im bed eo <i>Identified Hazards/Threat</i>	Buīten ko rekkar <i>Proposed solutions</i>		Won ej lolorjake? <i>Who is responsible?</i>		Naat eo enaj kōjeimooj buīten kein? <i>When are the tasks to be implemented?</i>
	Ta ko emōj kommani? <i>What has been done?</i>	Ta ko jemaroī kommani? <i>What can be done?</i>	Ilo jukjuk im bed eo? <i>(Within Community?)</i>	Tu nabōj en jukjuk im bed eo? <i>(Outside Community?)</i>	
<b>Mōrā/det</b> <i>Drought/Extreme heat</i>	<ul style="list-style-type: none"> <li>-There are wells</li> <li>-Water monitor team have been trained</li> <li>-Fresh groundwater has been identified to serve as a backup during dry periods</li> <li>-There are water tanks but not enough</li> <li>-</li> </ul>	<ul style="list-style-type: none"> <li>1) Work together to repair and maintain all household water tanks</li> <li>2) Preserve local food (e.g. bwiro, jenkun)</li> <li>3) RO Units</li> <li>4. Rear Cart</li> <li>5. Repair WW2 water catchments</li> <li>6. Water tanks with repair kits and gutter</li> <li>7. Walky Talkie</li> <li>8. SatPhone</li> </ul>	<ul style="list-style-type: none"> <li>- Council</li> <li>- Alap ro</li> <li>- Kajojo baamle</li> <li>- NIHS</li> </ul>	<ul style="list-style-type: none"> <li>-IOM</li> <li>-Red Cross</li> <li>-R&amp;D</li> <li>-WUTMI</li> </ul>	<b>2019</b>







**Annex A**  
**Community Profile: Republic of the Marshall Islands**

INITIAL INFORMATION										
<b>Site details</b>										
Country:	Marshall Islands		Community:	Wotje Wodmej						
Atoll/Island:	Wotje Atoll		Date:	13 March 2020						
GPS Coordinates:	Latitude: 9.552453		Longitude:	170.149975						
Name of Mayor:	Joe Hanchor		Contact of Mayor:	(692)455-9324						
<b>Demographics</b>										
Age/sex	0-5 years		6-12 years		13-17 years		18-59 years		60+ years	
Male	8		23		17		16		8	
Female	12		21		18		17		8	
Total	20		44		35		33		16	
Total # of Households	21									
<b>Access</b>										
Is there an airport?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		If yes, coordinates		X		Y			
Is there a distribution point?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		If yes, coordinates		X		Y			
Is there a dock?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		If yes, coordinates		X		Y			
Is there an evacuation centre?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		If yes, coordinates		X		Y			
			Or, If yes, location							
<b>Communication</b>										
Phone access	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Mobile access		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Internet access		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Radio station access	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		HF Radio access		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		If yes, frequency			
Access to HF Radio	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		If yes, frequency		8113.50		Other type(s) of communication tool(s)			
<b>Key Stakeholders</b>										
Are there existing disaster management committees? YES			Name: Joe Hanchor			Contact: 455-9324				
Other community leaders?			Name: Harso Hanchor			Contact: 545-2228				
<b>SERVICES</b>										
<b>Shelter</b>										
# of families living with host family	7		# of HH with mosquito nets				0			
# of families living in temporary shelter	0		# of HH with access to electricity				0			
# of families living in permanent housing	21		# of HH with solar power				20			
<b>WASH</b>										
Av. rainfall every 6 months (mm)				# HH with private latrine: 21						
Main source of water for drinking		<input type="checkbox"/> Well <input checked="" type="checkbox"/> Rain Water <input type="checkbox"/> RO Unit <input type="checkbox"/> River <input type="checkbox"/> Tap <input type="checkbox"/> Other,								
Main source of water for cooking		<input type="checkbox"/> Well <input checked="" type="checkbox"/> Rain Water <input type="checkbox"/> RO Unit <input type="checkbox"/> River <input type="checkbox"/> Tap <input type="checkbox"/> Other,								
# of public water catchments: 21		General quality of water:		<input type="checkbox"/> Clean <input checked="" type="checkbox"/> Moderately clean <input type="checkbox"/> Unclean						
Signs of open defecation		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Ongoing hygiene promotion campaigns?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				
<b>Health</b>										
Health facility situated within community		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		If yes, Highest Level of Health facility		Primary Care				
Most prevalent health problems		<input type="checkbox"/> Diabetes <input type="checkbox"/> Malnutrition <input type="checkbox"/> Pink eye <input type="checkbox"/> diarrhea <input checked="" type="checkbox"/> Flu-like symptoms <input type="checkbox"/> Other,								
<b>Food and livelihood</b>										
What is the most common source of obtaining food?		<input checked="" type="checkbox"/> Own produce <input type="checkbox"/> Local market <input type="checkbox"/> Commercial market								
Is there access to food distribution?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Supplementary feeding for children		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
Access to market		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		# of families with source of income		21				
<b>Education</b>										
Educational facility situated within municipality		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		# of children attending school		Boys:		Girls:		
Highest level of educational facility within municipality?		<input checked="" type="checkbox"/> Elementary school <input type="checkbox"/> High school <input type="checkbox"/> College								
If children are not going to school, why not?		<input type="checkbox"/> Not accessible <input type="checkbox"/> Infrastructure not suitable <input checked="" type="checkbox"/> Family decision <input type="checkbox"/> Other:								





