

Key Findings: Community Vulnerability Assessment

Name of village	Mee Pya, YGN
Date of assessment missions	28 Feb- 1 Mar 2019
Date of validation mission	28 June 2019
Total population of the village	
Total number of VA participants: i) during assessment mission; ii) during validation mission	(i) 50 (ii) 73
Gender	Total male: 37 Total female: 36

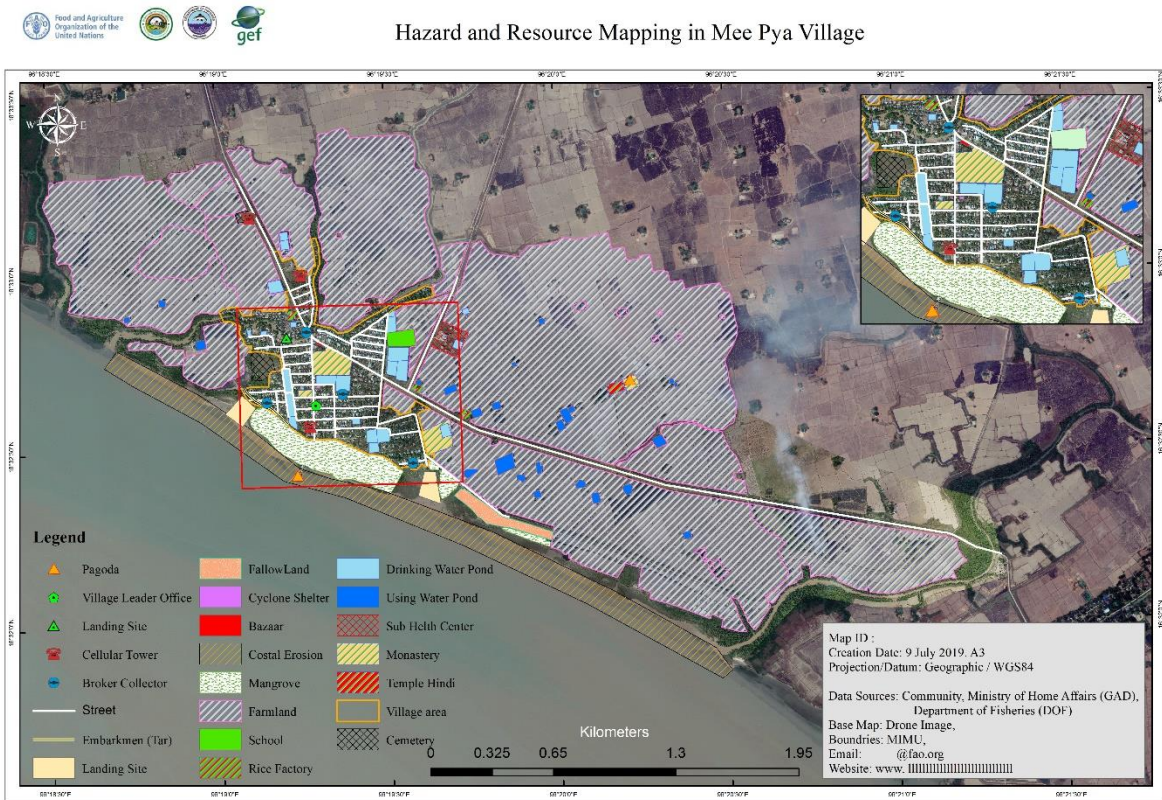


Fig.1. Hazard & Resource Mapping of Mee Pya Village

Fishing Ground Map of Mee Pya Village, Kyauktan Township in Yangon Region

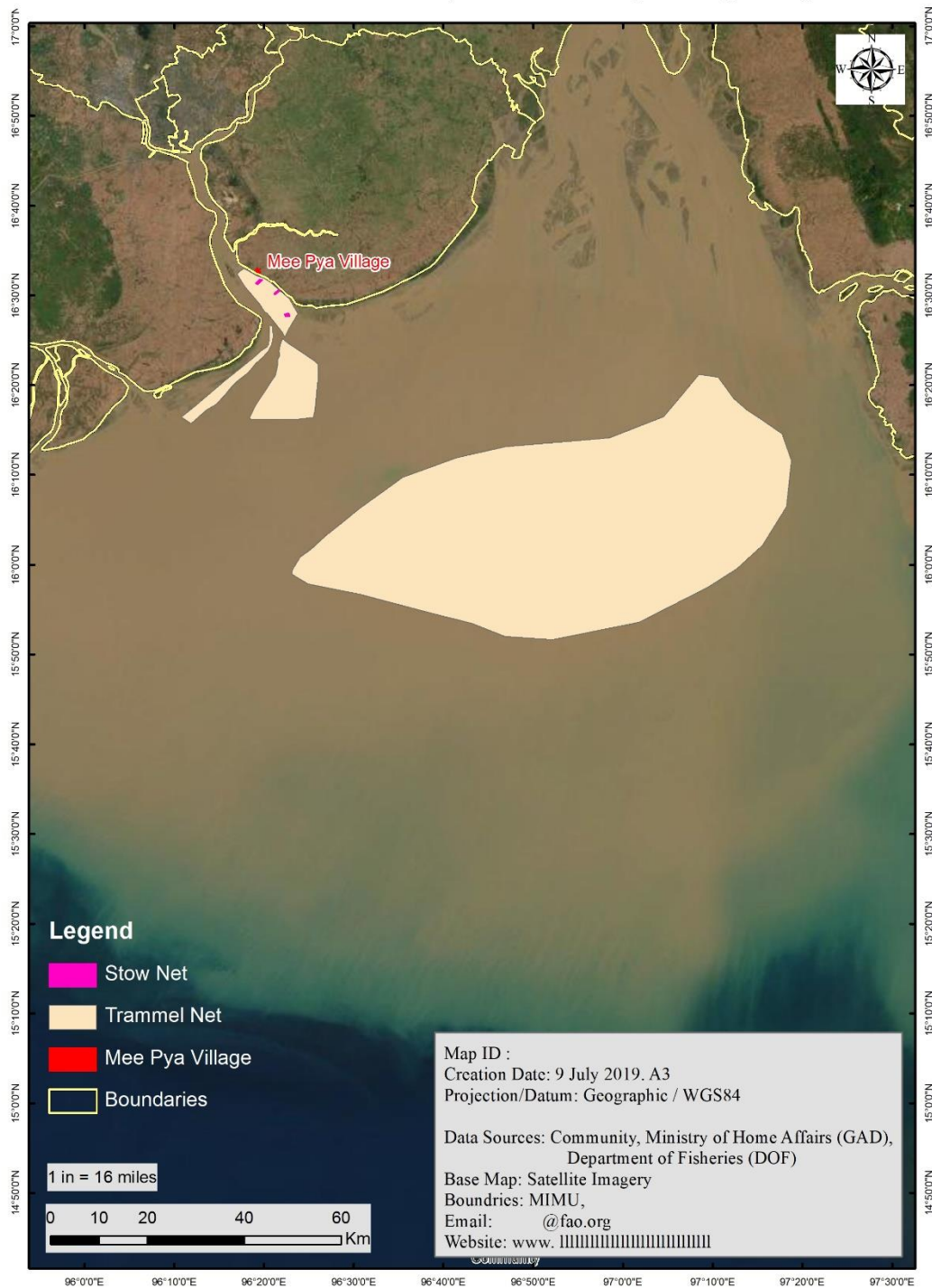


Fig.2. Mee Pya Village Fishing Ground Map (still drawing)

