

People's Participation in Community Resilience
An Example from U To Village in Myanmar

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Contents

1. Briefing at The Myanmar Forest Association	4
2. Courtesy Meeting with Forest Officials.....	5
3. Interaction with Villagers	5
4. Observation of the Mangrove Nursery	7
5. Problems & Prospects	8
6. Suggestions	9



People's Participation in Community Resilience

An Example from U To Village in Myanmar¹

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Briefing at the Myanmar Forest Association

The visit of the team (Reiko Nakamura, Tomotsu Kameyama, Kimihiko Maekawa & Bishnu Bhandari) in Myanmar began with a brief introductory meeting with U Sein Thet, Patron, U Htun Paw Oo, Chairman; U Tin Aye, Secretary and U Myo Lwin, Joint Secretary of the Myanmar Forest Association (MFA) at their office in Yangon. The summary of the meeting is as follows.

1. U Htun Paw Oo provided an overview of administrative system of the Republic of the Union of Myanmar and said the entire country is divided into 15 regions (7 regions, 7 states and one Capital City). Below the state or region are districts, township and village tracts. The village tract is the group of small scattered villages.
2. According to U Htun Paw Oo the MFA has received a grant for the project "*Sustainable Life Forest and Livelihood Support through Community-based Activities at U To Village*" under Toyota Environmental Activities Grant Program 2017. The project site is the coastal village of U To in the Ayeyarwaddy Region.
3. The primary objective of the Project is to promote community-based sustainable livelihood with the following objectives.
 - a. Promote community-based eco-tourism in the area
 - b. Assist local community in the conservation and plantation of the mangroves
 - c. Promote crab cultivation (fattening the crab, establishing crab bank, if possible to explore soft-shelled crab)
 - d. Improve the small-scale agriculture.
4. The basic arrangement is that the MFA implement this activity in collaboration with Ramsar Center Japan.
5. The village of U To and Seik Kyi, ecologically in the Rakhine coastal area, falls under the administration of Pathein Township in the Ayeyarwaddy Region. These villages are close to the famous Chaung Thar Beach Resort. These two villages are within a distance of about 10 km from each other. Both of these areas can be reached by road (6 hours) and railway via Pathein.
6. The coastal forests are characterized with mangrove forests, tropical forest, sea grasses, freshwater, marine fishes, shrimp species & crab species. Along the coast lie pristine beach, estuary and rocky area.
7. In the course of the presentation, U Htun Paw Oo informed us that the 8 species of mangroves⁸ found in the village of U To are (1) *Xylocarpus granatum* (Pile-ohn), (2) *X. moluccensis* (Kyana), (3) *Avicenia officinalis* (Thame), (4) *Rhizophora mucronata* (Byu-chidauk Ama), (5) *R. apiculata* (Byu-chidaukApho), (6) *Kandelia candel* (Byu-baing-dauk), (7) *Ceriops decandra* (Madama) and (8) *Heritiera fomes* (Kanaso). In the field

¹The field visit of U To Village of Pathein Township was made from 24 to 28 January, 2017. The financial support received from Toyota Foundation is greatly appreciated. Special thanks are due to Chairman and Executive Members of the MFA and their staff.

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⁸ Brief on Project "*Sustainable Life Forest Conservation & Livelihood Support Through Community-based Activities at U To Village, Rakhine Coastal Area, Myanmar*". PPT Presentation by the Myanmar Forest Association (MFA) at MFA Office 24 January 2017.

visit the villagers reported 12 species of mangroves and associated species, which were not identified.

8. In the village majority of the people are the Rakine with a few Kayan people. Their economic activities include fisheries, dry fish processing, crab harvesting, napa palm harvesting and small & petty trades.

Courtesy Meeting with Forest Officials

An informal luncheon meeting between the officials of the Forest Department and this team was held on the first day of the arrival in Pathein Township, Ayeyarwaddy Region. U Tin Maung Than, the Director of the Forest Department led the informal discussion. Its highlights are presented below.

1. U To Village, one of the coastal villages in Ayeyarwaddy Region is extremely suitable for mangrove conservation and plantation. The Department would extend its all-out support to the implementation activities initiated by the MFA. The plantation activities are the topmost priority of the Department as well.
2. Under the JICA-assisted Mangrove Rehabilitation Project, the Department has undertaken mangrove plantation in the Bogalay Township from November 2013 to March 2017. According to its progress report⁹ the Project has planted about 2,430,500 saplings covering an area of 1,154 ha (2,852 acre) within the time period of 3 years. The species included *Avicennia officinalis* and *Sonneratia caseolaris*. The first weeding was completed in 2015 and the second one is almost half-done and the rest will be completed by the end of March 2017. In December 2016 the Project also undertook a Survival Counting Survey (SCS) of the rehabilitated area and now the data are being analyzed and the report will be completed soon.
3. The Department has the teak plantation program in the north and mangrove plantation in the south. Now the Department is focusing on commercial tree plantation such as rubber and Eucalyptus in both government and private lands. It has encouraged the private sector as well.
4. Upstream the U To River is home to wild elephants. Their herds of 200 individuals have been reported there. In a period of 3 years between 2013 and 2017, some 60 elephants have been killed by poachers and their tusk, ivory and hides were smuggled out to China. In order to stop poaching and protect these animals and their habitat, the Ayeyarwaddy Region has set up a Elephant Conservation Range. And the Pathein Region has seconded 50 police officers to fight against the elephant poaching. In addition to wild elephants, the area also houses many wildlife mainly (1) Hog Deer, (2) Barking Deer, (3) Wild boar, (4) Turtle, (5) Python, (6) Crocodile, and (7) Leopard.
5. The coastal area of Ngayokkung is being planned as a Special Economic Zone. Once this plan materializes, the seaport will be opening opportunities for the development of many mega infrastructures in the region.



