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Community-Led Coastal Management in the Gulf of Mottama Project (CLCMGoMP)

**Illegal Fishing with Small Mesh Stake Nets (Than Za Gar Pike)
Catching Small Fish: A Case Study**

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Description & History: All Mon State coastal villages from Kyaikhto to Thaton have identified the use of Than Za Gar Pike nets as the major issue that is leading to a reduction in their fish catch in the Gulf of Mottama. This has been echoed by Myanmar Fisheries Federation and BANCA. Some informants have indicated that this practice has been going on for 25 years but there appears to have been an increase in the past four years possibly related to the previous Mon State government's poverty reduction strategy that subsidised the purchase of new nets and possibly boats.

Gear: The Than Za Gar Pike is a staked set net with small mesh 0.24in (6mm). Figure 1 shows the layout and mesh size. The nets are between 1.5 to 4 km (1-3) miles long and staked in a line or curved and made into a trap. They are staked at low tide, and remain in place for a week or more, during the monthly high tides (Spring tides) Fish are collected twice a day during low tide. There are 2-4 boats involved. One boat will stake out the place to be fished and wait for the suitable tide then set the nets and other boats will often arrive during the fish harvest. Some fishers may fish cooperatively. During harvest there can be 10-20 crew at the site.

Catch: These nets catch some larger fish but mainly juvenile fish (Figure 2). There are no detailed surveys but Tint Wai et al 2014 suggest that River Hilsa (Nga tha lauk), Indian thread fin (ka ku yan), catfishes (nga yang, nga dan) are decreasing as a result of the catch of juveniles. Our interviews indicated that stocks of Toli Hilsa (par mae), and also croaker (nga poke tin), mullet (ka ba lu) and sea bass (ka ka tit), and marine catfish (nga zin yang) may also be affected. Occasional fish are discarded on shore where they rot and make fishing difficult. It has also been reported that these nets block fishing areas where small scale fishers would like to fish.

We have heard various estimates of the catch per day in the range of 80 to 300 Viss (150 to 500kg). This is considerably higher than that from the other fishing gear used by legal fishermen.

Where: Fishing is concentrated on the mud flats in the coastal areas of Mon Sate from Kyaikhto to at least Thaton and also on the west side of the GoM near the junction of Bago Region and Yangon District. Recent reports from fishers in Ahlat Village, Paung Township suggest that measures to control this fishery in Thaton may be pushing the fishery south and also to the west side of the Gulf. Although fishermen have also indicated that the environment conditions (mud-flats) in Paung Township are not suitable to this type of fishing. The mud flats where the fishing is concentrated are also feeding sites for shore birds including the spoon bill sandpiper and appear to be critical habitat for juvenile fish. There are reports of some of these fishermen capturing shore birds for food and possibly using cyanide to kill both fish and birds. The critical issue of this fishing is that they are catching juvenile fish on the nursery grounds in very large numbers. Many fishermen suggested this would lead to extinct of the fish in five years.

Who: The boat owners are medium scale fishers & businessmen mainly from Kyaikhto Town. BANCA reports that some owners are also from Yangon District. They may own two to four boats and employ at least two crew per boat. The crew are reported to be mainly from Kyaikhto Township, elsewhere in Mon Sate and also Bago region, but are not migrants from other areas. Crew may make three times the value of regular net fishing. The owners are known to people in Kyeikhto and possible also DoF. Annex A gives details of patrolling in 2015 by Banca on the western shore of the Gulf near the junction of Bago region and Yangon Region (Bogale) and the names of illegal fishers.

Market: The larger fish appear to be sold in the Kyeikhto Township market while the small fish are sold for fish paste (nga pei) manufacture. Probably to the same business men who own illegal

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fishing boats. The main selling area is in the Kyeikhto Creek. BANCA identifies one Kyeikhto fishing boat that had 500 gallons of fish paste on board and more were at his home base.

Regulations & Enforcement: Legal mesh size in Mon State is 1 inches (2.5 cm). Frequent reports are that the illegal fishermen have legal size net that they use for inspection and licensing and hide their illegal nets on the coast when they come back to fishing port. It is not clear if these boats also fish legal gear, but we were told that they carry the legal sized nets on board but do not use them.

Previously DoF has not been able or willing to enforce. Very recently there has been increased DoF interest and high level support for co-management particularly in Thaton Township. This has been due to a very active fisheries committee in one Thaton village (Aung Kan Thar), the high interest of DoF through the District fisheries Officer and the new Mon State Director of Fisheries. This director had previously worked in Rakine State and was very much involved in the Co-management efforts there. DoF has had the Mon State Parliament declare the Thaton Township as a pilot site for co-management, with a focus on Aung Kan Tar Village (GoM project village) and are suggesting an exclusive fishing zone for the village.