Annex B

EOC DSO Outer Island Reporting Form

Name and Title of Majuro Reporter: \_\_\_\_\_  
(*Etan im Title eo an Reporter eo jen Majuro*)

Date: \_\_\_\_\_  
(*raan eo*)

Name and Title of Outer Island Reporter: \_\_\_\_\_  
(*Etan im Title eo an Reporter eo jen Aelon eo Illikin*)

Island: \_\_\_\_\_  
(*Ettan ene eo*)

# Households:

Atoll: \_\_\_\_\_  
(*Etan Atoll eo*)

#people:

Method of communication: \_\_\_\_\_  
(*wawen kojela tok, i.e. radio 65, email, letter nan Chief Secretary ak Mayor's Office ilo Majuro*)

When is the last time it rained, date:  
(*Naat eo eliktata ekkar wot? Raan eo*)

How much did it rain (intensity of rain):  
(*Ewi jonn an kar wot? (jonn an kajjur in wot)*)  
☐ Light rain (*jidrik*)  
☐ Heavy rain (*elap*)

Duration of rain:  
☐ 1 hour or more (*1 awa im driklak*)  
☐ 12 hours more (*jimettan raan*)  
☐ 24 hours or more (*juon raan likio*)

Type of Water Catchments surveyed:  
☐ (*ewi jonn nien dren ko kab kein nien dren rot eo am, jouij im kwalok worran ilo gallon*)

1000 gallon \_\_\_\_\_

1500 gallon \_\_\_\_\_

Other \_\_\_\_\_ (*note ¼ of all households rej aikwij survey*)

On average how full are these tanks:  
(*Ewi jonn an dren iloon tank ko*) (*eg 6 - full, 5 - ¾ full, 2 - 1/2 full, nil ¼ full*)  
Full or less \_\_\_\_\_ tanks  
(*bol lonlon ak drik lak jidrik*)  
¾ or less \_\_\_\_\_ tanks  
(*jillu mottan emmen im driklak*)  
½ or less \_\_\_\_\_ tanks  
(*jimettan im driklak*)  
¼ or less \_\_\_\_\_ tanks  
(*juon mottan emmen im driklak*)  
empty \_\_\_\_\_ tanks  
(*ejjelok kobban nein dren ko*)

Well water quality on average is described as:  
(*ewi jonn an erre in dren*)  
☐ Normal (*emman*)  
☐ More salty / polluted than normal (*ejjab erre*)



On average how much water is left in the wells - depth of water:

*(ewi jannan dren in aibojlal ko)*

- ☐ 3 feet *(jillu ne)*
- ☐ 2 feet *(ruo ne)*
- ☐ 1 foot *(juon ne)*
- ☐ 6 inches *(jiljino ne)*
- ☐ Less than 6 inches *(driklak jen jiljino ne)*

What conservation measure are individuals on this island taking to conserve water (check all that apply)

*(Ta buntan ko nan kejbarok dren, jouij im kokkalle aolep men ko rejimwe)*

- ☐ Using catchment water for drinking only *(kajjebal wat ilo ieen idrak)*
- ☐ Drinking coconuts in place of water *(elaplak idrak ni im ejjab dren ko)*
- ☐ Limiting showering to once every other day (or less) *(tutu wat ilo ieen aikwij ak kadriklak ien tutu)*
- ☐ Drinking well water *(idrak dren jen aibojlal ko)*
- ☐ Limiting or no longer watering agriculture *(ejjelok utdrikdrik keinikan ko)*
- ☐ Other *(wawen ko jet)* \_\_\_\_\_

