

The Implication of Environmental Legal Tools to Water Environment in Cambodia

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Abstract

The Kingdom of Cambodia has tremendous water resources and natural assets, which kept as major tools to the national development. Besides these resources, agricultural sector is recognized to importantly support the socio-economic development, meanwhile more than 85% of people are farmers. Industrial, tourist, transportation, etc., are also crucial sectors for the national development. Significantly, these kinds of development require necessarily to abide by the environmental legal instruments to ensure the environmental sustainability. It means that the maintenance and protection of water environment should be considered and implemented in parallel with development concept. Vice versa, the water environment might be deteriorated or polluted by unsound environmentally development, that means to destroy ourselves, our benefits, including our next generations.

The water pollution concerns were identified, and there are still gaps in: (i) our understanding of the integration of water environment management into sectoral development; (ii) our ability to recovery of degraded water environment and water quality decline we have done to it; and (iii) our knowledge of the cost of failing to take appropriate action to abate its degradation.

Up to now, it is still less possible to assess the state of water environment and water pollution at both national/ provincial levels, including its management, and the Royal Government of Cambodia, is now taking much attention to deal with the water environment management and protection we already know exist. Series of related legal instruments, strategic development plan and policies, and their applications — all are evident implicating to above captioned targets.

Carrying out these legal instruments, under the collaboration with key stakeholders, the MoE is taking action to regularly monitor and control various activities which harm to water environment and human health. During the implementing, the MoE still confronts with many constraints that require improvement. Capacity building, institutional strengthening, technological transfer, key stakeholder participation as well as the cooperation among concerned ministries/ institutions, international organizations and NGOs, and with other countries in the region, all these are key elements aiming at minimizing and phasing out the above constraints.

Background

Cambodia lies in Southeast Asia in the southwestern part of Indo-Chinese peninsula. It is located between latitudes 10° and 15° North and longitudes 102° and 108° East in the

Tropical North, and covers an area of 181,035 Km². Cambodia shares its 2,438 km border with Thailand, Laos PDR, and Vietnam. The country maximum extent is about 580 km from east to west and 450 km from north to south. The total boundary of the country is 2,600 km of which approximately 5/6 is land and 1/6 is coast.

The country receives abundant water quantities from the Mekong River, Tonle Sap River, Bassac River, Tonle Sap Great Lake, their tributaries in between rainy season, but more parts of the country are confronted to water shortage for household uses and irrigation during the dry season, due to an insufficiency of water storage, canal and irrigated systems, meanwhile farmers are accounted for 80%. Water resource is determined as an invaluable natural asset for Cambodians with multi-functions for the development of various sectors such as: agriculture, fisheries, industry, tourism, navigation, hydropower, transport, etc., which is the crucial resource for poverty alleviation. Of course, with these tremendous water resources and richness inundated habitats, Cambodia becomes the home of endangered and rare wildlife species, especially waterfowls and fish species in Tonle Sap Great Lake (waterfowl camp), freshwater dolphin in Mekong River (Stung Treng and Kratie Provinces).

Up to now, the exploitation and aquatic resources based development, commonly recognized to be caused severe concerns to the environment and loss of biological diversities, including water pollution, unless the environmentally sound management and practice was applied. Therefore, the implementation of environmental norms/standards is absolutely required by the environmental law and related statutes in order to ensuring sustainable and/or richness conditions of water and its natural resources, as well as the promotion of public and/or community participations. It means the conservation and protection of water environment and its related resources should be considered and implemented in parallel with the development concept.