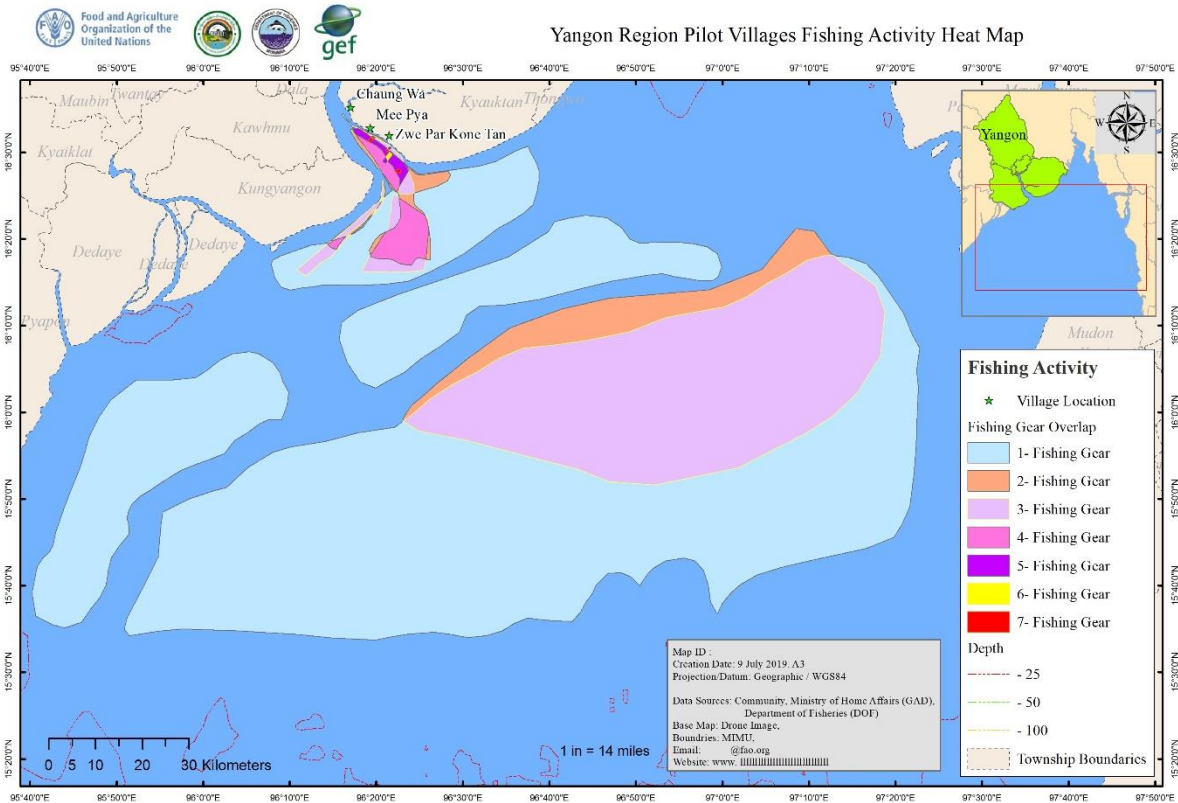


Fig. 3 Heat map for Yangon Region

I. Summarizing Livelihoods, Sector, Assets Vulnerability Vis-à-vis hazards and drivers of change

	Cyclones/ Storms		Heavy/ Extreme rainfall / Flooding		Coastal erosion/ Sea level rise		High tide wave / Salt water intrusion		Tsunami		Others (High temperature)	
Fishing	H	H	M	M	M	L	H	M	H	M	L	M
Aquaculture		NA	L		M		M		M		M	
Agriculture/ Farming		H		H		M		H		M		H
Grocery Store		M		H		M		M		M		M
Fish processing		M		H		M		M		M		M
Tailor Shop		M		H		M		M		M		M

Religious building		H		M		L		M		M		M
Schools		H		M		L		M		M		M
Sub-RHC/ RHC/ Clinic		H		M		M		M		M		M
House		H		M		M		M	H	H		M
Others (Livestock)	H								L			
Others (people)									H			
Embankment	M								M			
Trees / Horti	M		M				M		M			

II. Summarizing Community Vulnerability and Capacity in terms of Exposure, Sensitivity and Adaptive Capacity

Round 1: As an internal exercise based on our analysis of available data (this will help us interpret and check community perspectives later on...)

Round 2: To be conducted during the validation exercise after presenting and reviewing with the community the results of the VA

Note: these variables we can further refine/ increase if needed for more precise conceptualization... though it might be helpful if we could have a 'standardized' set of variables that would be applicable across all communities to facilitate comparisons across areas... not absolutely needed though and we can determine later....

Exposure to Climate Change and Related Hazards

Factor/ Area of concern	Rating (by internal team)	Rating (by participants)	VA tool used	Number of participants (if possible)	Remarks
Hazard Analysis					
Coastal erosion and related flooding (e.g. higher tides or sea levels)	M	H	Hazard and Resource Mapping, Matrix ranking of hazard, Transact mapping		
Changing ocean currents and conditions	M	H	Transact		

