Key Findings: Community Vulnerability Assessment

Name of village	Auk Seik Kwin Village, Ahmar Sub-township, Pyarpon Township
Date of assessment missions	24th and 25th of March 2019
Date of validation mission	
Total population of the village	Over 2000 (240 HHs)
Total number of VA participants: i) during assessment mission; ii) during validation mission	(i) 50
Gender	Total male: Total female:

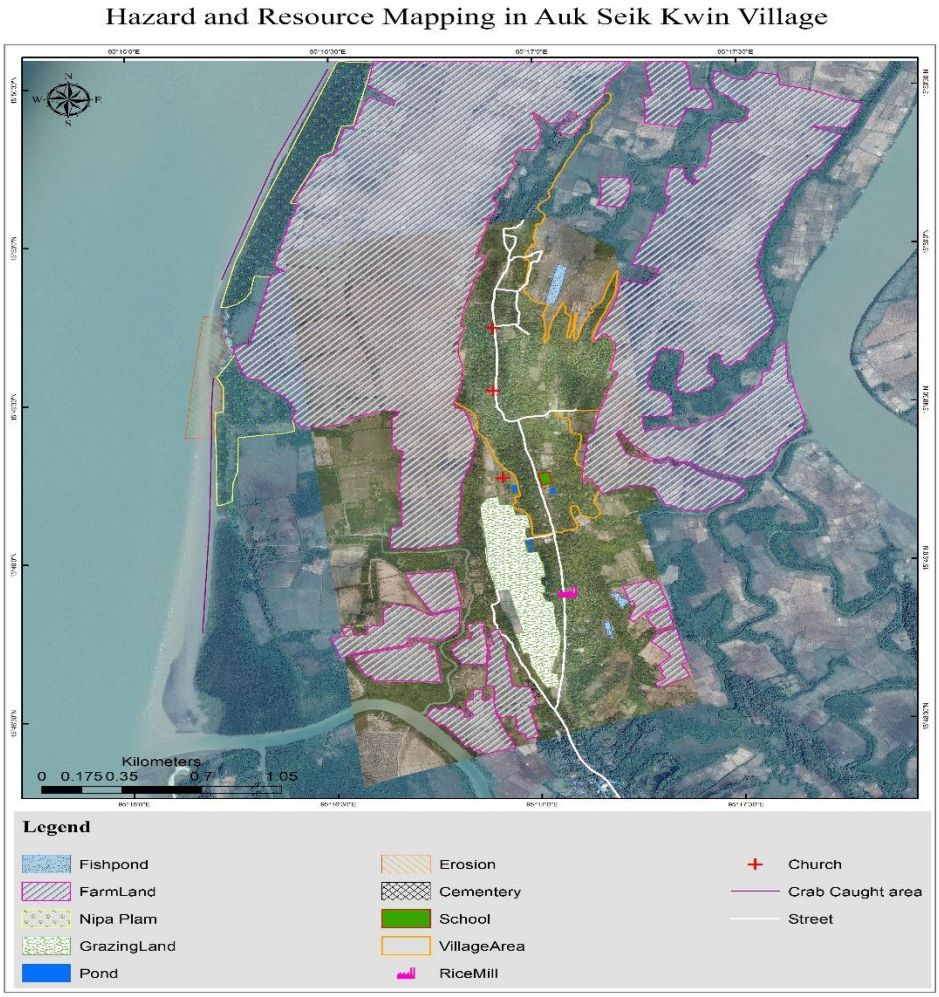

Fig.1. Hazard & Resource Mapping of Auk Seik Kwin Village

Fig.2. Auk Seik Kwin Village Fishing Ground Map (still working on it)

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

	Floods		Cyclones/ Storms		Heavy/ Extreme rainfall		Coastal erosion/ Sea level rise	Storm surge	Pollution (Water)	Salt water intrusion	Drought / heatwaves	Tsunami	Strong Wind/ Squall		Others (specify) High Temperature/ Tornado
	Int:	Con:	Int:	Com:	Int:	Com:	Int:	Com:					Int	Com:	
Livelihoods/ Sector															
Fishing	M	M		H	M	M	H						H	M	H/L M (Tornado)
Aquaculture	H	H	M	H	M	L	H							L	H/L M (Climate Change)
Agriculture/ Farming		H		M	M	M								L	H/L
Small Businesses															
Grocery Store		L		H		M								L	L/L
Fish processing															x
Tailor Shop		L		H		M								L	L/L
Fishmonger		L		H		M								M	L/L
Government Services															
Electricity															X
Water supply	M														X
Public transportation	M														X
Others (specify)															x
Natural Resources															
Beaches															X
Coral Reefs															X