Interaction with Villagers

U To Village, named after the U To River, is a newly settled village at the coastal area of the Bay of Bengal. As mentioned earlier ecologically it lies in the Rakhine coastal region but administratively in the Ayeyarwaddy Region. A belly bridge joins the town of Chaung Thar. In the beginning, the area was full of sandbars and mangroves. There were only 4 houses at the initial stage of the settlement in 1980' and now the number has increased to 124. The credit goes

⁹ The Project for Mangrove Rehabilitation Plan For Enhancement of Disaster Prevention in Ayeyarwaddy Delta on the Republic of the Union of Myanmar (Kokusai Kogyo Co. Ltd, December, 2016).

to an elderly person of 80 years who was the first settler in the area. Only after 2008, U To Village got the momentum to attract many settlers. Prior to the 1980's, there was no bridge between U To and Chaung Thar beach. And the Chaung Thar was not so much developed, although the tourists used to come to the beach. Only a belly-bridge connected the village and Chaung Thar in 1982. The first planning and development of Chaung Thar as resort beach began in 1992. Only last year in 2016, the present bridge was constructed over the U To River.

The village has been successful to pull the people to the area and its location has the following strategic importances.

1. Strategically located because of the road passing through the area.
2. Creating a good access to the market as fish caught here can be sent to Yangon and consumer goods comes from Yangon. This has created a good opportunities for employment.
3. The people of Gya Township come here for shopping because of closeness to the Rakhine coastal zone.
4. About 60% of the households are fisher, who do fishing either in the River or the sea.
5. The U To River is rich in fish diversity. About 40 species were reported in addition to shrimps and crabs. The team was able to see 23 live fish specimen from the river.

In the meeting the participants told us that 124 children go to primary school in the village itself and 42 go to middle school in Chaung Thar. Common occupations of the villagers are fishing, crabbing, shrimp trapping, charcoal making, employment in hotels and small & petty trades. Male and female do the fishing together and also set nets at high tide.

It was mentioned in the meeting that the village has already begun the conservation of mangroves, which has provided the source of income for the people with products such as fish, shrimp, crab and charcoal. Although the river is a freshwater river, it is being affected by the saline water of the sea. And now the water is gradually being saline.

U Tayzar Aung, the Chief of the Village Tract Administration told us that the U To Village does not have baseline data, nor was any attempt being made to conduct social survey or environmental impact assessment.



Concerning mangroves, the villagers have identified 11 species of mangroves in the area (as opposed to 8 species reported by the MFA). They have collected the seeds locally, tested their suitability and determined their adaptability. According to fisherman U Zaw Lin Tun of the village, *Rhizophora mucronata* species can be planted all the year round while *Avicenia officinalis* can be planted only in the rainy season. This was confirmed during the observation of the mangrove nursery by U Htun Paw Oo, a team member as well as mangrove expert from the MFA. Some 20 years ago the area was a big dense mangrove forest covered with about 12 true mangrove species, especially in the low land and with associated species and uphill was covered by the tropical rain forest species.

In the village, there are various committees that are responsible for the mobilization of resources for the development of the village. On example was cited from the health side. In this regard, the VTA (Village Tract Administration), first of all, attempts to address the health issues. If the problem can't be solved, then it is referred to Township Administration and the District Forest Office for forestry matters. For the development of the area, the community holds the meeting on the first day of every month at 1 pm. The decisions are made on the basis of 60% majority.

A young fisherman U Zew Lin Tun informed us that in the U To River, there are over 40 species of fishes, 6 species of crabs and 4 species of shrimps. To our surprise, he brought and showed all

of us some 23 species of fishes, 1 species of crab, 3 species of shrimps, 1 species of squid and 2 species of snails. Most of these species were live at that time.

In the meeting, they announced the formation of a conservation committee of 24 members; 2 leaders (U Thein Win and Daw TinTin Mya), 2- elderly people and 20 leaders (one representative from every 10 houses for 200 houses).

To our question of providing continuity to their tradition, it was evaded and told us that their emphasis on the education of the children.

The interaction also discussed the importance of mangrove-based ecotourism for sustainable livelihood and suggestions were made for fishery tourism, export-oriented crab culture, training of guides, production of souvenirs, live museum of crabs and fishes, hands-on experiences, trekking, boating, etc.

The local people also told us that Myanmar has three main seasons; Monsoon or rainy season (May to October), winter season (October to March) and summer season (March to May).



