

Lukwoj, Arno HVCM Final Report

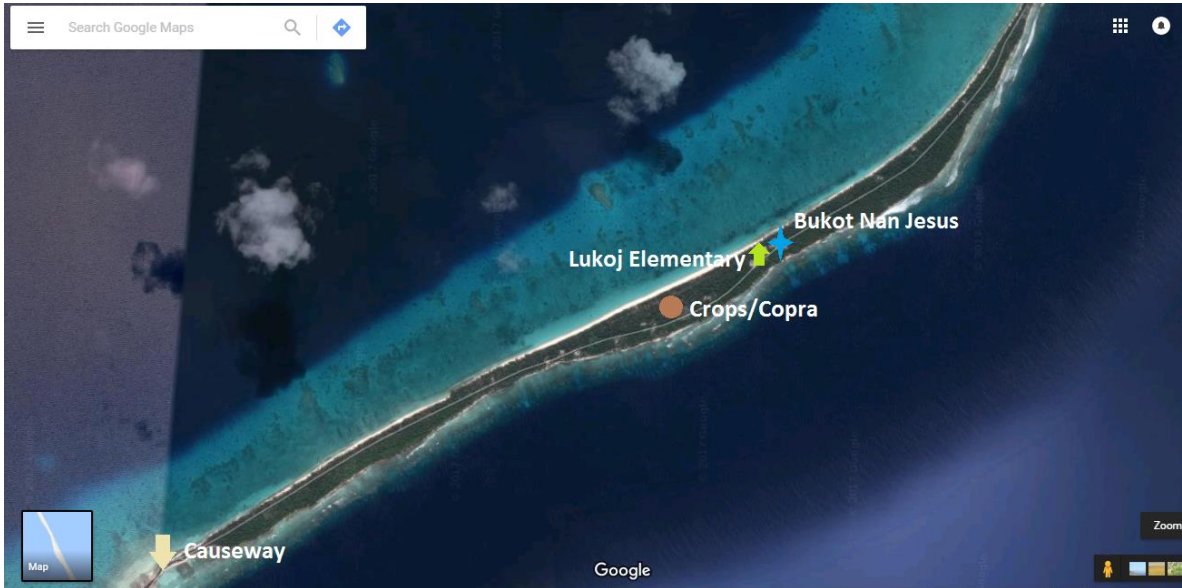
CADRE PLUS

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