(e.g. acidity, higher temperatures, salinity)					
Drought/dry spells		M	Disaster and Climate Risk Assessment		
Forest fires					
Heavy rainfall and flooding events	M	M	Matrix ranking of hazard, Disaster and Climate Risk Assessment		
Cyclones and storms	H	H	Livelihood and hazard calendar, Matrix ranking of hazard, Disaster and Climate Risk Assessment		
Tide wave	H	H	Transact		
Landslides and erosion		L	Matrix ranking of hazard		
Saltwater intrusion	M	M	Matrix ranking of hazards		
Tsunami	H	M	Livelihood and hazard calendar, Matrix ranking of hazard, Disaster and Climate Risk Assessment		
Tornados		M	Livelihood and hazard calendar, Matrix ranking of hazard, Disaster and Climate Risk Assessment		
Strong wind		M	Livelihood and hazard calendar, Matrix ranking of hazard, Disaster and Climate Risk Assessment		
Low pressure area		M	Matrix ranking of hazard, Disaster and		

			Climate Risk Assessment		
Others (specify)					
Exposed areas and group to the above hazards					
At-risk groups (e.g. children, disabled or elderly)		M			
Coastal and marine ecosystems (e.g. coral reefs, seagrass and mangroves)			Problem tree		
Decrease in fish catch	H	M	Problem tree		
Farms and related facilities (e.g., irrigation system)	M		Resource matrix		
Fishing grounds	H	H	Fishing ground mapping, Problem census		
Fishing facilities (e.g. landing sites, market, boat storage)	H	M	Asset Pentagon, Disaster and Climate Risk Assessment		
Forest and terrestrial ecosystems					
Key housing areas or settlements	H	M	Transect mapping, Disaster and climate risk,		
Key commercial or industrial areas		M	Transect mapping, Disaster and climate risk,		
Public infrastructure (e.g. power station/lines, water system, cellphone towers, main roads, bridges)	M	M	Transect mapping, SWOT analysis, Disaster and climate risk assessment		

Social services (e.g. monasteries, community centre, fire and police stations, hospital/health centre, schools)		M	Hazard and resource mapping		
Others (specify)					
Overall Exposure Assessment	H	M			

Guide for exposure rating:

Low	Medium	High	Not assessed
impacted rarely (e.g. every 10+ years) / only a few people or areas impacted	impacted from time to time (e.g. every 5-10 years) / a number of people or areas impacted	Impacted frequently (e.g. every 1-4 years) / a large number of people or areas impacted	Factor not assessed

Sensitivity to Climate Change and Related Hazards

Factor/ Area of concern	Rating by internal team	Rating (by participants)	VA tool used	Number of participants (if possible)	Remarks
Ecological sensitivity					
coastal and marine ecosystems (e.g. coral reefs, seagrass and mangroves) and related biodiversity		H			
forest and terrestrial ecosystems and related biodiversity		M			
Soil quality and fertility	M	L	Asset pentagon, Matrix		

			ranking of hazards		
Status of fisheries resources	H	H	Problem tree SWOT Historical timeline		
Status of mangrove forest resources	M	M	Transact		
Aquaculture water quality	M		Disaster and climate risk,		
Domestic Water Quality	H	H	Hazard & resource mapping		
Drinking Water Quality	H	H	Historical timeline SWOT		
Aquaculture pond temperature			Disaster and climate risk,		
Other (fishing group??)					
Others (specify)					
Socio-economic sensitivity					
Awareness of climate change		M			
Quality housing	H	M	Wealth ranking & resource mapping, transect mapping		
Financial resources (e.g. regular household income, insurance, loans/credit)	M	M	Venn diagram/		

			Problem tree SWOT		
Public utilities (safe drinking water, electricity and fuel)	H	L	Resource matrix & mapping Problem tree SWOT		
Dependence on non-climate sensitive sectors and related livelihoods (rather than farming, fishing (e.g tourism)		M			
Gender equality	L	M	Gender role		
Level of education and literacy	M	M	Asset Pentagon		
Level of migration worker		M	Problem tree		
Presence of social networks and safety nets	M	M	Venn diagram and Asset Pentagon SWOT		
Working age population (between 18-60 years)		M			
Access to public and private extension services	H	M	SWOT		
Market information	H	M	SWOT		
Others (No storage facilities)			SWOT		
Other (Agriculture sector)	M		Historical timeline		
Overall Sensitivity Assessment	H	M			

Guide for sensitivity rating:

High/ Healthy Status	Medium	Low/ Poor Status	Not assessed
----------------------	--------	------------------	--------------

