

LEARNING BY DOING

SHOWCASE FOR INNOVATIVE MONITORING IN AYEYARWADY DELTA



Myanmar is confronted by major water challenges and must therefore make very important choices. However, at the same time, there has been no monitoring or measurement for many years, which makes it difficult to make the right choices. There is therefore a huge demand for data and information in order to make well-founded important choices. Delft University of Technology is involved in various projects to improve the data collection and monitoring system in the Myanmar delta.

The fast pace at which developments are taking place means there is no time to carefully measure the entire country, develop nice models and only then make decisions. For example, installing a perfect and expensive weather station every twenty kilometres is not an option.

Therefore, in the learning by doing project Bago-Sittaung Integrated Water System Analysis, for example the TU Delft used remote sensing technologies and affordable innovative measuring systems on the ground. The project was also aimed at rapidly modelling the collected data, in order to then translate it into usable and useful information. The final product was a roadmap for improved monitoring, delivered in September 2016.

The parties involved have started a follow-up project in 2017– ‘Leapfrogging Delta Management in Myanmar’–with financial support from the Dutch Partners for Water Programme. The aim is to develop a showcase for smart information solutions in the Ayeyarwady Delta.

For instance, a team of researchers and students from Delft University of Technology and local universities are using a number of specially produced GPS trackers and hundreds of balloons with LED lights in the rivers. They are tracked over several hundred kilometres on their journey downstream. The water quality is also being

measured. This provides valuable information about the (variations in) the river’s flow rate. This is important to predict issues such as the shifting of navigable channels and the spread of pollutants in the future.

Every 50 to 70 kilometres there is a bridge where the passing balloons are counted by hand.

Local officials, students and academic colleagues from Myanmar are closely involved in this experiment. This provides the researchers from Delft with essential local knowledge, and also makes it possible for the partners from Myanmar to repeat the research in the future. It also offers opportunities for innovative start-ups that develop products with this kind of affordable and scalable sensors, such as the company Disdrometrics.

The Bago-Sittaung Integrated Water System Analysis also made use of innovative monitoring. Hence, a fishfinder, designed to locate schools of fish, was deployed to measure sedimentation. And a buoy was constructed with parts from an ordinary mobile phone in order to measure waves, which is essential in order to gain insight into coastal processes and flood risks. This Wavedroid is a start-up from the Netherlands, which is now gathering data at sea in Myanmar during test projects carried out by students and young professionals.

What is notable about both projects–primarily carried out by students, young experts and PhDs from both countries – is the strong sense of shared ownership, with great commitment and enthusiasm on both the Myanmar side and Dutch side. The first project was a modest project, but a great deal was achieved. The potential for the (near) future is also great if what has been learnt is applied and scaled up in a structured way, and the innovative methods and technologies are used more widely.