

Progress Report
Sustainable Water Management Improves Tomorrow's Cities' Health in the Asian Cities
(SWITCH-in-Asia)

The SWITCH-in-Asia programme was initially proposed as SWITCH-IPA; however, UNESCO Office Jakarta decided to change the name to SWITCH-in-Asia to have more clarity in terms of its geographical scope. The programme was established based on two main reasons. Firstly, the Asia and Pacific region is home to 60% of the world population, has shown the largest increase in extreme weather events, has the largest number of people without access to safe water supply and sanitation (62 and 74%, respectively), and furthermore shows the most rapid degradation of water resources in terms of quality and quantity. Secondly, to call for a paradigm shift in urban water management (UWM), as conventional UWM is not sustainable in a world facing increasing global change pressures.

The aim of this new programme is to build on the experiences of SWITCH-global; and to design sustainable concepts to manage water in the city of the future. In order to achieve its objectives, the programme will be implemented along three components, namely (1) Action Research, (2) Demo Sites, and (3) Capacity Building/Awareness Raising.

Based on the above, SWITCH-in-Asia will work to develop, apply and demonstrate a range of tested scientific, technological and socio-economic solutions and approaches that contribute to the development of effective and sustainable UWM schemes in Asian Cities, human settlements and corresponding catchments. The SWITCH-in-Asia brochure, which provides a general description of the initiative, including time lines for the development and roll out of this programme in the region is available at www.switch-in-asia.org.

SWITCH-in-Asia has been promoted in the past years to government institutions, scientific communities, research agencies and academia and has attracted do many interests from different parties. Nevertheless, the first official attempt to introduce the programme within the Asia Pacific region was by organizing a National Workshop in Jakarta, Indonesia from 19 to 20 May 2009. The objective of the workshop was to identify interested partners and develop a comprehensive project proposal that could ultimately be submitted to donors. The workshop was attended by approx. 50 participants from government institutions, research agencies, and academia. The programme has again attracted many parties who expressed interest to develop the programme in Indonesia through Action Research, Demo Sites, and Capacity Building

The programme was finally launched in a Regional Partnership Workshop which was held on 8 -9 December 2009 in Jakarta, Indonesia aiming to discuss and identify potential project sites in the ASPAC region and possible themes to be developed, as well as to establish an initial regional partnership and learning alliance for sustainable urban water management. The workshop was followed by a half-day visit to the Solid Waste Management site of Banjarsari Area in Jakarta, on 10 December 2009.

The workshop was attended by more than 90 participants from sixteen countries representing a number of national, regional and global networks in Australia, Bangladesh, Cambodia, Germany, India, Indonesia, Iran, Republic of Korea, Malaysia, Nepal, Netherlands, Philippines, Singapore, Taiwan, Timor-Leste and Vietnam, as well as other relevant organizations (e.g. Asian Development Bank-Integrated Citarum Water Resources Management Investment Programme/ADB-ICWRMIP, Asian Institute of Technology Centre-Indonesia, ASEAN Secretariat, AusAID, USAID) and UN agencies (i.e. UNDP, UNICEF, UNIDO). Twenty project ideas from 14 countries were developed during the workshop.

As follow up from the workshop three first national projects of the SWITCH-in-Asia regional programme are currently being developed in 3 Indonesia, Cambodia and Vietnam; which are briefly described below:

- Indonesia

The Indonesian component of SWITCH-*in-Asia* aims to transform some of the Citarum River oxbows into ecosystem service providers supporting and contributing to the national government strategic plan for the management of the Citarum Basin. Oxbows are the meandering parts of the rivers which have been cut off in order to regulate/divert the flow of the Citarum River. The SWITCH proposal regards 2 oxbows, namely Dara Ulin (19 ha) and Mahmud Village (8 ha) Oxbows located in Bandung Regency with total population of approx. 3,000 people. It is proposed to use SWITCH principles in addressing the un-sustainability water practices, to restore the environmental imbalance in Dara Ulin and Mahmud oxbows by using eco-technology to reduce pollution and eco-hydrology to enhance the carrying capacity of the oxbow and therefore turning the oxbows from waste dumps to an ecosystem service provider.

- Cambodia

The Cambodian component of SWITCH-*in-Asia* will be focused in Siem Reap as the Cambodia's fastest growing city which serves as gateway to the world heritage famous Angkor temples. Due to the rapid expansion, water consumption increased many folds during the last 20 years. The Department of Water Management faces great challenges as all water supplies in the area (both in Siem Reap town as in villages inside Angkor Park) are exclusively from groundwater. Over extraction of groundwater will cause the depletion of the water table and associated land subsidence and temple destabilization and collapsing.

The Cambodian component of SWITCH-*in-Asia* aims, together with APSARA (Authority for the Protection and Management of Angkor and the Region of Siem Reap, to develop a thorough understanding of the hydrological and hydrological regime of the area in order to identify possible threats to Angkor World Heritage Site.

- Vietnam

In Vietnam, SWITCH-*in-Asia* will be focused in Hanoi which was formed on the Hong (Red) River Delta, a swamp land, with many natural lakes and rivers. The city cannot survive without lakes and rivers, not only because of the landscape, but also because of their crucial roles in regulating water flows, recharging groundwater, keeping moderate climate and maintaining biological diversity.

Within half a century, from 1950 to 2000, the city had lost 70 per cent of its total number of lakes. The disappearance of Hanoi's lakes can be largely attributed to urban development. Lakes were filled in to create land for new buildings. Others were illegally transgressed and many others deteriorated due to an influx of untreated water. The loss of these lakes has led to flooding, water pollution and the fast deterioration of once-abundant biological diversity.

Several hydrological studies of Hanoi city indicate that there is serious surface water pollution in rivers and lakes due to inadequate disposal and treatment of wastewater and effluent. The lakes are also polluted by the waste and effluent which is directly discharged from the hundreds of restaurants and hotels which are located either on the shore of the lake or floating on the lake. Also, due to the excessive groundwater abstraction the polluted surface water is artificially induced into the aquifers by differential pressures caused by the excessive drawdown are also polluting groundwater in many places.

The Vietnamese component of SWITCH-*in-Asia* aims to develop a water management plan for pollution control and prevention as well as a comprehensive strategy for the rehabilitation of 3 urban lakes in Hanoi and 3 rural lakes in the outskirts of Hanoi.