

NPO Lions Mangrove Project, a report No. 3

Date created : November 16, 2009

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November 16, 2009 (Monday) Weather: Rain

Left Dapur Enam village by boat to observe sites of the Lions Mangrove Project.

Location

Lions Mangrove Project Site: Cape Ramei, Galang Island, Riau Islands province, Republic of Indonesia



Plantation date

March 20, 2009; *Rhizophora mucronata* 800 stands, *Avicennia officinalis* 800 stands

Now, eight months has passed after the plantation

Tide table

01° 09' 59"U - 103° 59' 49" T		NOPEMBER 2009																								Waktu : G.M.T. + 07.00	
J	T	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	J	T
		16	1.9	1.5	1.3	1.2 * 1.4	1.7	2.1	2.5	2.8	2.8 * 2.6	2.1	1.6	1.0	0.6	0.5 * 0.6	1.0	1.5	2.0	2.5	2.8	2.9 * 2.7	16				

(the unit of meter)

Site observation

4:13 p.m. Land on the Lions Mangrove Project site from the east side.

The stands of 800 of *Rhizophora mucronata* and 800 of *Avicennia officinalis*, which was planted on March 20, 2009 when the plantation tour was held, become 8 month years old.

Picture quality is not good because of bad weather, but the *R. mucronata* stands grow well. Five to six joints on the stem and two to eight leaves were observed. Attachments of mud on the leaves and the stem were also observed.









Barracles were attached on the stands, showing the seawater salinity might be high. In addition, mud attachments were resulted in geographical condition of the plantation site. Connection of the lands inhibits seawater flows. This leads uninterrupted water flow and the mud attachment on the stands.

The picture left below shows the back side of the *R. mucronata* leaves where the barracles are attached.



The picture right up shows a profile of the stem of *R. mucronata*. It seems the stand itself were dead by can be found that it is still alive. In addition, green part of the stem covered by some mud is still green, so that it has possibility to sprout again.

The picture below shows a state of *Avicennia officinalis*.



The survival rate used to be about 10% and those rooted were 6-7% at the last time we observed in August. Conditions of the *A. officinalis* leaves were not good although the number increased a little compared to the last observation in June.

This time observation found the rooted stands were zero and the stands themselves we could see were very few as shown in the picture.

The picture right shows condition of the stand root. Its color becomes black and smells hydrogen sulfide.

The whole stand, not only the above-ground but also the roots, were rot.

YL Invest Co., Ltd. implemented the plantation doesn't have much experience to do the *A. officinalis* plantation, although we tried them in the various sites including the Lions Mangrove Project. Some academic data says that *Avicennia* is the most salt-tolerant species but its trials for the plantation are very few leading a short of the information. This situation made us decide to do experiment on the plantation and collect the data throughout continuous observations.

Our own trials in the various sites including the Lions Mangrove Project showed similar results that ended to failure. We insist that the *Rhizophora mucronata*, keeping high survival rates, might be species adapted to environmental condition of the Batam Island. In addition, the length of *R. mucronata* is 60-70cm, so these propagules can be planted in low lands where the tidal fluctuation occurs.

It can be insisted that *R. mucronata* is better to be used instead of *A. officinalis*.

This time, we encountered a fisherman by chance in the Lions Mangrove Project site as shown in the picture below. It is anchored outside of the site boundary and is waiting for the tide comes up. After the tides come up, he will leave there for his home.



The fishermen do their business around the Lions Mangrove Project site. They put fish net down to the ocean and wait for the fish caught with net.

Two pictures below show appearances the fishes were caught by the net. The net is acrossing the Lions Mangrove Project site as showing yellow line in the picture. Red arrow shows an edge of the net. The length maybe around 800m.



The two pictures below show animal harvests caught by the net. Two fishes and a crab and a jellyfish can be seen.



These were left in the net because their size was too small.

The picture below shows the harvest the fisherman showed us.





The box size is 80, 50 and 60cm and it was full of fishes. The fisherman told us it is the daily amount of the harvest. The harvest of varies varieties include squid. The biggest size of the fish was 40cm in length.

The fish showing in the left picture is called Ikan Banden, which is popular for bleeding in the pond. Another project coordinated by the NPO Lions Mangrove Project and Sidarjo marine academy (APS) tries to establish new style of mangrove plantation which enables to coexistence of this species of fish. This kind of fish might have high worth in Indonesia.

This time, we surprised to see the fisherman has his business in the area of Lions Mangrove Project. Taking into the consideration of our purpose, this observation is important and the mangrove plantation may prove increase of the fish harvest, leading incentives to the local people in the coastal area. We don't have any mind to keep them out from our plantation site because the fisher is their life work. It cannot be helped the fishery net harms some lines of the stands in the site. It is important to involve the understanding of the local people into our project activities.

Challenges for the future

We keep observation on the growth of *R. mucronata*. In near future, we are going to have future plantation in the inland according to the will of this Project president of Mr. Yamasaki. At this present, the growth of *R. mucronata* in the middle area of the tidal flat, showing much possibility of the success on our trial on the mangrove plantation in the inlands where the tidal effect are less. We local staffs are ready to do the next plantation and waiting for assignment from the side of the Lions Mangrove Project Office.