Pollution aspects to water environment

In a brief, some kinds of development activities in Cambodia are being caused pressures to water environment and human health of which the Ministry of Environment (MoE) and line institutions are paying attention in parallel the taking action to intercept and minimize through the application of real countermeasures¹ and public awareness raising. The occurrence of negative effects resulted from many types of activities as follows:

- a) Both treated and untreated effluents from industrial sector are being discharged into receiving waters;
- b) Agricultural development by using agro-chemical which is more popularly consumed in paddy fields, specially in gardens along and/or closed to watercourses;
- c) Rapid growth of urbanization which is beyond the land use planning, and without a central wastewater treatment, therefore, domestic wastewater are directly discharged into sewage system, and finally run off to retention pound to take the treatment process by natural conditions;
- d) Activities of gold mining and other mining are closed to water sources;

¹ Based on the environmental legal tools

- e) Solid and liquid wastes discharge from slaughterhouses, poultry, piggery farms, and the like;
- f) High sedimentation load resulted from soil erosion at upstream and local watersheds², including river bank collapse;
- g) Fuel-oil transportation by waterway without adequate safety facilities and emergency planning. Floating oil stations/selling are found to locate in dense-floating communities along main watercourse, e.g. Bassac river, and Tonle Sap Lake; and
- h) Transboundary water pollution resulted from various development activities at upstream riparian countries.

Environmental Legal Tools and Their Application

The series of environmental legal instruments including relevant statutes have been entered into forces which aim to protect and conserve water environment and its related resources. These include such as: (i) Law on Environmental Protection and Natural Resources Management; (ii) Law on Water Resources Management; (iii) Sub-Degree on Water Pollution Control; (iv) Sub-Degree on Solid Waste Management; (v) Sub-Decree on EIA Process; and (vi) Sub-Decree on Air Pollution and Noise Disturbance Control. To abide by these legal frameworks, stakeholders (both public and private sectors) pay more attention to implement them based on their functions, and the national strategic plan (NSDP, 2006-2010) to contribute the application of poverty alleviation in parallel with the initiative of environment and the sustainable development.

Sub-Decree on Water Pollution Control

In the context of specific water environment protection and conservation, this report is focused mainly on the Sub-Decree on Water Pollution Control³, e.g. its stipulations and application to various activities and/or sources, which cause the degradation of water quality and aquatic life as well. The Sub-Decree on Water Pollution Control (SWPC) has established based on the stipulation in Article 13, Chapter 5 of the Law on Environmental Protection and Natural Resources Management.

The Sub-Decree aims to minimize and phase out various activities that tend to pollute and/or polluted public water areas, including improve wastewater management for sustaining good water quality suitable to human desires. The standard for discharging of effluent into public water areas or into sewer, and the standard for water quality at public water areas for biodiversity conservation and for public health protection.

To abide by the SWPC, MoE officials do a monitoring and control programme at various pollution sources such as: factories, handicrafts, hotels, etc. Two sub-programmes are being implemented at pollution sources: (i) a routine effluent monitoring at normal factories, hotels, etc., is conducted within an interval period of 90 days; and (ii) a routine effluent monitoring at factories those use chemicals and/or chemical compounds for their production, is taken in an interval for 45 days. This application is done in order to ensure treated wastewater which is discharged to receiving sources without impact to the environment and public health, as

² It may cause from forest clearing and shift cultivation

³ It was approved by the Council of Ministers on April 06, 1999

stipulated in the Article 19 of the SWPC: *"The Ministry of Environment shall take sample at every discharge point of pollution sources. The owner or responsible person of pollution sources shall collaborate with and facilitate the environmental official to take sample while carrying out their technical task"*.

MoE officials within the monitor and/or control programme, take effluent samples and analyze in order to identify a nature quality of discharged effluent at respective pollution sources. If discharged effluents were found to be exceeded the standard, the MoE, in complying with the Article 23 and Article 24 of the SWPC, has to instruct owner to properly treat those effluents before discharging to receiving sources, and vice versa, a penalty will be done by case.

Article 23: *The owner or responsible person of the pollution sources as stipulated in the article 11 of this sub-decree shall:*

- *be responsible for determining the method of the treatment and the discharge of their effluent so that it responds to the effluent standard as stipulated in the article 4 and article 5 of this sub-decree as well as the standard of pollution load as stipulated in the article 7 of this sub-decree;*
- *have enough facilities and means to prevent the pollution of the public water area when there is eventual danger caused from his/her pollution source; and*
- *hold the responsibility for installing an equipment for measurement of flow, concentration and amount of pollutant contained in his/her effluent and also keep the result for record keeping.*

