



โครงการอนุรักษ์และใช้ประโยชน์ความหลากหลายทางชีวภาพ  
อย่างยั่งยืนในพื้นที่ชุ่มน้ำลุ่มน้ำโขง  
Mekong Wetlands Biodiversity  
Conservation and Sustainable Use Programme



## Final Workshop for Water Quality Testing in Schools Pilot Project, Lower Songkhram River Basin

4 – 5 April, 2006, Nakhon Phanom

For the past nine months (June 2005 – February 2006), school children attending schools near the lower 170 km of the Lower Songkhram River, have been involved in regular monitoring of the river's water quality. By using quite simple and low cost materials and methods, they have proven that water quality testing does not have to be conducted by non-local scientists using expensive equipment and sophisticated laboratories to be considered useful data. The children, with the support of the schools, proved quite capable of measuring a suite of critical parameters across a broad length of the river, at a fraction of the cost of conventional external institution monitoring. There is also the secondary, but just as important in many ways, valuable educational and capacity-building benefit to be gained from community-based monitoring of the local environment. This benefit was apparent at the recently conducted, final workshop to summarise the results of the Water Quality Testing in Schools Pilot Project, held in Nakhon Phanom during the first week of April 2006.

The venue for the workshop was the Mekong Grand View Hotel, Nakhon Phanom, which as its name suggests, provides not only a grand view of the Mekong River, but also across to Thakek town and the jagged limestone mountains beyond in Lao PDR. This venue provided a comfortable setting for 55 children, 18 teachers, plus 23 other interested participants from various organisations to exchange lessons from the Water Quality Testing Pilot Project, learn about several other environmental issues of importance and plan for future activities of the informal schools network. As with past workshops, the final workshop was co-facilitated by staff from Walai Rukhavej Botanical Research Institute, Mahasarakham University who has been an active project partner from the outset in giving advice, provision of materials and monitoring the schools' progress.

On Day 1 of the workshop, following introductory remarks concerning the rise in environmental problems by Khun Khampan Akaranet, Deputy Director of the Area 2 Nakhon Phanom Education Office, and brief presentations about the Mekong Wetlands Biodiversity Conservation and Sustainable Use Programme's (MWBP) Songkhram Demonstration Site as well as the history and role of Walai Rukhavej BRI, each school provided an account of their findings, introduced by the children. In addition to providing a short presentation of their results, every school was requested to provide a written report and illustrated poster display. The quality of these presentations, both written, visually and verbally was very high on the whole, considering the diverse age of the children involved (Year 6 Primary, up to Year 3 Secondary). The children and teachers had clearly put a lot of effort into each component and demonstrated good overall understanding of the water quality measuring techniques, parameters measured (i.e. temperature, pH, turbidity, Dissolved Oxygen and Biological Oxygen Demand) and general significance of their findings. The students were also encouraged to provide personal observations about the river and surroundings, during a question and answer session. Each school was judged by a panel of five persons, who awarded points on the merits of each component (i.e. presentation, poster and report) to decide which were the three best schools to be awarded cash prizes at the end of the second day of the workshop.

Following the presentations, Khun Weeratham Tongpan, Chief of the Inland Fisheries Research and Breeding Centre in Sakhon Nakhon, gave a talk about sustainability issues surrounding large scale and commercial fishing gear, commonly found in the Nam Songkhram River.

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On Day 2 of the workshop, attention turned to other issues of potential concern to the environmental health of the lower river basin. Miss Rojana Intirat, a staff member of the Region 9 Environment Office, Udon Thani, gave a presentation about water quality problems in the Huay Luang stream, another Mekong tributary that drains the urban area of Udon Thani municipality and suffers from various pollution woes. Her colleague, Mr Sompong Bunfruang, talked about the growing environmental problems related to the commercial salt extraction activities in the Nam Songkhram Basin of Sakhon Nakhon and Udon Thani. The majority of the day, however, was taken up by child-centred participatory activities led by Dr Oy Ganjanavit from the Green World Foundation and Ajarn Amphai Gaedsatit, from the Red Ants Network Project (*Kreukai Mod Daeng*), an environmental education and awareness-raising project, based in Chiang Mai.

The children were led down on to the dry season Mekong beach in front of the hotel and went on a beachcombing mission in small groups, noting down and collecting items of interest. Over the space of an hour or so the children collected or spotted many items, ranging from various animals and plants to inanimate objects like dragonfly larvae cases, bits of litter and odd-shaped rocks. Back in the meeting room, the kids got busy with coloured pencils, drawing the items and grouping them, before later feeding back their observations to the bigger group. Later the children held a virtual “Rivers Fair”, writing down what they would like to do in terms of future activities and swapping it with the others and observers to the workshop. All this was by way of introduction to the wonderful world of “River Detectives”, an environmental education project focusing on activity-based learning for youth through investigation of aquatic life in waterways.

The children became fully absorbed in the activities and before long it was time to wrap up the workshop and present certificates to all participants and prizes to the top three schools. A brief summary of the overall results from the schools, found that overall water quality in the Nam Songkhram River is still fairly good (Class 2 water under Thai classification standards), with no major problems or pollution incidents reported during the monitoring period. At certain times of year though, dissolved oxygen levels dipped to levels (< 4mg/l), which could give potential cause for concern. Students and teachers observed that the river is not as clear in the dry season as it once was, with episodes of green water “algal blooms” decreasing visibility. Several participants linked this phenomenon to the rise in prevalence of cage fish culture at certain locations near villages, which they also surmised may be leading to local oxygen deficits and increased BOD levels. However, this hypothesis has still to be tested on the Nam Songkhram, requiring a longer term of monitoring to prove or disprove. It did illustrate that the students were starting to make links between river-based activities, environmental quality and the need for regular monitoring.

The final workshop was both a chance to share experiences and lessons, and an opportunity for awareness raising of the pressing need for increased involvement of local people in caring for the environment. It is now hoped that the Songkhram schools network formed through the Water Quality Pilot Project will continue to be involved in regular monitoring activities of their wetlands and local environment, whether through chemical and physical parameter tests, or monitoring bio-indicators along the lines of the River Detectives project. The workshop will be followed up by outreach visits to the schools, a Conservation Camp later in the year and various other planned activities for local youth in 2006.

#### **RESULTS OF SCHOOLS PRESENTATION COMPETITION**

- 1<sup>st</sup> Prize – Chaiburi Wittayakom, Tha Utaen District (5,000 Baht)
- 2<sup>nd</sup> Prize – Pittayakom, Sri Songkhram District (3,000 Baht)
- 3<sup>rd</sup> Prize – Saharat Rangsarit School, Sri Songkhram (2,000 Baht)



**Participants at the Workshop listen to the opening speech by Mr Khampan Akaranet, the Deputy Director of the Area 2 Education Office for Nakhon Phanom, based near the MWBP Demonstration Site office in Sri Songkhram District**



**Children from Ban Hat Paeng School, next to the Nam Songkhram River in Sri Songkhram District, present the results from the water quality testing project back to the other participants on Day 1 of the Workshop**



The Mekong foreshore in front of the hotel was used as a site of exploration by the children, to observe and collect all the objects they could find and give them a taste of being “River Detectives”



Primary school children from Ban Chaiburi Community School near the Songkhram-Mekong confluence, explain to visitors at the “Rivers Fair”, what they would like to do in the future with regard to environmental monitoring in and around their school.