Marine Protected Areas															X
Protected Areas – Terrestrial															X
Mangroves		L	M	H		L								M	M/M
Seagrass															X
Water table/ freshwater lens															X
Others (specify)															
Assets/ Infrastructure															
Fishing center/ landing site	M		M												x
Fishing boats/ gear – nets, pots, etc.	M	M	M	H		M							M	M	M/L
Village bazaar															x
Port / jetty/ bridge															x
Major road	M	H	M	L		H								L	L/L
Processing centers															x
Ice plants															x
Drying facilities	M		M												x
Hatcheries/ Nursery															x
Religious building		M		H		L								M	L/M
Schools		M	H	H		L								M	L/M
Sub-RHC/ RHC/ Clinic															x
House		M	H	H		L								M	L/H
Others (specify)															
Others (specify)															

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)	**H**	**M**	Hazard and Resource Mapping, Matrix ranking of hazard, Disaster and Climate Risk Assessment, Seasonal Calendar)	**22**	
Changing ocean currents and conditions (e.g. acidity, higher temperatures, salinity)					**x**
Drought/dry spells					**x**
Forest fires					**x**
Heavy rainfall and flooding events	**H**	**M**	Matrix ranking of hazard, Disaster and Climate Risk Assessment, Problem Census, Livelihood and Hazard Calendar calendar	**28**	
Cyclones and storms	**M**	**H**	Livelihood and hazard calendar,	**26**	

			Matrix ranking of hazard, Disaster and Climate Risk Assessment		
Tide wave		**M**		**25**	
Landslides and erosion					**x**
Saltwater intrusion	**M**	**M**	Livelihood and hazard calendar	**25**	
Tsunami	**L**	**L**	Livelihood and hazard calendar, Matrix ranking of hazard, Disaster and Climate Risk Assessment	**22**	
Tornados	**M**	**M**	Matrix Ranking of Hazards	**18**	
Strong wind	**H**	**M**	Livelihood and hazard calendar, Matrix ranking of hazard, Disaster and Climate Risk Assessment	**28**	
Low pressure area		**L**		**19**	
Others (specifcy) High Temperature		**M**		**26**	
Exposed areas and group to the above hazards					
At-risk groups (e.g. children, disabled or elderly)		**M**		**21**	
Coastal and marine ecosystems (e.g. coral reefs, seagrass and mangroves)		**M**		**32**	
Farms and related facilities (e.g., irrigation system)					**x**

Fishing grounds	**M**	**M**	Fishing ground mapping, Semi Structure interview	**33**	
Fishing facilities (e.g. landing sites, market, boat storage)	**H**	**L**	Hazard and resource mapping, Matrix Ranking of Hazards, Disaster and Climate Risk Assessment	**22**	
Forest and terrestrial ecosystems					**x**
Key housing areas or settlements	**M**	**H**	Transect mapping, Wealth Ranking	**25**	
Key commercial or industrial areas					**x**
Public infrastructure (e.g. power station/lines, water system, cellphone towers, main roads, bridges)	**M**		Transect mapping, Disaster and Climate Risk Assessment		**x**
Social services (e.g. monasteries, community centre, fire and police stations, hospital/health centre, schools)	**L**	**H**	Hazard and resource mapping, Matrix Ranking of Hazards	**31**	
Others (specify)					
Overall Exposure Assessment	**M**	**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	Impacted frequently (e.g. every 1-4 years) / a large number of	Factor not assessed

	people or areas impacted	people or areas impacted	

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					**X**
forest and terrestrial ecosystems and related biodiversity					**x**
Soil quality and fertility	**H**	**M**	Asset pentagon	**35**	
Status of fisheries resources	**H**	**M**	Semi structure interview, Asset Pentagon	**38**	
Status of mangrove forest resources	**M**	**H**	Asset Pentagon	**35**	
Aquaculture water quality	**M**	**M**	Semi structure interview, Asset Pentagon	**32**	
Domestic Water Quality	**M**	**M**	Hazard & resource mapping, Asset Pentagon	**27**	