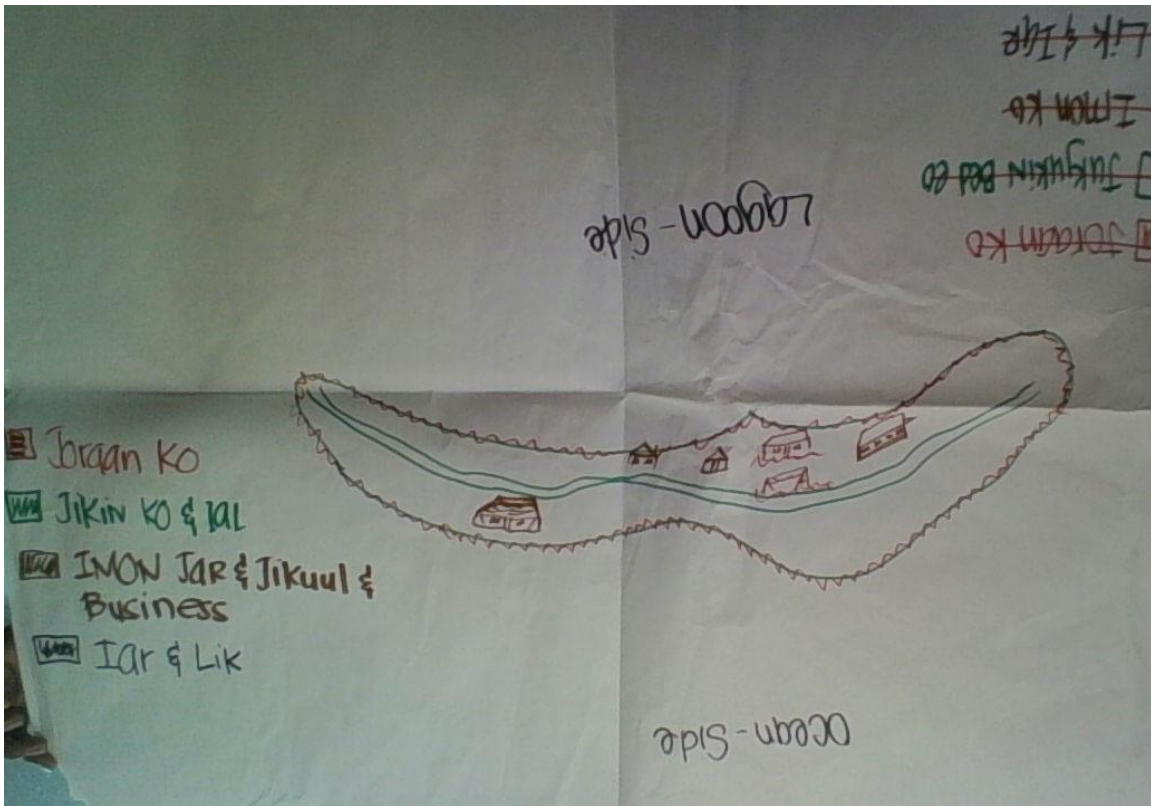
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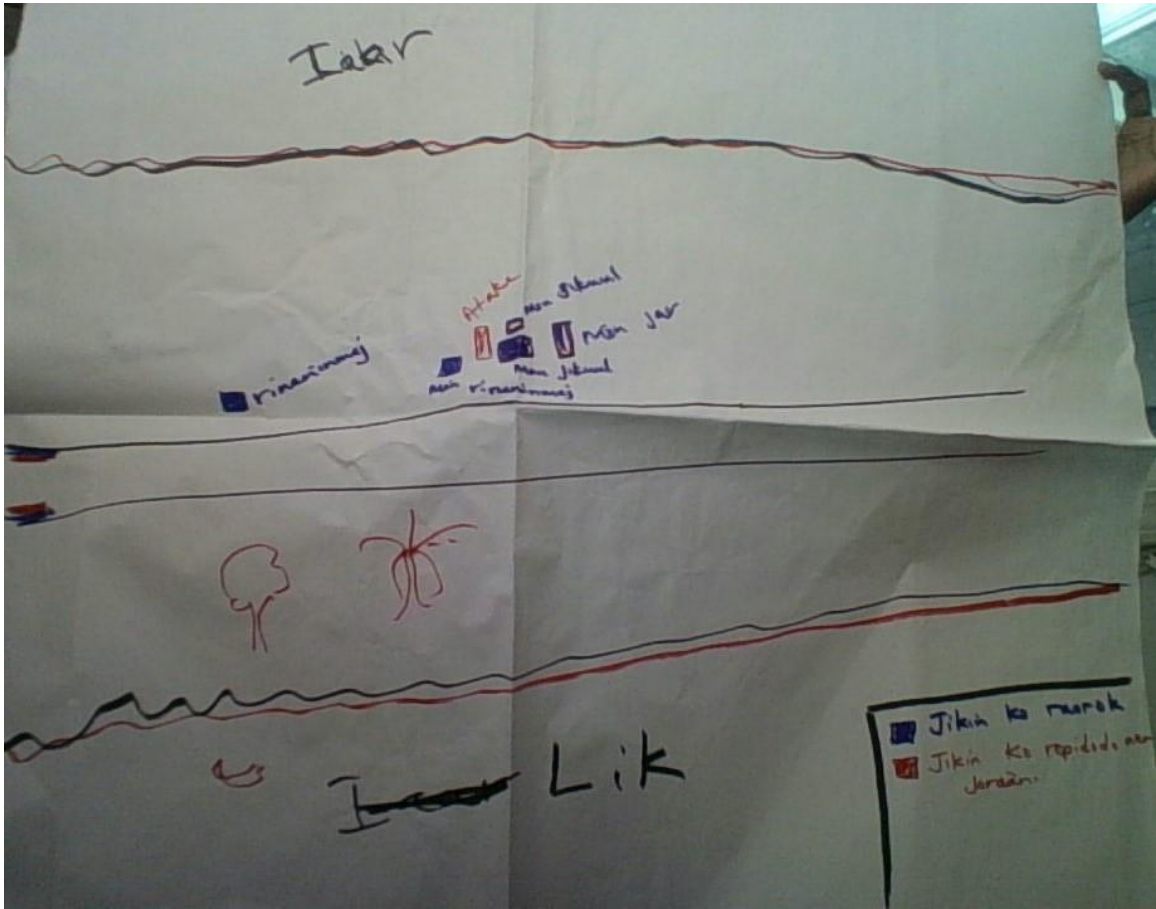
Spatial (overview of main features)