ADAPTIVE CAPACITY FOR Climate Change and Related Hazards

Factor/ Area of concern	Rating by internal team	Rating (by participants)	VA tool used	Number of participants (if possible)	Remarks
Awareness of climate change adaptation strategies	L	L	Disaster and climate risk		
Access to alternative or diversified livelihoods	L	M	Livelihood calendar		
Access to natural resources (e.g. coastal, marine and forest ecosystems and related resources, land, water, fertile soil, good quality water)	L	M	Resource matrix /Asset Pentagon		
Access to financial resources (e.g. regular household income, insurance, loans/credit)	M	L	Asset Pentagon & Venn diagram		
Access to social safety nets and networks	M	L	Venn diagram and Asset Pentagon		
Access to important institutions	H	M	Venn		
Presence of/access to local groups, networks, fisherfolk/fish farmer organizations, producers groups, etc.	M	L	Venn, Asset Pentagon		
Availability of human resources (e.g. trained professionals, adequate workforce)	L	M	Asset Pentagon SWOT		

Level of cooperation and collective decision making	L	M	Venn and Asset		
Level of leadership	M	M	Gender roles Venn		
Presence of climate proof infrastructure (e.g. roads, electric grid, water supply) and housing	M	L	Historical timeline		
Presence of early warning and disaster risk management systems		M			
Others (specify) Presence of fishery management			Fisheries mapping		
Overall Adaptive Capacity Assessment	L	M			

Guide for adaptive capacity rating:

High	Medium	Low	Not assessed

Summary of VA Findings (Exposure, Sensitivity and Adaptive Capacity)

Climate change hazards/ drivers of change	Exposure	Sensitivity	Adaptive Capacity	Overall vulnerability rating	Key vulnerable areas/ groups	Priorities for adaptation* -- this then draws the link to the CBCCA-EAFM process
Cyclone	High – Nargis and Malar cyclone effects the community	High – fishery sector is significantly affected by this impact such as boats, fishing gears, , seed,	Low – community is lacking social safety nets and networks when cyclone was hit. They are lacking	High	The fishing community is highly vulnerable to cyclone, especially small and medium	- CCA and DRM training - Safety at the sea - Emergency respond

		domestic and drinking water sources.	cyclone shelter.		fisher groups. The village is located near the sea and do not have any barrier to prevent from cyclone.	<ul style="list-style-type: none"> - Early warning and early action - Ecosystem based Fisheries Management (EAFM)
High tide wave/ Storm Surge	High- high tide wave / storm surge made most vulnerable to fisheries sector.	High_ Not only the impacts of high tide wave on livelihood and infrastructure , but also affects to drinking and domestic water quality. It also affects to increase saltwater intrusion.	Low – this community has lower fishery resource management as well as not having sufficient human resources (i.e knowledge and technology) to reduce the impacts of storm surge on aquaculture ponds.	High	It impacted to socioeconomic conditions of fishing and fish farmer communities.	<ul style="list-style-type: none"> - CCA and DRM training - Safety at the sea - Emergency respond - Early warning and early action - Ecosystem based Fisheries Management (EAFM)
Tsunami	High – In 1999, Tsunami was formed along the bay of bengal and it affects to this community (nearly 30 peoples died where majority were children, and it also killed	High – There is no emergency unit in their community and the fisher community were amongst the most impacted (such as losses of fishing gears, net and boats).	Low- they do not have any social safety net or fisherfolk community to exercise emergency response. And lower human resources.	High	It impacted to socioeconomic conditions of fishing and fish farmer communities.	<ul style="list-style-type: none"> - CCA and DRM training - Ecosystem based fishery management (EAFM and EAA)

	livestock and animals in their community .					
Heavy rainfall/ erratic rainfall	Medium – It occurs frequently almost every year and destroys fishing gear, boat, and net. It also affects to agricultural sectors whereas 1/3 of agriculture losses was reported.	Medium – Due to heavy/ erratic rainfall, it is reported that they cannot go for fishing and have to change their fishing time.	Low – they are lacking climate proof infrastructures and lack of financial/capital to invest in their housing.	High	It highly affects to the whole community, most noticeably for fisher community where they cannot do fishing due to frequent strong wind.	- CCA/DRM - EAFM
Flood	High – It occurs almost every year but the intensity is low. Due to flooding, saltwater intrusion to aquaculture farms are also reported.	Medium – it affects socioeconomic conditions of fish farmers household.	Low – they do not have any climate proof infrastructure, and social safety net. Even though they have an embankment, it is not well maintained and functioned well, as it is short/low.	Medium	The whole community is impacted by the flood.	- CCA & DRM - EAFM
Coastal erosion	Medium- it has occurred almost every year, but the	Medium- it badly damaged houses and infrastructure	Low – they have low social safety net and infrastructure.	Medium	The community living nearby coastline areas are	- DRM

	intensity is still not significant.	nearby the coastline.			badly damaged.	
--	-------------------------------------	-----------------------	--	--	----------------	--

