Waraporn Burirak 2011: Collaboration of Fishery Communities on Bottom Set Bag Net Management in Kapoe Bay, Ranong Province. Master of Science (Fishery Management), Major Field: Fishery Management, Department of Fishery Management. Thesis Advisor: Associate Professor Sangtien Ajjimangkul, M.S. 236 pages.

Bottom set bag nets were prohibit fishing gears operating in Kapoe Bay, Ranong Province due to the fisher's need of catch to feed the fish in cage culture. The successful management of bottom set bag net utilization needs the collaboration of the community. The objectives were to study the fishing operational pattern, fish catch and factors affecting the catch, diversity of fish captured by this gear, and to study the community collaboration in bottom set bag net fishery management including factors influencing their collaboration. Fish catch were studied by fish sampling from bottom set bag net fishery in Kapoe canal, Bangbon canal, and Naka canal both inner and outer parts of canals from October 2009 to November 2010. The study of community collaboration was done by interviewing 130 fishers from stratified random sampling. The result showed that total 179 bottom set bag net fishery was operated in the area with the densest nets in the outer part of Naka canal. The average fishing day was 14 day/month and the median of fish catch was 25.0 kg/net/day with quartile deviation 10.7 kg/net/day. The outer part of Naka canal, where the artificial reef was constructed, was found to have the highest median of fish catch. The catches were statistic significantly different between areas, seasons, width of net opening, and cod end of the net (p-value<0.05). The composition of the catch was 89.29% fish such as anchovy, sardine, and Spanish mackerel. The highest biodiversity index (0.77) was found in the outer part of Naka canal. The collaboration of fishers showed that 21.5% of fishers perceived the prohibition of using the 0.1 cm mesh size cod end. The opinion of fishers on bottom set bag net fishery showed that 84.7% of fishers agreed to limit the gear number of 2 nets per person. Bottom set bag net fishers of 57.1% followed the agreement in number of gear limitation as 2 nets per person and do not operate fishing with 0.1 cm mesh size cod end. Factors of social status and fishery experience had influenced fishers to have statistic significantly different collaboration (p-value<0.05). Knowledge and news and information perception had positive relationship with statistically significant (p-value<0.05, r=0.21, 0.26). Bottom set bag net fishery caused to the loss of 6 commercial fish of at least 16.41 million baht/year. The appropriate alternative choices of community following the agreement under resource maintenance were to have collaborative perception, to have a common goal, and to have collaborative practice which could happen from collaborative learning and overall perception of community in news and information. This could lead to participation in decision making in reducing fishing effort, adjusting fishing pattern, and issuing seasonal closure measure of this gear which would allow the community to sustain their resource utilization.

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