(Lukwoj Spatial Mapping)



(Lukwoj map from Men's group)



(Lukwoj map from Women's group)



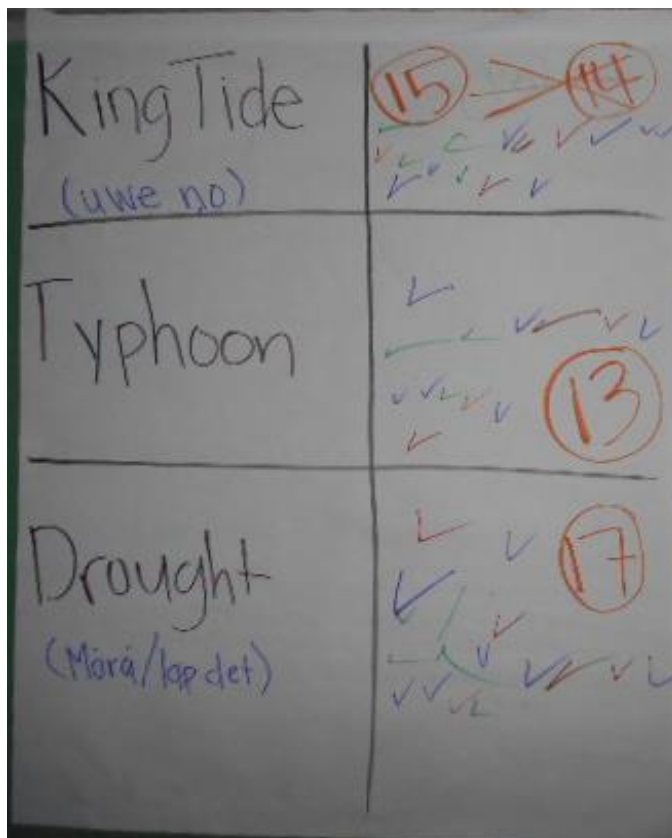
(Lukwoj map from Youth group)



(Causeway between Arno and Lukwoj)

~~The Lukwoj community is a small community approximately two miles away from the main center, Arno, Arno, connected by a narrow causeway and lies between Arno and Jabo villages. Lukwoj stretches out for nearly two miles long, lying between Arno and Jabo.~~

Hazard and Vulnerabilities Assessment



(Lukwoj community put marks next to hazard(s) that affect the community the most)

During the Hazard, Vulnerability, Capacity, Mapping (HVCM) Exercises, the Lukwoj community ~~shared discussed the~~ many hazards that have affected the village over the past hundred years. The three hazards that have hit Lukwoj the most are typhoons, high tides or king tides, and drought.

1. Hazard type	Typhoon
2. Warning sign	Formation of clouds, low flying frigate birds
3. Forewarning	Radio warning-V7AB
4. Speed of onset	rapid
5. Frequency	
6. When	1) 1905 2) 1957 3) 1979-80
7. Duration	

	8. Extent	People have drifted/drowned <u>H</u> omes destroyed
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Table 1/B: Hazard Assessment	
1. Hazard type	Drought
2. Warning sign	Lack of rain, plants die, turn brown
3. Forewarning	Radio warning- V7AB
4. Speed of onset	Slow
5. Frequency	Seasonal (El Nino)
6. When	1) 1997-98 2) 2013 3) 2016
7. Duration	
8. Extent	Locals relocate to find provisions

Table 1/C: Hazard Assessment		
	1. Hazard type	High Tide/ <u>King Tides</u>
	2. Warning sign	Trade winds, strong currents
	3. Forewarning	Radio warning- V7AB
	4. Speed of onset	rapid
	5. Frequency	<u>S</u> easonal
	6. When	1) 2014
	7. Duration	
	8. Extent	Depletion of land contamination of water deformation of fruit/trees houses damaged

Typhoon Impacts	Vulnerabilities
Illnesses/diseases spread	No dispensary/doctor
Crops damaged	No food
Debris, pollution, contamination	No cleaning/sanitation products
Houses destroyed	No tools/machines to rebuild
No food	No means of transportation to buy food

Drought Impacts	Vulnerabilities
Plants damaged	No seeds for replanting
No more water	Not enough water containers for water to last longer
Wells become salty	No RO system
Crops damaged	Not enough water to revive
Illnesses/Diseases spread	No medicine/dispensary/doctor