*(this one to be really determined during EAFM/EAA and CBCCA planning).. but if there are things mentioned during the VA process, they can be noted here already)

III. Broader thematic and cross-thematic analyses of Community Vulnerabilities

(can be answered as bullets, or short paragraphs, or diagrams)

- Are common themes emerging from participants' answers in terms of exposure, sensitivity, adaptive capacity and overall vulnerability?

Exposure	Sensitivity	Adaptive capacity	Overall VA
-Cyclone -Heavy / erratic rainfall - High tide wave -Tsunami -Coastal erosion -Flooding	- Depletion of fisheries resources - labor scarcity - groundwater depletion or unhealthy - Market instability and inefficient	- Do not have alternative livelihood activities - Lacking important institution links for better management options - Lack of social safety net or network - Poor cooperation and collective decision making - Lack of private and public extension services	MeePya village is highly vulnerable to different kinds of natural disasters/hazards and climate change impacts, especially occurring at fishing and aquaculture livelihood dependent households.

- Are there unexpected answers? Or answers that you expected but are missing? Why do you there are unexpected questions or answers?
 - **Majority of fisher/fish farmer households are increasing vulnerable to the impacts of climate change and natural hazards and thus they face with food and nutrition insecurity.**
 - **Due to labor scarcity, they cannot go for fishing in time/ or shift fishing time.**
- Are there particular themes or issues raised within a specific demographic (e.g. people of a specific age, gender, livelihood type, income bracket or level of education)?
- Are there particular themes or issues raised by a particular community group in the VA (e.g. fisheries, aquaculture, small scale processors, etc.?)

- Are there any significant trends (e.g. increasing or decreasing focus on an issue based on location or over a time period)? Any issue repeatedly discussed or mentioned?
- Are there any major differences among participants' answers (e.g. community leaders or resource managers holding a different view from the majority of households or resource users)? Or are there differences in findings from other sources (e.g. findings from resource mapping compared to interviews or existing or other related documents)?

	Fishery	Aquaculture	Women Group	Small scale processor
Issues raised within a specific demographic (Livelihood type)	<p>They are lacking technical support.</p> <p>They reported that lacking storage facilities.</p> <p>Labor scarcity (due to high migration)</p> <p>Community based mangrove reforestation</p>	<p>They have incomes from non-farm activities such as carpentry, daily temporary work, or wage workers in several business activities.</p> <p>Community based mangrove reforestation</p>	<p>After disaster, the participation of women in different number of activities (fisher) is still remained the same.</p> <p>Repairing fishing gears and selling at market are mostly carried out by women group.</p>	
Issues raised by a particular community	Decline in fish resources.	Increased pond temperature is reported.	Women take responsibilities in fish processing and selling at the market	Took cash advance from moneylender or broker and sold out fish products in lower prices when they need to repay the loans.
Trends	Changed of ocean current	Significantly increase in temperature		
Major differences among participants' answers	N/A	N/A		

- What questions are still not answered? What additional information should be gathered or checked during the validation mission?
 - Coastal marine ecosystem condition (good, damage) and impacts of climate change and disaster. (note: we have acquired information where these resources located and we know whether climate change and disaster has impacted on these resources. Thus, we will upgrade our questions especially when we do fishing ground analysis)
 - Agriculture sector (Note: we will invite farm households who are doing agriculture for their livelihood. In some village, we have invited but we do not have questions whether the natural hazards has impacted to their sector or not. Therefore, we owe to update our questionnaires)
 - Forest and terrestrial ecosystems and related biodiversity
 - Mangrove condition (Why, when, how,..etc)
 - Presence of early warning system (Note: this will be part of our implementation processes)
 - Working age population (Note: we do not have this information at the village level).
 - Dependence on non-climate sensitive sectors and related livelihoods (rather than farming, fishing (e.g tourism) (note: we will ask the community when we do validation of the results).