Article 24: *Even if it is found out that the discharge of effluent from any pollution source do not respond to the effluent standard as stipulated in the article 4 and article 5 or is not in consistence with the pollution load standard as stipulated in the article 7 of this sub-decree, the Ministry of Environment shall:*

- *issue a written order requiring the owner or responsible person of such pollution source to correct the violation activities immediately within a specified time period, if that activity has not caused a harmful impact to human health or an adverse effect to the water quality yet; and*
- *issue a written order requiring the owner or responsible person of such pollution source to stop his/her activities temporarily until the violation is corrected, if that activities cause an adverse impact to human health and water quality.*

On the other hand, based on the Article 31 and Article 32, in Chapter 6 of the SWPC, if water environment at public water areas⁴ are polluted, MoE officials have to do an inspection and assessment the scope of water and environmental pollution in order to effective take action to minimize and eliminate these negative impacts, in closed collaboration with inter-ministries and local authority.

Article 31: *Where if there is complaint or report that any source of pollution discharges effluent containing substance which cause danger to animal or human health or public property or causes pollution to any public water area, the Ministry of Environment, in collaboration with concerned ministries, may enter the site of this source of pollution and conduct inspection and take sample for testing.*

⁴ *River, sea, lake, stream, creek, pond, canal and so on*

Article 32: In the case of serious accident or imminent danger resulting from pollution at public water area, the Ministry of Environment shall make urgent inspection on the above problem and shall inform the concerned ministries and local authority.

Besides effluent control and monitor⁵, MoE officials applies the Article 26 and Article 29 of the SWPC, to monthly monitor/control some main watercourses are located surrounding Phnom Penh Municipality (Mekong river, Bassac river, Sap river) and Chhnok Tru area (Tonle Sap Lake).

Article 26: The Ministry of Environment shall regularly control and monitor the situation of the water pollution at public water areas throughout the Kingdom of Cambodia in order to take measure to prevent and reduce the water pollution in public water areas.

Article 29: Even if it is found that any public water areas is suffering of pollution which could threaten human life or bio-diversity the Ministry of Environment shall immediately notify the public about this danger and shall take measure to prevent the water pollution and to restore the water quality of such public water areas.

The MoE also provided a license/permission towards the discharge of solid and liquid wastes as requested by factory/enterprise owner, after finding the discharging does not impair to the environment based on the environmentally sound management.

Law on Water Resources Management

The Law on Water Resources Management was prepared by the Ministry of Water Resources and Meteorology (MoWRAM), and it has adopted by the National Assembly in 2007. The general purposes of the law aim to foster the effective management of the all kind water resources of Cambodia to attain socio-economic development and the welfare of the people. Relevant activities to water quality management were found in the Article 22, Chapter 6 of the Law. This Article stipulated as below:

"Various discharge, disposal or storage of hazardous substances or wastes which might impact to water quality, human health, animals and plants shall ask for a permission or license.

Above captioned hazardous substances or wastes by types and technical standard for effluent discharge will be identified by the Sub-Decree. All application of this Article, the MoWRAM shall consult with inter-ministries."

Under the support of water quality monitoring network⁶, officials of the MoWRAM has taken water sample at designated sampling stations to analyze since 1993. Historically, the programme has commenced since 1993 under the MRC support: (i) 05 stations were operated in 1993; (ii) 06 stations were operated in 1995; and (iii) there are 11 stations are being operated. Remarkably, the stations are classified to primary and secondary stations. There are: (a) 19 stations so-called as primary station (10 existing and 9 new proposed stations); and (b) 2 stations for secondary network (1 existing and 1 new proposed stations). The primary

⁵ Discharging from various pollution sources

⁶ One main MRC Programme

station was set up to monitor and control various transboundary issues, basin-wide significance.

Conclusion

The efforts in protecting and conserving the environment and water environment are being conducted under closed collaboration with stakeholders, including international communities with remarkable outcomes. However, some constraints are recognized and required to improve from now on such as: (i) capacity building and institutional strengthening; (ii) technical supports from international communities/donor; (iii) public awareness raising by other doable means and public participation; (iv) strengthening the carrying out of environmental legal instruments; and (v) closed cooperation among countries in the region.