High Tide Impacts	Vulnerabilities
<u>Pollution/contamination/debris</u>	<u>No machines/tools for cleanup</u>
<u>Land erosion</u>	<u>No seawalls</u>
<u>Coastal Erosion Tore kappe ko</u>	<u>Not enough salt-resistant trees to reduce damage from of high tides</u>
<u>Crops damaged</u>	<u>No machines/tools to remove damaged crops</u>
<u>Illnesses/diseases spread</u>	<u>No dispensary/doctor</u>

Hazard and Capacities Assessment

Typhoon Impacts	Capacities
Crops are damaged	Can replant
Houses are destroyed	Bukot Nan Jesus church-unofficial evacuation center; can use trees and palms/fronds/leaves to rebuild
Solar panels and components are damaged	Fire and lamps for light

Drought Impacts	Capacities
Crops damaged	Can preserve foods (breadfruit, pandanus, etc)
Ocean acidification; poison seafood	Chicken, pig available as substitute
No rain	Coconuts and wells

Crops damaged	Imported foods
Water containers contaminated	Can boil water

<u>High Tide Impacts</u>	<u>Capacities</u>
<u>Shoreline eaten away by high tides/sea level rise; tides flood homes</u>	<u>Can use rocks and salt-resistant trees to reduce damage</u>
<u>Crops damaged</u>	<u>Preserve foods (breadfruit, pandanus, etc)</u>
<u>Houses damaged</u>	<u>Can build hut houses</u>
<u>Boats damaged</u>	<u>Canoes available</u>
<u>Solar panels + components corroded</u>	<u>Lamps, fire for light</u>

Socio-economic Factors

The small community of Lukwoj, Arno is made up of just over a hundred Marshallese, including men, women, and children. They hold different titles of occupations: copra makers, fishermen, handicraft makers, farmers, church leaders, and local government employees- teachers, councilmen, etc. There are different social groups within the community, all of which are of Bukot Nan Jesus Church: youth, women, and board of deacons.

~~As many of the~~ Similar to other outer islands of the Marshall ~~Islands~~, Lukwoj is faced with many socio-economic issues. Many homes lack toilet facilities, therefore, people often resort to using the ocean or lagoon and the bushes. This could potentially lead to the spread of illnesses and diseases. The closest dispensary is in Arno community miles away. It is sometimes difficult for ~~people the ill~~ to get medical attention quickly for the community ~~has only one~~ ~~has~~ one running vehicle.

~~Another issue that~~ Lukoj is ~~currently~~ experiencing a shortage of teacher at the local elementary ~~school is that the local elementary school is in need of more teachers.~~ This results in relocation of ~~families also; families want~~ to ensure ~~that~~ their child(ren) ~~could~~ attend school.

An additional concern is the plants in the village. ~~Fruits have~~ They've deformed over time ~~changing the tastes of the fruits~~, and the locals cannot eat ~~them. some of their fruit that have also become~~ ~~distorted~~. There is no safe house, or evacuation center in case a disaster were to hit. Normally, in the outer islands, schools and churches would be used as unofficial evacuation centers. However, the school and church in Lukwoj are too close to both the lagoon and ~~the~~ ocean. The community also lacks planting materials and tools for coastal replantation to reduce ~~coastal and crop~~ damages from high tides ~~and inundation~~.

Though ~~the~~ Lukwoj ~~community is~~ experiencing many challenges ~~es such issues~~, it is still ~~able to thrive on with the strengths it possesses~~ it possesses some strengths that keeps the ~~community thriving~~. Lukwoj citizens depend mostly on local resources. Even though it's a small

strip of land, there is still an abundance of coconut trees. Everyone in the community is involved with copra making. It is their main source of income. They also have farms and crops. Their supply of food usually comes from their own produce, especially since there are no main stores in the village; the closest store is in the Arno community. Lukoj also depends on traditional instrument. If there are no boats running, they can travel by canoe. Access to getting building materials is limited, but there are traditional carving tools which they can also use to construct hut houses.