Currently DoF is understaffed. We were told there are 5 DoF staff in Kyeikhto (2 women and 3 men) but only one responsible for fisheries managements in both Kyeikhto and Bilin Township. There is no DoF office in Bilin. There is also little funding for transport and no patrolling assets. We were told that DoF Kyeikhto is well aware of the problem and knows who the illegal fishers are but cannot prove illegal fishing as when the boats land in Kyeikhto they have the legal sized nets on board.

We were also informed by the Divisional Fisheries Officer that the Union Minister has approved new staff one for Bilin and one more for Kyeikhto. That hopefully might improve the situation.

Recent Improvements: During fishers' interviews in Belin and Thaton Townships 22-28 March 2017 the following picture emerged that suggests there has been improvement in Thaton and southern Bilin but fishing is still continuing.

Location	Number Illegal fishing boats last year	Number Illegal Fishing Boats this year	Notes
Zoke Ka Li, Bilin Township	14-15	Don't see any	25-30 Owners are still fishing but in different areas Kyeikhto & Bago
Mu Thin, Bilin Township	10	4-5	
Koe Tae Su, Bilin Township	20?	See one boat getting ready to fish now	35-40 boats in Kyeikhto, BoYaGi, & KyaikPi
Aung Kan Thar, Thaton Township	10	none	One boat arrest with nets and fishing ceased

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Solutions: The possible solutions are complex but it is important to carefully develop a strategy with the various stakeholders to address this issue. The solutions are not easy as simply banning the fishery would put around 100 local fishers out of work. Additionally closing one area simply moves the fishermen to another area as appears to be now happening in the GoM. The following gives some possible elements of a strategy.

- Document and summarise all that is known of this fishery with information from MFF, local fishers, BANCA, DoF, interviews with illegal fishers and fish buyers (carefully done by project staff). This can also be compliment by village level documentation of the illegal fishing including pictures of boats, nets, catch and careful interviews to enable identification of fishers. This paper is intended as a start in that process;
- Continue to organise and empower village fisheries committees & develop Township Fisheries Partnerships;
- Convening a workshop of stakeholders to explore possible solutions;
- Working with key actors (DoF, MFF, Village and Township Fisheries committees, including larger fisher associations and the illegal fishers) to increase awareness, understanding and capacity to co-manage the issue and implement the solutions;
- Explore possibilities for alternative income for the illegal fishers owners & crew;
- Encourage DoF to increase staffing & work with DoF to increase capacity of staff in co-management;
- Encourage DoF to enforce the fishing with illegal small mesh nets;
- Equip DoF to increase surveillance & patrol the fishing grounds possibly using boats, boat location software, drones for surveillance, etc;
- Equip local fishermen to survey the area and local fishers to survey;
- Support the development of consistent laws and policies

Sources: The above information was gathered from semi-structured interviews with fishers from coastal villages in Mon State (Table 1), Department of Fisheries staff, representatives of Mawlamyine Holdings Limited, and members of Mon State Myanmar Fisheries Federation, and reference to published and unpublished reports on the Gulf of Mottama (Tint Wai, 2014, BANCA 2015).

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Table 1: List of villages supplying information on illegal fishing

Village	Track	Township	Type of Fishing	Date Visited	Who
Gyoe Phyu Kone	Ma Yan Kone	Thaton	Small scale close to village, larger boats in Gulf	11-10-15	KTM & NAG Team
Aung Kan Thar	Zaik Kayee	Thaton	Small scale close to village, larger boats in Gulf	June 2015	IUCN team
				11-10-16	KTM with NAG & John Kurien
				28-3-17	KTM, NAG, HELVETAS, DoF
Zoke Ka Li	Zoke Ka Li	Bilin	Small scale close to village, larger boats in Gulf	June 2015	IUCN team
				25-5-16	KTM & Indigenous Fisheries Survey
				23-3-17	KTM & NAG team
Koe Tae Su	Win Ka	Bilin	Mainly Small Scale in Gulf; Crab catching important	18-2-16	KTM & NAG Team
Mu Thin		Bilin	Small & medium scale	17-11-16	KTM & Indigenous Fisheries Survey
				23-3-17	KTM & NAG Team
Sut Pa Nu	Sut Pa Nu	Kyaikhto	Small & medium scale in GoM	12-10-15 – numerous follow-up	KTM & NAG Team

References:

BANCA, 2015, Report on the Patrolling Operations of Biodiversity and Nature Conservation Association at the Gulf of Mottama a) East Coast GoM; b) West Coast GoM