Approximately what percentage of individuals are taking these actions, and for how many weeks have they been doing it? *(Emaron jete worran armij rej loor buntan kein im kejbarok dren? Example, 5%, 20%, jimmetan in aolep armij, aolep armij)*

With the current amount of water available on island and the current conservation methods, how long will their current **drinkable** water supply last on the island if it does not rain? *(Kin jannan dren eo ion Aelon in, emaron mottan jete week bwe en maat aolep drenn in iddrak?)*

- ☐ 1 week or less *(juon week)*
- ☐ 2 weeks or less *(ruo week)*
- ☐ 3 weeks or less *(jillu week)*
- ☐ 4 weeks or less *(emen week im driklak)*
- ☐ More than one month *(juon Allon lonlak)*

#### RO Unit Questions

- a. Do you have a reverse osmosis (RO Unit) on your islands? Is it working? \_\_\_\_\_
- b. If yes, how much does it produce a day? \_\_\_\_\_
- c. Can everyone on the island access the water (is the resource shared), do people have to pay?
- d. Do you have storage containers to carry water in from the RO to individual households?
  - a. Are they enough?
  - b. Are they safe (have a small opening and a closure)?
- e. If the RO is not working, what is wrong with it?
- f. If you require an RO do you have a location in mind of where to place it?
  - a. Who would care for it?
  - b. Do you have extra tanks to put the water into for storage and distribution?

#### Agriculture

Have you noticed in changes in the plants – consider how they look and how much food they are producing? If so describe?

Breadfruit

Coconut

Pandanus

Papaya

Other (Pumpkin, etc)

Is there an increased utilization of canned/processed foods versus fresh foods? *(Elaplak ke kojerbal mona ko ilo kuwat, rice,im bilawe ijjelokin mona ko jen kein ekkan ko ion aelon in/ea/kein? Aet ke Jab?)*

Please share any other comments or concerns from this community regarding water related challenges, successes or concerns *(jouij im kwalok jabrewot bwebwenato ko kwoj emmonono in kajeded nan aolep kin aban ko kab jermal ko jet edredrelak , ak jabrewot inebata ikkiejen dren)*

Number of household tanks to be surveyed is 25% of total. I.e. at least one in four.

Wotho 6	Ujae 16	Lae 14
Namu – Namu 8	Namu – Majkin 12	Namu – Leon 8
Namu – Mae 5	Likiep – Melang 4	Likiep – Jebal 4
Likiep – Likiep 22	Mejit 17	Maloelap – Jang 4
Maloelap – Kaben 8	Maloelap – Tarawa 5	Maloelap – Ollet 5
Maloelap – Airok 5	Wotje – Wotje 24	Wotje – Wormej 4
Ailuk – Ailuk 16	Ailuk – Enejelar 4	Aur – Aur 14
Aur – Tobal 10	Utirik 16	Enewatak 26
Lib 5	Ebadon (Kwaj) 4	Mejatto (Kwaj) 16

## Wotje Wodmej Community Log Sheet

Home Owner	Weto	Number of Catchment	Tank capacity	Catchment Status	Number of People
Bolju Jello	Mon-Aktal	2		Damaged	3
Ton Alex	Monenno	1	1500		6
Joana Laneab	Mejerto				5
Langneo	Monenno	1	1500		4
Nako	Boklej	1	1500		8
Francie Lang	Monenno	No water tank			5
Georgeton Bujen	El En	1	1500		10
Mejwadrik	Lojere	2	1500		6
Kiosa	Batin Kijeeek	1	1500		3
Tiveney Juto	Batin Kijeeek	1	1500		12
Binni Kiotak	Batin Kijeeek	1	1500		0
Wodmej UCC	Batin Kijeeek	1	1000		3
Kioj Kiosa	Lamnijo	2	2000		10
Mercy Hanchor	Monija	1	1500	1 Leaking	2
Donald Lajar	Lamnijo			1 Leaking	0
Herja Laneab	Monak	1	1500		3
Bokjen Kaious	Mojerke	1	1500		4
Hicom	Munijo	1	1500		0
Bikej Kiotak	Arjeltak	2	3000		4
Jibaibwe Boktok	Wotje	3	10,500		