# " PLASTIC POLLUTION IN THE LOWER MEKONG RIVER "

# HOW THE MEKONG RIVER COMMISSION (MRC) CONTRIBUTS TO MONITORING, AWARENESS AND DECSION-MAKING MONITORING

## The challenges of plastic pollution

Night falls early in November and the Phetsomphone family is sitting on the floor of their stilt house in Laophoxay village on the Mekong River banks in Khammouane province, Laos. The 58-year-old wife has prepared her dinner - tilapia, caught earlier by her husband, Khamsouk. The fish is not only tasty, but it also provides the family with needed nutrients. Like the Phetsomphone family, of all Cambodian's get 81% of all their proteins from fish. For the family of Phetsomphone, fish means life. But fisherman Khamsouk also complains about the amount of plastic garbage in his nets. Sometimes, he explains, more plastic than fish. **The truth is** that the world is drowning in over 8 million metric tonnes of plastic, with up to 2.4 million tonnes that originate from the world's rivers alone, equivalent to 5,400 Boening 747-8 aircrafts every year. This environmental onslaught exacts a staggering toll, racking up a bill of at least US $ 8 billion in damages to precious marine ecosystems. Perhaps even more alarming, it is predicted that by 2050, the world's oceans will teem with more plastic than fish

***Figure 1: Fish tagging for fish passage monitoring.***

***Figure 2: Plastic waste observation in Mekong River during the plotting of MRC plastic monitoring.***

The Mekong River Basin is one of the largest (795,000 $km^2$) and most biodiverse river basins in the world, extending over 4,800 km through six different countries and providing a home to more than 70 million people in the Lower Mekong River Basin (LMB). However, the Mekong River is reported as one of the 10 major contributors to marine plastic pollution. Plastic trash is therefore not only a problem for Phetsomphone's family in Laos. Almost half of all Mekong River plastic eventually drifts over the seas to the Philippines, a quarter to Indonesia. Plastic litter comes in different forms and sizes. While nets can be freen from all larger plastic trash, very little is known about smaller pieces and the smallest – microplastic. Small plastic particles are ending up in fish bellies and microplastic, invisible to the human eye, contaminating drinking water or important river sediments. "An illustration of the sheer magnitude of the problem is that as much as 51 trillion microplastic particles – 500 times more than stars in our galaxy – also litter the seas".

The role of the Mekong River Commission (MRC) is to coordinate and promote cooperation in all fields of sustainable development, utilization, management, and conservation of the water and related resources of the *Lower Mekong River Basin (LMB) covering Cambodia, Lao PDR, Thailand and Viet Nam*

## The Success of the MRC Cooperation on Riverine Plastic Monitoring

***To support*** the objectives and principles of cooperation of the 1995 Mekong Agreement, the MRC has entered successful milestones through collaborative partnerships.

***Figure 3: Analysis plastic in fish during the piloting of MRC plastic monitoring***

With support from the United Nations Environment Pro-gramme (UNEP), the Secretariat of the Convention on the Conservation of Migratory Species of Wild Animals (CMS), and the German Federal Ministry for Economic Cooperation and Develop-ment (BMZ) via GIZ, MRC has started to invest in assessing and monitoring the status and trends of plastic pollution in the LMB. The procurement, installation, and handover of analytical lab equipment (FT-IR), along with the provision of training on how to use and maintain the equipment by the responsible implementing line agencies in all four member countries has been a milestone to further generate data and knowledge to support decision-making.

## MRC Implementation of the Riverine Plastic Monitoring

***Regarding plastic***, the MRC's Water Quality Monitoring comprises three (03) protocols as follows:

1. Riverine Plastic Monitoring Protocols, which identify plastics larger than a guitar pick (>25 mm, to be precise).
2. Plastics within the size range from that of fine sand to approximately the size of a pea (0.3 - 5 mm, to be precise), and
3. Microplastic in fish

Throughout a series of national and regional consultation workshops, the four member countries have consistently proposed the inclusion of not only the examination of microplastics in water and fish but also in sediment. They have suggested increasing the frequency of monitoring and expanding the number of sampling stations to analyze both macro- and microplastic pollution in the LMB. This recognition stems from the global understanding that this type of pollution does not just affect marine life as a whole but also reaches dinner tables, as fish ingest these particles. At the Laophoxay village in Laos, Mrs. Phetsomphone agrees: "Fish is life" and we must know whether our daily meals are safe to eat. Only then our government can find solutions and make the right decisions. Families from our village can support to create more awareness and help to avoid the pollution of the river.