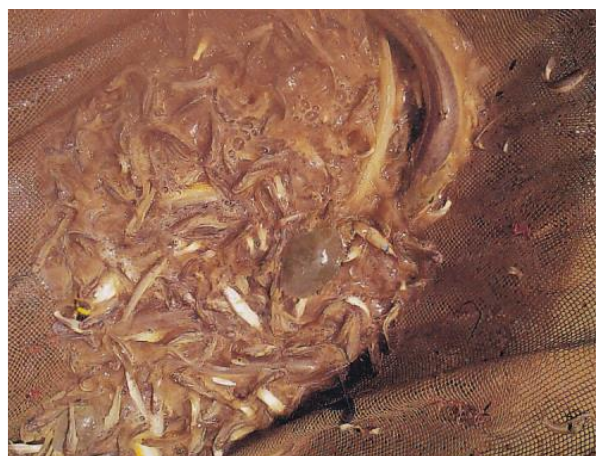
Tint Wai, Win Ko Ko, Moe Moe Myint, Zaw Linn Htun. Thaw Phyo Swe and Tint Tun. MS 2014. *A rapid Assessment of Fish and Fisheries Information in a part of East Coast of Gulf of Mottama*, BANCA report, 16pp

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**Figure 1: Illegal Fishing gear (Than Za GarPike) Gulf Of Mottama
(photo credits BANCA)**



**Figure 2: Small fish caught in Than Za GarPike
(photo credits BANCA)**



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Annex A:

2015 BANCA Survey

Illegal net

Mesh size is very small; a pen cannot get through the mesh. Water resources are threatened and species can become extinct due to this net type. In the East bank of the GOM there are 40 illegal fishing net owners. Each owner has 15 to 20 employees. In the Westbank of the GOM there are 10 owners of illegal fishing nets. They also employ about 15-20 people. Sometimes in the East- and Westbank of the GOM illegal fishermen catch big shorebirds with poison.

Date	Village Location	Notes on fishing
1-12-15	16.82153 E.096.80182	Location: Than Zakar town, time: 7 a.m. name: Uzaw Wam, fishing boat owner, age: 42 years native town: South Khytehto, kind of net: set gill net (illegal) note: about 500 gal of fish paste were found on the boat and 60 were at home net length: about 650 ft, net height: about 6.5 ft number of fishermen on the boat: 2
1-12-15 & 2-12-15	N.16.80305, E.096.32600,	09.20 a.m.: between start and arrival point, N.16.80305, E.096.32600, Ele: 13 ft Illegal fishing net found. Net length: 1.800 ft. Owner: U Than Tun Win. 8 employees. Every employee gets a payment of 45.000 kyats. At this moment it was no fishing time and no bird hunting
1-12-15 & 2-12-15	N.16.80301, E.096.82565	03.15 p.m.:Crosshole Place, N.16.80301, E.096.82565, Ele:21 ft. Illegal fishing net owner U Thein Tun Aung and his group are fishing at this time in this area as the patrol group . Amount of fish caught: 150 kg. Types of fish:Red Prawn, Catfish, Barb, Pipe Fish, Frog, Crabs, etc. 23 species could be identified.
4-12-15	N.16.77213 E.096.850022	01.)08:25 a.m., name: U Than Lin, age: 48 years, native town: Kalatan village, employees: U Tin Naing, U Zaw Lin Moe, U Phoe Tu. Net length: 1.200 ft. He is not fishing that day, net is an illegal fishing net. They report that in this area no bird hunter. Sometimes fishermen catch also shorebirds with Potassium Nitrate. In this village 3 fishermen use illegal fishing nets. 20 fishermen use floating nets.
5-12-15	Gar Tal village N.16.77664 E.096.84040	1.)Gar Tal village: 5 fishermen use illegal nets: U Zaw Lay, U Saw Thun, U Saw, Oo, U Than Lin and one unknown man. In Kyauk Tan village there are 20 fishermen using illegal fishing nets. The head of the

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		fishermen is U Myint Aung. He tells that in this area there are no bird hunters. The former bird hunter U Kalapyar is not hunting birds anymore but is now engaged in nature conservation and he reports to the government about shorebirds
5-12-15	New Grasbank N.16.77664 E.096.84040	10 a.m.:New Grasbank Fishermen: U Darmun (Indian origin) and U Myo Lwin from southern Kyaikto Township. Net type: legal fishing net. They have 12 boats and 3 employees. The salary for one person is about 45.000 kyats for about 10 days. This time they have 28 kg of fish and 2 kg of dried fish in their boats. The investment for going to fishing for one time is 1 mio. kyats. In Kyaikto city there are 14 legal and 36 illegal fishermen. 1000 fishermen use floating nets. In this area there is no bird hunter. Sometimes the illegal fishermen catch shorebirds in Baung Wine 5.
2-12-15	Malout village, Bago division. N. 16.81100 E.096.82668	07:15 a.m.: Malout village, Bago division. Floating net found. Owner: U Dun Naing. He states that in this area is no bird hunter. Illegal fishing nets are found and fishermen sometimes catch shorebirds.