Observation of the Mangrove Nursery

The team along with a group of villagers crossed the U To River and made a rapid tour of the mangrove nursery established by U Zew Lin Tun on a rented land. Three year old saplings belong to *Ceriop decandra* and *Rhizophora mucronata* species. He also showed us the Napa Palm, as associated species of mangrove, whose leaves are used for roofing.



In his recent plantation area, he has followed the ridge-furrow method, which was subscribed by the landlord as well. This system is called *Sorjan* in Indonesia and *Geiwai* in Hongkong . It is a traditional aqua-cultural system of catching crab, fish and aquatic species. Water from sea comes to the furrow at high tides and then the water is blocked at the furrow. The trapped species are then raised and harvested at an appropriate time.

U Zew Lin Tun has introduced crab culture that induces the production of crabs with soft-shell. The crabs moult every 45 days to grow and expand in size. In saline water the crab develop hard shell. So after moult crabs are put into the crate under freshwater, where they develop soft shell.



The group also went on upstream to see the landscape and natural forests. After two hours the team returned back to the deck and went to see the nursery area but could not go there due to mud and stagnant water.

On the way back to Pathein, the team also visited a hilly village called Seik Kyi (**See Box A**) as well as Elephant Camp & Resort. In Pathein, U Tin Maung Than, the Director of the Forest Department gave us general information about wild elephants, elephant-depredation and conservation measures taken for their overall

protection.

Box A: Seik Kyi Village

A quick visit was made to Seik Kyi Village situated on the hill along the road to Pathein. The village was established 50 years ago and the number of houses has reached to 150 in 2017 and the population to 666. The village has one primary school with 90 students and for high school, students go to Chaung Thar. Major economic activities include rain-dependent agriculture. They raise paddy, jackfruit, cashew nut, chilly, cucumber, tomato, pig, chicken & duck and sell their surplus to Chaung Thar. Farming does not give them full employment so they work for cash especially in construction, plantation and other secondary activities. Regarding daily wage, males receive 5000 Kyats and females, 4000 Kyats.

The place was devastated by the cyclone of 1975. Since then the forests have never been restored in the area. These forests are the source of construction materials and fuelwood.

In the meeting villagers opinioned unanimously that weather has changed over time; Pne of the evidences they suggested is that it is not any more cold there; it is becoming hotter and hotter; rainfall occurs erratically; drought occurs frequently and mist & fog are no more a common phenomenon.

Major issues of the village are scarcity of freshwater, conflict with wildlife and unemployment.

Problems & Prospects

1. Scarcity of Freshwater: The major issue the villager mentioned in the meeting is the intrusion of sea water to river water. In other words, the river water is gradually becoming saline. Therefore, here is a great scarcity of freshwater in dry season, especially from January to May. In order to deal with this situation, the villagers have begun to collect rainwater in a pond. That pond too dries up in March. However, one private company has bore a 100 meter deep tube well and sells 20 liters of drinking water for 400 Kyat.

The villagers have a long-term plan. The Union Government has a provision of small development loan of 300,000 Kyat at the subsidized interest rate. Once they received the fund and invested in other areas and made some earning for redevelopment. They want to use that money for water harvesting technology. However, they need another 6,000,000 Kyat. So they are waiting for another 2-3 years to receive that fund to bore a deep well for freshwater and build water collection pond for rainwater.

2. Opportunities for crab culture: In saline water, the crab develops hard-shell. The hard-shelled marketable size crabs have regular market but undersized crabs fetch less price. Undersized crab can be marketed to the visitors by releasing to the sea as religious belief of earning merit. There is a great demand of soft-shelled crabs. Crabs can be raised in freshwater and exported to Yunnan and other parts of China. Therefore the community should focus on crab culture especially producing in good quality, large quantity and big size.

3. Mangrove-based ecotourism: Mangroves are the lifeline of the people in coastal area. Villagers are actively engaged in the conservation of mangrove in an area of 40 ha. They are quite successful. They would like to replicate this success by extending another 40 ha for its nursery

and conservation. This is an opportunity but what they need is a package of appropriate knowledge, technology, funds and technical assistance.

4. Meeting fuel wood requirements: The daily energy needs are met through the collection of dry woods, not green mangroves. Collection of green mangroves is discouraged; charcoal burning itself is a risky work due to the possibility of over-burning

5. Possibility of shrimp culture: Shrimp is also a high demand item and has a possibility to farming in U To Village. But its cultivation initially demands heavy investment. Some communities have invested on it but not been successful. One pre-requisite is that it needs running freshwater, which needs to be collected in the rainy season. This is a problem although there is a possibility of upscaling shrimp culture in the area.

Suggestions

On the basis of the discussion with the villagers in U To Village, the team like to suggest that the village should prepare a management plan for the mangrove-based ecotourism; nursery, breeding and spawning of fishes. The village should also explore different options such as firefly-ecotourism of Malaysia, *Tagal* system of fisheries in Sabak (fisheries-based tourism, playing with fishes, fishes used in treatment), establishment of living museum, and construction of boardwalk and production of local souvenirs.



