# Integrated fish farming praised for sustainability 'releases significant methane emissions'

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A traditional method of farming often praised for being environmentally sustainable actually releases 'significant' greenhouse gas emissions, an Oxford University study has found.

Integrated fish farming is common in aquaculture and a particular system from southern China combining silk production and aquaculture

has been regarded as a prime example of multi-functional agriculture with a 'closed-loop' recycling process.

Organic residues from silk production are added to ponds to encourage the growth of phytoplankton, feeding fish. Waste accumulated in the pond sediments is removed and used to fertilise mulberry, which is in turn fed to silkworms.

A team led by Professor Fritz Vollrath of the Oxford Silk Group analysed the life cycle greenhouse gas emissions. Their results are to be published in the *International Journal of Life Cycle Assessment*.

"We have found that the formation of methane in pond sediments can be a significant source of emissions blamed for global warming," said Professor Vollrath.

"Until now this method of small-scale farming has been held up as a shining example of environmentally-friendly farming. But our results suggest it may make an appreciable and previously underestimated contribution to anthropogenic greenhouse gas emissions."

He added: "The effect is significant because carp are the most heavily farmed fish in the world, and commonly raised in fertilised ponds."

Provided by Oxford University