

WATER POLLUTION CONTROL FUNDS IN VIETNAM

This paper explores the role of environmental funds for helping control water pollution in Vietnam. Pollution control funds are urgently needed as a transitional mechanism for better managing the increasingly serious water pollution problem in terms of load, concentration and toxicity. Such funds focus on providing financial and technical support for polluting firms so that Government commitments to pollution control can be met. The paper sets out the rationale for providing concessional funding for water pollution control, describes current funding mechanisms for pollution control that are already in place, and examines the main considerations in setting up funds. Seven key principles are proposed that should guide fund design and operation as a transitional measure while the needed policy, administrative, technological and enforcement capacities are gradually put in place. The final section outlines the particular benefits of developing Provincial Environmental Protection Funds as vehicles for integrated capacity building and pollution control funding.

This paper is based on the findings and recommendations from a number of recent reports on pollution and pollution control in Vietnam – they include a national audit of pollution in manufacturing industries and review of pollution control legislation, planning and administration in Vietnam conducted by ICEM for the World Bank (ICEM 2007); a survey of financing demand amongst polluting establishments, financing mechanisms for pollution control and the costs of wastewater treatment in Vietnam conducted by ICEM for JICA Vietnam (ICEM 2010a); a study of revolving funds for water pollution prevention also for JICA Vietnam (ICEM 2010b); and, research by ICEM for the Asian Development Bank (ICEM 2008) and by the World Bank on point source pollution issues in the Nhue-Day and Dong Nai river basins (LBCD 2010).



△ Thanh Hoa Province © 2012 ICEM

INTRODUCTION

Critical levels of water pollution, weak pollution control capacity

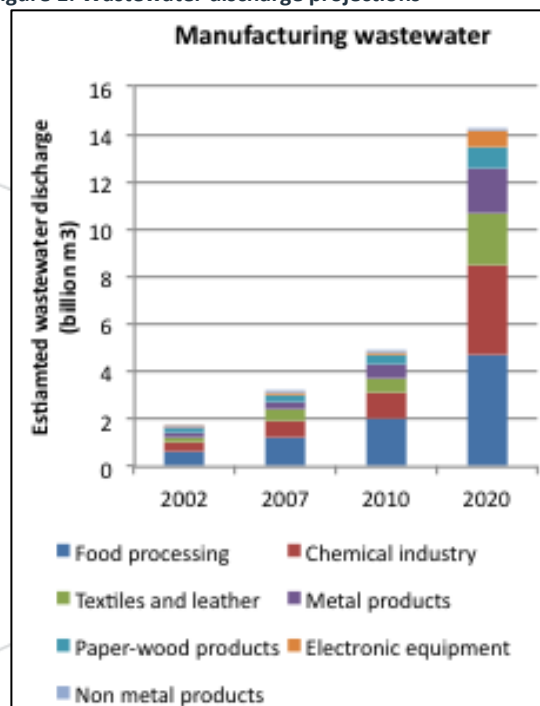
There is an increasing awareness of the fundamental way in which environmental systems, and the goods and services they provide, underpin social and economic development. Without fresh air, clean water, fertile soils, a suitable climate and adequate natural resources, human prosperity is not possible.¹ This is also true of Vietnam, with its rich endowment of environmental and natural resources that have underpinned rapid economic growth and poverty reduction over the last two decades.

Rapid industrial and urban development is also leading to increasingly acute pollution problems in and around most major urban areas. Air pollution, water pollution, pollution from solid waste and noise pollution are all nearing critical levels (ICEM 2007). This in turn is damaging human health and well-being in affected areas, the productivity of natural resource sectors, and putting increasing strain on the availability and quality of key resources. The increasing pollution load and toxic intensity has strong equity impacts as pollution problems affect less affluent and most vulnerable people most. Often, they have to work in polluted environments and tend to rely more directly on natural systems and resources threatened by pollution.

There is increasing evidence of pollution of Viet Nam's surface, ground and coastal waters. In particular, downstream sections of major rivers and most lakes and canals in urban areas suffer deteriorating water quality.² With economic development, wastewater discharges from industrial and municipal sources have grown rapidly (Figure 1). The situation is especially serious in the Dong Nai and Nhue-Day River Basins, which have been the focus of urban and

industrial growth. In these basins, water pollution is leading to the build up of many areas with accumulated toxic wastes.

Figure 1: Wastewater discharge projections



Point source water pollution from industrial establishments, industrial parks, waste disposal and treatment facilities, and hospitals is proving difficult to manage. Manufacturing production in particular has contributed to high and increasing levels of water pollution. Cases of serious and repeated pollution infringements by many enterprises, such as the Vedan Company in Dong Nai Province, have served to highlight the weakness of the existing pollution control system.

