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#### **Abstract**

Achieving a harmonious ASEAN requires countries to an environmentally sustainable development, given limited resource availability. Meeting the consumption needs of growing populations, they are depleting rapidly. Those transformed into energy unavoidably result in pollution, policymakers should be responding by designing and implementing "green growth" strategies for economic development. Lao People's Democratic Republic (Lao PDR), environmental policy still tends to be separate from the economic planning process. Integrating environmental management and pollution control thinking into economic planning is necessary. Pollution control is new mandate organization rarely effective when ad hoc legislation and policies seek to control air or water pollution in isolation. The main duties and responsibilities of pollution control is a term used in environmental management. It means the control of emissions and effluents into air, water or soil.

Without pollution control, the waste products from consumption, heating, agriculture, mining, manufacturing, transportation and other human activities, whether they accumulate or disperse, will degrade the environment. In general, Lao PDR has a good opportunity to setup the pollution control agency by learning the good practice and bad experience in the past then application appropriate to pollution control in Lao PDR at the membership of ASEAN economic community in year 2015.

**Keywords:** ASEAN economic, legal framework, environmental management, sustainable development, pollution control

### Introduction

Association of Southeast Asian Nation (ASEAN) has made significant progress in the intra-ASEAN economic integration as well as in the economic cooperation and integration between ASEAN and its external partners. Within ASEAN, the establishment of the ASEAN Free Trade Area (AFTA), comprising liberalization of trade in goods, trade in services, and investment; and cooperation in other economic fields, coupled with the effective implementation of the Master Plan on ASEAN Connectivity, consisting of physical infrastructure, institutional and people-to-people connectivity, among others, have contributed to the process of the building of ASEAN Economic Community (AEC), with the objective of creating ASEAN as a single market and production base, a highly competitive economic region, a region fully integrated into the global economy and a region of equitable economic development. At the same time, ASEAN has also established economic cooperation with many of its dialogue partners such as the establishment of the Free Trade Areas (FTAs) with China, Japan, the Republic of Korea,

Australia-New Zealand and India, which has gradually forged closer economic integration between ASEAN and these dialogue partners. ASEAN has now become a region which enjoys a relatively high and stable economic growth.

Currently, Lao PDR does not have experience on the use of pollution control instrument; because of pollution control is new mandate and new organization for Lao PDR. Therefore, the environment protection law (EPL) 999 is mention in general about the pollution control, and does not have sub - legal to support of implementing and enforcement. Lao PDR has long since established laws and formal governmental structures to address their serious environmental problems. Pollution control policy instrument are policy instruments that use markets, price, and other economic variables to provide incentives for polluters to reduce or eliminate negative environmental externalities MBIs seek to address the market failure of externalities such as pollution by incorporating the external cost of production or consumption activities through taxes or charges on processes or products, or by creating property rights and facilitating the establishment of a proxy market for the use of environmental services. Market-based instruments are also referred to as economic instruments, price-based instruments, new environmental policy instruments (NEPIs) or 'new instruments of environmental policy.

This paper proposes to identify and analyze the Institutional arrangement, law and regulations, policy instruments and experiences of environmental compliance and enforcement and will serve as a building block to develop a framework to build an effective Pollution Control Agency in Lao PDR as the membership of ASEAN economic community in 2015 taken as a whole, the literature suggests that policymakers would do well to exercise caution in promoting and implementing alternative pollution control tools.

### **Institutional Arrangement for Pollution Control**

Pollution Control Department (PCD) is the new organization under MONRE in Lao PDR. PCD has five main responsibilities such as: (1) Planning and Administration; (2) Legislation and Information; (3) Technical Support; (4) Air and Noise, Water and Soil Pollution Control; and (5) Solid Waste and Hazardous Chemical Management. The main duties and responsibilities of pollution control are terms used in environmental management; it means the control of emissions and effluents into air, water or soil. But the current situation of PCD is stilling has many limit capacity and manpower capability such as:

- Low monitoring capacity;
- Poor planning with over ambitious pollution control targets;
- Plans do not identify funding sources or financing mechanisms for pollution control;
- Limited capacity and willingness to strongly enforce environmental regulations;
- Limited capacity for giving advice on technical solutions to pollution problems;
- Limited capacity for pollution control project design, evaluation and financial assessment; and
- Lack of coordination between line agencies.

