

## SUSFORM-NOW (LDC) NEWS No. 28: Managing Water Quality of Fish Pond

To maintain water in suitable quality is essential for successful fish raising because all fish species require clean water to grow. Villagers should maintain their pond water under the following conditions.

- Water contains sufficient oxygen and adequate nutrition and it has no toxic or acidic compounds – water in these conditions often has a color as skin of green bean or young banana leaf

- Water contains no pesticide; no heavy metals, such as As, Pb, Cd, Hg ...; no organic contamination

- PH maintained at 6.5 to 7.5

- Water level is maintained stably between 1.2 m to 1.5m

- Sources providing water for the fish pond have also to meet mentioned conditions

- If the water is in red or yellow color, we must take action to improve water quality. In this case, water quality can be improved by dropping a lime liquid

(provide a lime liquid created by mixing 2-4 kg of lime with 10 liters of clean water over each 100 m<sup>2</sup> of water surface, 3-5 times within one week); and providing organic fertilizer (giving 20-25kg organic fertilizer over 100 m<sup>2</sup> of water surface); providing biogas liquid (giving 20-30 liters of biogas liquid over 100 m<sup>2</sup> of water surface, 3-5 times within one week after providing lime liquid); putting bundles of Siam Weed (*Eupatorium odoratum L.*) or wild sunflower (these plants are made into bundles of 10-15 kg and then put into water, around 15-20 cm under water surface, with a distance between two bundle ranging from 5 to 10 m, turn over the bundles after one week and replace them by new bundles after two weeks); giving NPK (provide 150 to 200 g/100 m<sup>2</sup>).



Members of FRGs visited fish raising place where water was maintained in sufficient conditions

- When the water is in black or dark color, it is contaminated and villagers should handle this problem by replacing the water in ponds. Villagers need to replace one third of the water in their pond by fresh water. Do not change the water too much because this action will create new living environment, and loss of natural food (algae, zooplankton and nutrition). In addition, activities to improve water quality as stated above should be performed.

- When the water is clear, it is poor water – contains no natural food (algae, zooplankton ...) for fish. In this case, villagers also need to improve water quality by providing organic fertilizer (giving 20-25kg organic fertilizer over 100 m<sup>2</sup> of water surface per week), providing liquid produced by biogas plant and putting bundles of Siam Weed or wild sunflower as instruction given above.



Contaminated water is one of main factors to kill the fish



Replace 1/3 of water in the pond by fresh water in order to improve water quality



Improvement of water quality by using



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