Nevertheless, the legislative response to these increasingly acute environmental problems has been gathering momentum. For example, the revised Law on Environmental Protection³ adopted in 2005 established a robust national framework for environmental protection, and made provision for harsher sanctions against polluters. Subsequent legislation at both national and provincial levels has sought to target point source water pollution through

¹ For example, see: TEEB (2010) and UNEP (2011).

² Water Environment Partnership in Asia (WEPA), 2011, State of water environmental issues: Vietnam - <http://www.wepa-db.net/about.htm>

³ Law no. 52/2005/QH11

higher levels of fines for polluters,⁴ the threat of public sanction⁵ and stricter development control conditions.⁶

The establishment of special funds to support pollution control is an important part of the policy package for addressing water pollution in Vietnam. The experience to date demonstrates that to have a significant and sustainable impact on pollution control, water pollution control funds need to build on provincial level environmental protection funds and pollution control planning practices that are already in place. Fund design should not seek to insulate funds from weaknesses in the existing environmental management approaches at the expense of developing sustainable capacity within local institutions. Rather, the development of sustainable institutional and pollution control management capacity should be an important part of fund objectives and operations.

PUBLIC SECTOR FUNDS FOR POLLUTION CONTROL

Existing pollution control policies, institutional arrangements and management procedures prohibit private and public establishments from polluting water bodies. Yet, assessments of the pollution situation in major river basins in Vietnam have found that the existing pollution control framework is not responding to the scale of the problem in a timely or systematic way. Limited skill levels and technological know-how, insufficient human resources, unclear operational procedures, overlapping regulatory mandates, and limited financing are among factors constraining the effectiveness of the management framework

There are a number of reasons why pollution control funds have an important *transitional role* in addressing this capacity gap. First, in many areas pollution is already acute. It is creating

severe environmental hazards in some of the most densely populated areas of the country with toxic effluents permanently absorbed in land and aquatic ecosystems, and entering the food chain. It is causing serious long-term impacts to the health of workers and local communities. It is also causing significant productivity losses in some sectors and threatens to undermine local and national development gains. While Vietnam has adopted new forms of instruments to create incentives for pollution control – including wastewater discharge fees in 2005 per Decree 67/2003/NC-CP of June 13, 2003 – the implementation of these instruments has been challenging. Numerous reports and workshops have suggested that these instruments have thus far not provided sufficient incentives for industrial facilities to reduce pollution. As such, the costs of extending funding to polluters to assist in controlling their pollution may be less than the cost of damage caused by pollution, and cleaning up pollution later may prove much more expensive than prevention at source.

Second, pollution control legislation addresses both existing and planned establishments. However, it remains unrealistic to expect existing enterprises to cease polluting as an immediate response to new laws. Introducing pollution control equipment or the adoption of cleaner production processes takes time, and needs to be carefully planned and managed. Pollution control measures need to be financed, suitable technologies need to be sourced and modified to suit local conditions, and technical staff need to be trained to install and operate pollution treatment facilities. Alternatives include forcing polluters to close permanently, to relocate or to cease operations until they can put adequate pollution control measures in place. While those options may, in specific circumstances, prove necessary,⁷ they also imply significant economic and social costs, resulting

⁴ Decree 117 dated 1st March 2010

⁵ With the annual publishing of provincial blacklists of polluting industries not meeting environmental standards

⁶ Decree 29/2008/ND-CP, Decree 88/2007/ND-CP and Circular 8/2009/TT-BTNMT, as well as provincial legislation.

⁷ As indeed indicated by the adoption of Decree 64/2003/QĐ-TTg which requires the relocation of thousands of polluting enterprises. The implementation of this decree continues to be difficult. A key constraint is the insufficient funding allocated to supporting relocation costs.

from loss of economic output and employment, and are therefore frequently untenable politically.

Third, even if polluters have the capacity and resources to stop polluting – as was the case with the Vedan plant, strong monitoring and enforcement systems are required to compel them to internalise the costs of pollution. These systems are not in place and developing this capacity is a long-term undertaking. In the meantime, pollution needs to be addressed as quickly as possible because of the serious long-term public and environmental health consequences (ICEM 2007).

Fourth, targeted funding for pollution control is needed to encouraging the transfer and diffusion of cleaner technology and the development of a domestic environmental technology industry. For example, the strategic objective of developing domestic capabilities in environmental technology production may warrant extension of funding to polluters, which can address pollution and stimulate the

development of a domestic market for pollution control equipment (LBCD 2010, ICEM 2010a).