In the hierarchy of pollution prevention and waste minimization are more desirable than pollution control. Other responsible is the International Convention with Lao PDR had ratified for example: Stockholm Convention, Rotterdam Convention, Basel Convention, Kyoto Protocol and other. The policy framework of pollution control:

- To develop the pollution control decree for environmental management and pollution control relevance to air and noise, soil, water, solid waste management and hazardous

- chemical management. The decree will be approved by the Prime Minister in June 2013, now is under processing (DPC, 2012);
- To develop the National Strategic of Pollution Control for 2030 and Action Plan, and National Strategic on Solid Waste and Hazardous Chemical Management for 2030 and Action Plan, and other strategies relevance to pollution control in Lao PDR and transboundary pollution control accordance to the number of convention are the government of Lao PDR had certified;
- To develop the Environmental Quality Standard (in both Ambient and Emission standard);
- To develop the model for Pollution Control and Environment Compliance Monitoring; and
- On site monitoring in case of non-compliance.

## Law and Regulation

Pollution control is new mandate in Lao PDR, presently does not specific law and regulation for pollution control agency to implement and enforcement as compliance monitoring. The main relevance law and regulation for pollution control are:

The Constitution of the of the Lao People's Democratic Republic adopted through a National Assembly's Decision No. 01/SPA, dated August 14, 1991. Regarding to Article 17 "All organizations and citizens must protect the environment and natural resources: land, underground, forests, fauna, water sources and atmosphere".

The Environment Protection Law (EPL) 1999 is the central piece of legislation and main instrument for environmental protection and management. Under the EPL, basic principles of environmental protection are that: (1) the national socio-economic development plan shall include provisions to protect the environment and natural resources; (2) all persons and organizations residing in Lao PDR have an obligation to protect the environment; (3) whoever causes damage to the environment is responsible for the impact under the law, and (4) natural resources, raw materials and energy shall be used in an economical manner to minimize pollution and waste and allow for sustainable development (article. 5). Important provisions of the Law include: Development projects and activities that have the potential to affect the environment shall require an EIA In addition to the main EIA for the proposed project, a number of additional environmental impact assessments may be required under the EPL (article. 8).

It is an obligation of all organizations to control pollution in accordance with environmental quality standards for environmental protection and pollution control in coordination with the concerned sectors, according to their roles and duties (article. 23) set forth in regulations by the various agencies involved. Regarding to Article 23 Environmental management and monitoring agencies at all levels shall issue regulations and determine environmental quality standards for environmental protection and pollution control according to their roles and duties in coordination with the concerned sectors.

The Environment Impact Assessment (EIA) Decree 2010 is quite clear on the process is to protect the environment through prevention as the tool to assessment of the possible positive or negative impact that a proposed project may have on the environment, together consisting of the environmental, social and economic aspects. At the same time EIA procedures need to be

further developed and refined, specifically in relation to listing the categories of projects needing EIAs as well as providing for a clear and effective EIA review and appeal process. Equally important, a compliance monitoring system must be established to ensure that the environmental guarantees given by a project proponent are ultimately enforced. Because the currently EIA is lack of consultation, project document are often drafted in technical language preventing proper understanding except for the well educated few, but this is disadvantage of government authorities who wish to ensure those projects implementation is not unduly delayed, since the participation can thus be limited to inputs from the educated minorities. Lack of communication between Government and local people, project is formulated without the dissemination by the government of information among local people, information that is necessary to prevent any misunderstanding of the project initiatives. Various studies of project proponent from Vietnam, China and other countries have show that project authorities frequently make promises during the EIA process including promises of financial compensation, resettlement packages, and employment for the local population promises that are rarely kept (Work Bank, 2010). Lack of legal framework during the last few years a number of studies have shown the lack of environmental legislation to enforcing of compliance monitoring in case of non-compliance, never have fine and be imprisoned by laws in case accident or pollution discharge and impact to social and environment in Lao PDR.