Drinking Water Quality	**M**	**M**	**Asset Pentagon**	**27**	
Aquaculture pond temperature		**M**		**30**	
Others (specificy)					
Socio-economic sensitivity					
Awareness of climate change					
Quality housing	**H**	**H**	Wealth ranking & resource mapping, transect mapping	**21**	
Financial resources (e.g. regular household income, insurance, loans/credit)	**M**	**M**	Venn diagram	**27**	
Public utilities (safe drinking water, electricity and fuel)	**H**	**M**	Resource matrix & mapping	**24**	
Dependence on non-climate sensitive sectors and related livelihoods (rather than farming, fishing (e.g tourism)	**H**	**H**	Livelihood and Hazard Calendar, SWOT Analysis	**42**	
Gender equality	**L**	**M**	Gender role	**28**	
Level of education and literacy	**M**	**M**	Asset Pentagon, SWOT	**40**	
Level of migration worker	**L**	**M**	Problem tree, SWOT Analysis	**36**	
Presence of social networks and safety nets	**L**	**M**	Venn diagram	**24**	

			and Asset Pentagon		
Working age population (between 18-60 years)		**M**		**38**	
Access to public and private extension services	**M**	**H**	Venn diagram	**30**	
Market information	**M**	**H**	Asset Pentagon & Venn Diagram	**29**	
Others (specify)					
Overall Sensitivity Assessment	**M**	**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		27	
Access to alternative or diversified livelihoods	L	L	Livelihood and Hazard calendar	26	
Access to natural resources (e.g. coastal, marine and forest ecosystems and related resources, land, water, fertile soil, good quality water)	M	L	Resource matrix, SWOT Analysis	20	
Access to financial resources (e.g. regular household	L	M	Asset Pentagon	31	

income, insurance, loans/credit)			& Venn diagram		
Access to social safety nets and networks	L	L	Venn diagram and Asset Pentagon	37	
Access to important institutions	M	L	Venn Diagram	37	
Presence of/access to local groups, networks, fisherfolk/fish farmer organizations, producers groups, etc.	M	L	Venn Diagram, Asset Pentagon	24	
Availability of human resources (e.g. trained professionals, adequate workforce)	M	M	Asset Pentagon	39	
Level of cooperation and collective decision making	M	M	Venn Diagram and Asset Pentagon	33	
Level of leadership (only for Women)	M	M	Gender roles	37	
Presence of climate proof infrastructure (e.g. roads, electric grid, water supply) and housing	L	L	Hazard and Resource Mapping, Resource matrix	38	
Presence of early warning and disaster risk management systems		L		40	
Others (specify)					
Overall Adaptive Capacity Assessment	**M**	**L**			

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
Flooding	High- flood effects community 5 times per annually especially in rainy season with high intensity	High- high flood until 4-5 feet, sink boat and living house and aquaculture pond	Low- community is lacking social safety nets and networks when flooding was occurred. They do not have climate proof infrastructure.	High	Fisher, Fish-Farmer who stay in coastal area	- CCA and DRM training - Ecosystem Approach Aquaculture/ Fisheries Management (EAA,EAFM)
Cyclone	Medium- LPA effects the community 5 times per annually especially in rainy season	Medium- Destroy fishing gears and living house in Costal area. The villagers who stay in village is safe and the village who stay outside the village is face cyclone.	Medium- Community have not enough good infrastructure.	Medium-	Fisher, Fish-Farmer who stay in coastal area	- CCA and DRM training - Ecosystem Approach Aquaculture/ Fisheries Management (EAA,EAFM)
Coastal Erosion	High- Effects the community June-Oct annually and	High- Destroy embankment for aqua pond and	Medium- The main village is far from the erosion area but it is closer	High-	Fisher, Aqua-farmer	-CCA and DRM training -Ecosystem Approach