Fifth, the introduction of water pollution control technologies or changes in production processes generally imply capital investments which may be difficult to finance partly because investing in wastewater treatment technologies is generally not seen as a profit-generating activity. Figure 2 summarises reasons why firms are often reluctant to invest in water pollution control, and Table 1 summarises the weaknesses in the current pollution control arrangements.

Figure 2: Why firms are reluctant to invest in water pollution control

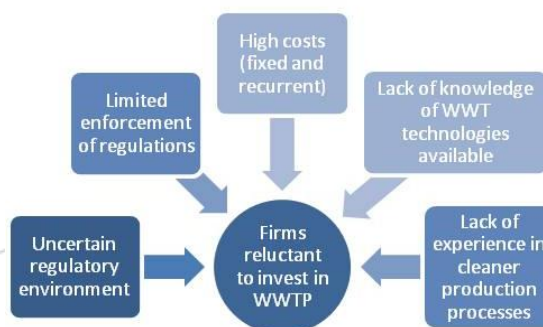
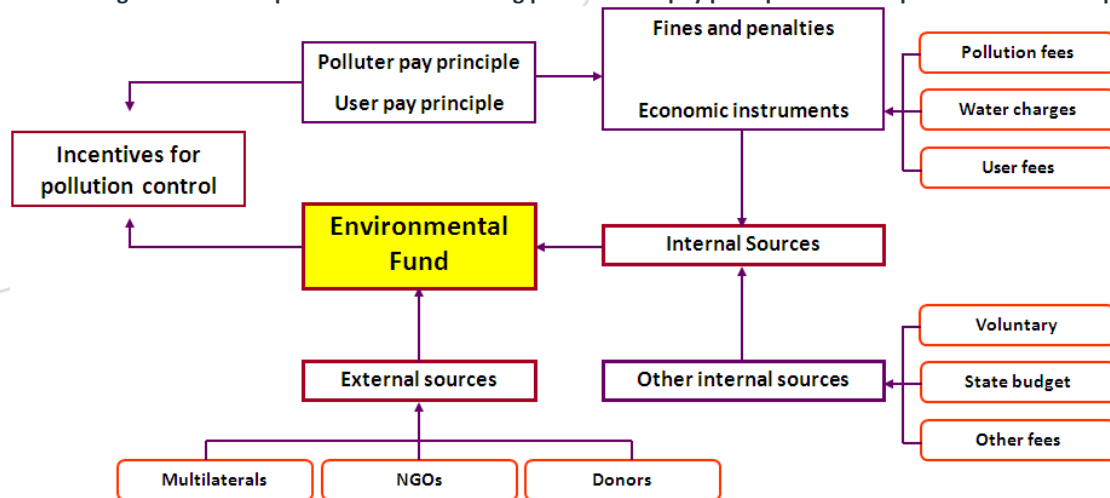


Table 1 Perceived weaknesses in current pollution control arrangements

Area	Issue
Legislation	Lack of clarity over legal requirements for wastewater pollution control (DoNRE, Department of Planning and Investment, Department of Construction and Industrial Zones Authorities); Low level of fines (in some cases lower than operating and maintenance costs of wastewater treatment plants); Lack of clarity on criminal liability for pollution; Inadequate criteria for identification of serious polluters (based upon concentrations instead of pollution load).
Capacity	Low monitoring capacity (only a small proportion of firms monitored in any given year); 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. Lack of coordination between line agencies.
Resources/funding	Inadequate resources at DoNREs to support monitoring and enforcement; No resources to support pollution control project development; Limited resources available under restrictive lending conditions for pollution control project – not sufficient to meet funding needs; Existing funds have limited project development capacity and resources, replenishment dependent upon gathering wastewater treatment fees.

Source: ICEM 2007, 2010a, LBCD 2010

Figure 3 Creating incentives for pollution control: Linking polluter-user-pay principles with the provision of fiscal support



Together these considerations establish the case for the development of funding mechanisms that can make concessional funds available to enterprises for pollution control. This is especially the case in a transition context like Vietnam where alternative pollution control policy instruments will take many years to operate effectively.

The underlying rationale supporting the use of EPFs is the explicit and pragmatic recognition that achieving significant and rapid pollution control in Viet Nam will require not only penalizing or charging the release of pollution to the environment, but simultaneously providing enterprises with the financial support to achieve reduction in pollution discharges. As shown in Figure 3, EPFs are fiscal instruments which link these two approaches.

In summary, while the polluter pays principle continues to be appropriate for informing long term policy objectives, the situation in Vietnam of increasingly serious water pollution requires flexibility in its application and focussed funding support. The government and communities cannot wait until monitoring and enforcement capacities come to grips with worsening pollution. One way or another, the worst polluters must stop polluting. If they cannot afford to do so, or do not have the capacities required but cannot be closed down for other important political and social reasons, then

special one-off funding subsidies may be justified.