Community Action Plan

Action	Has been Done	Needs to be Done	WHO	When
-Nien dan	- NO	✓	Kien TOM, MWSC, EPA, councilmen	Feb/Mar 2017
-Karreo nien den	- NO	✓	EPA, water monitor	APR 2017
-Mön doctor/ juon doctor	- NO	✓	MOH, Shelter Monitor	Jul 2017
-Mön Ko	- NO	✓	Kien, community members	Jul 2017
-juon wa	- NO	✓	Shelter Monitor, Kien, Nurses/Min. councilmen	Feb/March 2017
-Ekkat wōj ke ko iar/lik	- NO	✓	local govt., RND, Men's circle	Jul 2017
-Ine	- NO	✓	RND, Men's circle	Jul 2017
-Seawall	- NO	✓	Kien, Foreign Embassies, community members, WAMI, IOM	Feb/Mar 2017
-Kein karred/ kein jerral	- NO	✓	councilmen/local govt., Kien, councilmen, local govt.	Feb/March 2017

Brown	Plans for drought
Blue	Plans for typhoon
Purple	Plans for high tides

What can be done?

Who is responsible (inside community)?

Who is responsible (Outside of community)?

When to be implemented

Water containers/catchments	Councilmen, water monitors	National government, IOM, MWSC, EPA	Feb/Mar 2017
Water/container sanitation products	Councilmen, water monitors	EPA	Feb/Mar 2017
Doctor and dispensary	Shelter Monitors	MOH	Jul 2017
Evacuation center	Community members, shelter monitors	National government	Jul 2017
Community vehicle	Councilmen, local government	National government, Mayor, Senators, Ministers	Feb/Mar 2017
Seawall	Community members, councilmen, local government	National government	Feb/Mar 2017
Tools for building and cleaning up community	Councilmen, local government	National government	Feb/Mar 2017
Coastal replantation	Men's circle	RND	Jul 2017
Get seeds for crops	Men's circle	RND	Jul 2017

At the end of the HVCM exercises, the members of Lukoj, Arno created an action plan to reduce risks and damages of the three major hazards that occur most in the community. They have divided their actions according to the hazards they respond to. A disaster committee was also formed to respond to any of these disasters. The members of this committee will also take part in the community action plan.

Risk-reduction plans for droughts are to acquire a community water catchment, cleaning materials for the water catchments in the community, and to request a doctor and dispensary for the community. The Councilmen and water monitors are held responsible for the community water catchment. The plan is to go to IOM, MWSC, EPA, and the national government to request funds and help to buildset-up a [community?] catchment in Lukwoj. They also intend to get the materials needed to clean the community catchment, and individual water containers-as-well. The Councilmen and Water Monitors will request assistancehelp from EPA to acquire list ofsee what materials-are necessary and-neededfor the construction of catchments. Target implementation timeframe for these tasks isBoth of these tasks shall be implemented in February and-or March of 2017. In July of 2017, the Shelter Monitors will be going to MOH to request for a Doctor and dispensary for Lukwoj.

To prepare for typhoons, the Shelter Monitors will also be going to the national government in July of 2017 to seek help for constructing an official evacuation center for Lukwoj. Once settled, the community members will help with the construction of the evacuation center. The Councilmen and local government will look into getting a community vehicle, and requesting help from the national government (Mayor, Senators, and Ministers) in February or March of

2017. This vehicle will be used to rescue, and for taking community members to the evacuation center before typhoons hit the village.

The tasks to reduce risks and damage from high tides include: building a seawall, requesting for tools and materials for building/construction, getting seeds to restore crops, and coastal replantation. Lukwoj Councilmen and local government will take responsibility for the seawall and building materials in February or March of 2017. When all materials are prepared, the community members will come together to build the seawall. The Lukwoj Men's circle will be in charge of restoring crops and replanting along the coast. These tasks will be carried out in July of 2017.

Summary

The HVCM Exercises in Lukwoj took place from February 7th ~~to~~ February 22nd. It coincided with the exercises done in Arno, Arno ~~because of their close proximity to each other. The two communities are next to each other, making the commute easy.~~ The HVCM in Lukwoj was delayed due to community activities, such as Arno Atoll Liberation Day and Education week. Exercises weren't supposed to begin until the HVCM in Arno was complete, however, because Arno had obligations that caused delay, Lukwoj HVCM began on the 7th of February. There was a time gap between the day Lukwoj started the trainings, and when they continued. This was an issue for Lukwoj; the participants had forgotten what was discussed during the first day. Other than the delays, the presentation and community meetings went without difficulty. The participants were cooperative and gave all of their insight ~~of what they knew~~ about their community and the impacts from effects of the different disasters that have struct the community.