	shift living house to another place per twice year.	rice field, living area erosion, salt water intrusion, livelihood assets destroy	year by year. They don't have enough capacity for mangrove forest management		and Agri-far	Aquaculture/ Fisheries Management (EAA,EAFM), Co-Management
Heavy/ extreme rainfall	High- Effects the community at pre monsoon and post monsoon annually	High- Effects the cultivation land, no fishing, livestock culturing, erosion, living house	Low- They don't have well prepare plan for extreme rainfall	High-	Aqua-farmer, Fisher and Agri-farmers	- CCA and DRM training
Strong wind/ Squall	High- Effects the community several times per monthly especially in rainy season	Medium- No fishing, destroy fishing gears	Medium- They don't have well prepare plan for strong wind	Medium	Fisher	- CCA and DRM training - EWEAS - Safety at the Sea

*(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
-**Flood** -**Coastal Erosion** -**Squall**	-Depletion of fisheries resources -Having poor quality housing	-Have a little alternative livelihood activities	ASK village is medium vulnerable to different kinds of natural

	-Lack of financial support -Access drinking water	-Links with institution for better management options -Lack of skillful Human resources	disasters/hazards and climate change impact, 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?
    - **We are expecting to get more information about impacts of climate change and natural hazards on agriculture, and ecosystem, but we missed that information. Because life under water (sea) was difficult to monitor and even though some people may perhaps know that information, we didn't get that information.**
- 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)	Conflict between stow net and drift gill net	Illegal culturing		
Issues raised by a particular community	No fish collector inside the village	No fish collector inside the village		
Trends	decline fish catch, spend more fishing time	Mangrove Deforestation and extension of paddy field in the mangrove area,	No shelter No embankment	No shelter No embankment

Major differences among participants' answers			Answer on gander role are difference between fisher and community group even the questions were same.	

- 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)**
    - **Awareness of climate change (Note; we will add this questions in their semi-structured questionnaires).**
    - **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	Grocery shop, Fish collector, Fishing gears shop	Village GAD, broker, crab collector, community co-operative, machinery shop, Fertilizer shop, Fuel shop,

Which stakeholders do not have many relationships with other stakeholders	DoF should develop more relationships with community.	DoF should develop more relationships with community.

- Who is providing money and other material resources and to whom? Are there stakeholders who are excluded? Are there other potential sources of support?
    - **No one is providing money for their community but moneylender and PACT microfinance gave loans to the community.**
- Is information flowing between stakeholders and in both directions (vertically and horizontally)? If not, why? How can this be improved?
    - **Market information sharing between collector and community was occurred.**
    - **Information flowing should be improved between DoF and respective community for technical, legal, policy, etc….**
- 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)***
    - **There may be overlaps or gaps in the policies and laws,**
    - **Need to improve policies and law awareness cooperate with the institution.**
- What are the strategic points to intervene to improve decision-making or relationships across stakeholders?
    - **More collaboration among stakeholders (eg. DOF and community) and strengthening public-private partnership are essentially required.**
    - **The outcomes of the VA assessment and community planning should be carefully reviewed by the respective stakeholders so that the community can be enable to implement the necessary adaptation options and the decision makers could understand which sectors or actions should be prioritized.**

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?

- **Fishermen who stay in coastal and river bank area effected erosion. In addition, squall is also often occurring and medium affected to the whole community, most noticeably for fisher community where they can do fishing due to frequent squall. Furthermore, the fishermen reported that they have to spend more time for fishing as the fish resources have been declined and there are no specific boundary lines amongst fishermen. Therefore, EAFM training and Safety at the Sea are required for this community.**

- **This community has lower fish farming management as well as not having sufficient human resources (i.e knowledge and technology) to reduce the impacts of flood and extremely rain fall on aquaculture ponds. In addition, mangrove forest area has been declined. Therefore, the community (not only fisher but also fish farmers) are impacted by the deterioration of the ecosystem and mangrove deforestation. Therefore, EAA and EAFM training are relevant for this community.**

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 low lying coastal area and often affected by different kinds of natural hazards and disasters (coastal erosion, cyclone, flooding, squall, extremely rainfall, 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 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:	More extension services on advanced technology and processing activities Easy access to market information
Institutional priority:	Early warning and early action practices Safety at sea Disaster risk management (planning + actions) Mangrove reforestation