At present, the main issue with the regulatory framework in Lao PDR lies in its enforcement. Government agencies have a limited capacity to monitor and regulate mining operations, with particular respect to the EPL. The government largely relies on the mining industry to supply monitoring reports upon which they assess the social and environmental impacts. There is currently little external and independent monitoring and assessment of the mining industry in Lao PDR.

Lack of Transparency, the EIA process for major projects lacks adequate provision for informing the public. For example, the classification of documents as confidential can prevent public dissemination and in the absence of transparency (openness), it is difficult for effective public participation to be achieved. Moreover, lack of transparency fosters mistrust and misunderstanding between project authorities and communities.

Lao PDR need for institutions development and establishments the pollution control policy instrument to implementation and enforcement of regulatory and economic instruments has been constrained by: inadequate expertise, funds, and equipment; lack of political will; limited public support and participation; unclear or overlapping and uncoordinated institutional responsibilities; and lack of effective financial management for collecting charges. To design and implement pollution control and waste management strategies, therefore, national, province, and local institutions in Lao PDR will require substantial strengthening in terms of human resources, organizational structure, and financial resources. In this case, Ministry of Natural Resources and Environment should development of new pollution control within existing agencies will be necessary at province and local level.

### **Challenges of Pollution Control in Lao PDR**

The AEC is the next step of economic integration transforming ASEAN into a single market and production base by 2015. The economic integration goals will include the elimination of

tariffs, free professional movement, capital and a faster customs clearance procedure. The ASEAN Agreement on Trans-boundary Haze Pollution is an environmental agreement signed in 2002 between all ASEAN nations to reduce haze pollution in Southeast Asia.

For Lao PDR the pollution control is new mandate and new authority, if comparisons with other member of ASEAN countries. Currently, PCD still has many challenges and management weaknesses that were made evident:

- The capacity and capability of PCD staffs. Most staffs do not have high qualification for environmental management and pollution control. More than 60% of PCD' staffs are young professional and do not have background relevance to environmental management and pollution control;
- Lack of procedures and guidelines for environmental management and pollution control;
- DPC don't have protocols to systematize the environmental and social information generated during the project cycle. PCD do not have quick access to information on the status of environmental performance of projects in the field;
- Lack of supervision during case of accidents at the provincial and district level. More importantly, no sanctions have been applied to project proponents who do not comply with the environment management system;
- Lack of capacity building of environmental management and pollution control programs at the provincial and district level. Technical staff, especially at the provinces and districts level requires training to gain knowledge and experience, particularly in implementing the environmental management and pollution control;
- Lack of proper equipment for environmental management monitoring at all levels;
- Lack of financial support from the government; and
- Lack of coordination among the MONRE and inter ministers.

From now to 2015, when Lao PDR become a member of, the urgent need is improving the institutional framework and its capacity through strengthening and raising public awareness and political commitment:

- Develop a sound legislative and legal framework for property rights, pollution control;
- Use market based instruments as much as possible;
- Build capacity for more effective environmental management and pollution control;
- Deepen public awareness and political commitment;
- Improve public access to environmental quality information including the environmental impact by accident;
- Introduce environmental education as standard part of the curriculum;
- Integrate environmental management and pollution control concerns into private sector decision-making; promote industry wide codes of conduct and environmental auditing.