Specific to institutional and stakeholder dimensions and dynamics of the VA:

- Which stakeholders have the most relationships and why?
- Which stakeholders do not have many relationships with other stakeholders and why? Should they develop more relationships and, if so, with whom?

	Fisher	Fish farmers (Aqua)
Which stakeholders have the most relationships	fish collector, ice shop (retail shop), fishing gear shop and fuel service shop are the most important stakeholders because they require these supporting stakeholders for their businesses/fishing.	Village market, grocery, and fuel service are the most relationship institutes. Land record department, GAD, and DOA are seldom connected by community
Which stakeholders do not have many relationships with other stakeholders	They need to develop more relationship with private sectors for achieving more income opportunities and academic institutions for further research to give more policy inputs.	

- Who is providing money and other material resources and to whom? Are there stakeholders who are excluded? Are there other potential sources of support?
 - **They have 5 small-scale moneylender in the village.**
 - **They also have Mya Sein Yaung, a private registered moneylender**
 - **FAO could be a potential source of support in the future.**
- Is information flowing between stakeholders and in both directions (vertically and horizontally)? If not, why? How can this be improved?
 - **They have access to market information from Yangon and Mawlamyint fish market and sometimes sell out there. But they need to have more market information for the whole community so that all households could sell their fish at the good market price.**
- Are there overlaps or gaps in the policies and laws governing the institution? How can this be improved? Are there policies and laws that affect (either positively or negatively) relationships among stakeholders or institutions? (*****this can then be a link/input to Component 1**)
 - **They reported that some fishermen are using stow nets for fishing although the usage of stow net was prohibited.**
- What are the strategic points to intervene to improve decision-making or relationships across stakeholders?
 - **Need timely informed climate change and disaster information**
 - **Need to build embankment along the coastal line for reducing the impacts of flood or storm surge**

IV. Identifying Linkages to EAFM/EAA and Community-based CCA Planning and Implementation

Linking to EAFM and EAA

Which findings, factors, variables in the VA have relevance to EAFM and EAA?

- **Frequently occur natural disasters and climate change impacts on their fishing ground and community itself.**

Linking to CBCCA (and DRM) Planning and Implementation

What are the main concerns, issues, weaknesses, etc. that should be addressed before launching the CBCCA process? Any weaknesses or threats that should be noted?

- **The community is located along the Bay of Bengal area and often affected by different kinds of natural hazards and disasters (coastal erosion, storm, flooding, strong wind, etc). In addition, this community is neither well organized nor collaborate each other. They do not have any community group to tackle the impacts of climate change and are generally lacking strategies/action plans to reduce the impacts of natural hazards on their livelihood dependent**

sectors. They are also lacking efficient human resources and technological knowledge. Even though individual know that their dependent sectors are increasing vulnerable but as a whole community, they are ideally lacking community adaptation planning and disaster management. Moreover, they do not have any social safety nets and networks where this village is not easily accessible to market information, access to important institution, early warning system and even opportunity to get higher price for the fish products. Therefore, CBCCA and DRM implementation are necessary for this community.

What are the entry-points for launching the CBCCA process? Any strengths or opportunities that could be tapped?

- **Community aware that their surrounding ecosystem and environment are badly damaged and deteriorated by the enormous exploration of fishery resources and mangrove deforestation. They know that fishing resources have depleted in their fishing grounds. In addition, they are increasing vulnerable in terms of socially and economically to the impacts of climate change and natural disasters where these natural phenomena has been frequently occurred and they are facing increasing challenges on their livelihood dependent sector. But, they are lacking knowledge and do not know how to implement the strategic DRM and CCA planning. Therefore, CBCCA process could be implemented in this community.**

As in the summary table, are there any priorities for CCA/DRR that were explicitly mentioned or discovered during the VA process that could be taken forward or used as a kick-off point?

Area of priority	Action needed
Technical priority:	Community development CCA plan should be developed with experts or technicians Early warning and early action practices Access to market information DOF, DDR and DMH should collaborate and work together to empower technical supports to the affected community
Institutional priority:	Safety at sea Disaster risk management (planning + actions eg. Drill for cyclone and Tsunami) Mangrove reforestation Improve legal framework and supporting activities