#### **Conclusion and Recommendation**

The AEC in 2015 is not too far for Lao PDR readiness of pollution control at the member of AEC to increase the rates of compliance with environmental regulations and limit negative environmental and health impacts of rapid economic growth pollution control authorities should consider the following (1) institutional arrangement; (2) law and regulations; (3) policy instruments; and (4) experience of pollution control system.

PCD should develop the important regulations to support implementing and enforcement, such as: (1) Pollution Control Decree (PCD). PCD is a national policy aimed to prevent, abate and control pollution of water, air and land for the more effective utilization of the resources of this

country; (2) National Strategic of Pollution Control for 2030 and Action Plan (NSPC). NSPC is to control, prevent, reduce and eliminate the pollution and to maintain clean, green beautiful Laos such as: establish an administration and management system to fulfill the mission of the pollution control, effectively conduct the reduction of pollution and the prevention or rehabilitation of the environment; and establish an efficient executing system for the PCD mission (monitor, warning and checking of pollution and its sources, and the environmental conservation and the enforcement of law); (3) National Strategic of Solid Waste and Hazardous Chemical Management for 2030 and Action Plan; and (4) Amendment of some parameters that are not useful or enforceable in the National Environmental Standard developed by WREA in 2009.

Institutional Arrangement PCD pollution control should be clear and has right authorities to operation. PCD is a need to strengthen capacities of environmental management and pollution control in all levels both DONRE and NREMO responsibilities with funding. As a matter of priority, DPC should review staffing at all levels to assess the gap between their responsibilities and capacities and identify actions needed to bring them into better alignment to address priority issues. At the same time, PCD should be continue to search for pollution control policy tools suitable to address problems experienced in different parts of the country. Special attention should be devoted to designing effective emission discharges permitting for large enterprises.

Law and Regulation the legislative and rule making processes should be made more transparent to build better relations between regulating entities, the regulated community and the public. Allowing more public participation in the regulatory process at all stages, from drafting environmental legislation to enforcement activities, can help improve policy effectiveness and address potential inconsistencies early in the legislative process. Urgent need from now PCD should be development the Pollution Control Decree to support the pollution control activities as all level, including the technical assistance, budgeting and equipment requirement to enforcement of compliance monitoring. At the same time, DPC should be amendment some parameters of the Agreement on National Environmental Standard are not appropriate to force now. Regarding to Article 23 of EPL (1999), DPC should be develop the National Strategic on Pollution Control (NSPC) from now to 2030 and Action Plan. NSPC should be including the Hazardous Chemical Management, and trans-boundary pollution control accordance to Lao PDR Ratify of the international convention, regional and sub-regional agreement.

Policy Instrument should be development the regulatory hand book or technical guideline for pollution control policy instrument such as: incentives based or economic instruments to promote voluntary compliance and internalization of environmental costs, with due regard for the public interest and without distorting international trade and investments. The benefits from compliance can be applied to the facility generally to an individual based on his or her performance. Incentives include:

- Fees: The facility is charged based on characteristics (e.g. amount, rate, toxicity) of its pollution (e.g. effluent, emissions, waste). Fees generate revenue that can be used by the enforcement program. Fees should be high enough to deter pollution; otherwise they are no more than a "license to pollute."
- Tax incentive is reduced taxes for costs associated with improving environmental quality by installing pollution control equipment, or changing a process to prevent pollution;
- Pollution taxes are based on the volume and toxicity of emissions, effluents, or wastes generated. Pollution taxes can be purely economic alternative to setting standards;

- Subsidies for complying facilities that comply with requirements that can receive a subsidy to help defray the cost of compliance;
- Promotion points for senior managers in government owned facilities achieving compliance;
- Rewards, awards, public commendation;
- Incentives to change behavior and make it more expensive to discharge thus reengineer; rebates for outstanding performance; and
- Voluntary Instruments by responding to these pressures, companies started to apply modern approaches to limit their environmental impacts. Increasingly, enterprises adopt "win-win" strategies, including cleaner production, ISO 14001 environmental management standards, and eco-labeling.

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