POLLUTION CONTROL FUNDS IN VIETNAM

A key failing of past point source pollution control initiatives has been the inadequate provision of funding to assist establishments in meeting their pollution control obligations (ICEM 2007).⁸ Nevertheless, over the past ten years funding for pollution control has increased, as have the number of funding mechanisms.

Table 2 gives an overview of current government funding mechanisms for pollution control in Vietnam.⁹ In principle, funding for pollution control at establishments is available at both the national level and at the local level (albeit not in all provinces). Generally, local infrastructure development funds and the Vietnam Development Bank do not make funds available for point source pollution control; these institutions tend to focus on larger

⁸ In particular, the implementation of Decree 64 which established a national list of seriously polluting establishments and set out pollution control objectives for them, suffered from inadequate funding support.

⁹ This excludes a number of donor sponsored pollution control funding initiatives, such as the Green Trust Credit Fund funded by SDC and the SIDA Environment Fund. It should be noted that there are also other environmental funds in Vietnam, including the Vietnam Conservation Fund run by MARD.

municipal level infrastructure. Until recently, this has meant that potential sources of concessional funding for pollution control have been limited, with the possible exception of Ho Chi Minh City (HCMC). In this context, the creation of

Environmental Protection Funds (EPFs) at national and provincial levels, which explicitly target pollution control, including point source water pollution is potentially significant.

Table 2 Government pollution control funds and funding

Fund	Year	Function
National level		
Vietnam environmental protection fund	2002	<ul style="list-style-type: none"> • Under MoNRE • Source of capital from environmental protection fees, fines, compensation payments, fees from carbon trading and ODA. • Funding through concessional loans. • Target pollution control at establishments identified in Decree 64, waste treatment in urban areas, craft villages and hospitals.
Vietnam Development Bank	2006	<ul style="list-style-type: none"> • Under MOF • Various funding sources including ODA and bond issues. • Funding through concessional loans. • Varied remit but includes environmental protection projects, including municipal wastewater treatment.
Provincial level		
Local infrastructure development funds (various provinces)	From 1997	Under provincial PCs, close involvement of DoF, DPI Consolidate funding from various sources including bond issues in some provinces. Funding through concessional loans. Varied remit but generally target large infrastructure projects – including wastewater.
Quang Ninh EPF	2010	Under DoNRE, involvement of DoF and LIDFs depending on the province Generally capitalised from provincial funds Replenished from environmental fees and fines Funding through concessional loans. Target waste management and pollution control projects – municipal and point sources.
Hanoi EPF	2009 ¹⁰	
Tay Nguyen EPF	2010	
Vinh Phuc EPF	2010	
Ba-Ria Vung-Tau EPF	2005	
Binh Duong EPF	2009	
Dong Nai EPF	2004	
HCMC Revolving Fund for Industrial Pollution Control	2001	
HCMC Industrial Pollution Minimisation Fund	1999	Under HIFU, technical support from DoNRE. Capital from provincial budget. Funding through concessional loans. Focus on SMEs and handicraft manufacturers.
HCMC Waste Recycling Fund	2006	Under DoNRE Capital from provincial budget, and various sources including carbon trading. Funding through concessional loans. Specific focus on waste management firms.

Source:

ICEM

2010a

¹⁰ The first environmental fund in Vietnam was instituted as a pilot project in 1996 in a district of Hanoi by the Ministry of Planning and Investment and the Hanoi People's Committee.

Most local EPFs (with the exception of those in Hanoi and HCMC) have been created over the last few years. The Law on Environmental Protection 2005 made provision for the creation of these funds and provinces with pollution concerns have been relatively quick to do so. With continuing decentralisation giving more spending power and autonomy to the provincial authorities, these funds are likely to become more important as mechanisms for reinforcing government environmental policy. The funds are generally capitalised directly from the provincial budget and are replenished through environmental fees and taxes. They concentrate on concessional lending to waste management and pollution control projects (Table 3, for example, shows loans made by Dong Nai and

Binh Duong EPFs). In particular, they have the remit to lend to pollution control projects at enterprises and are therefore in a position to start addressing the most significant point sources of pollution. Moreover, EPFs are generally run by provincial DoNREs with support from the provincial Department of Finance (DoF) and sometimes, local infrastructure development funds, meaning they are in a position to be integrated with local pollution control institutional arrangements and priorities set by DoNREs. As they are using provincial funds they are also integrated into provincial level budgetary processes. Finally, the creation of provincial funds level represents a real and long term political commitment to pollution control at the local level.

Table 3 Loans made by Dong Nai and Binh Duong EPFs

Year	Borrower	Project type	Loan value (USD)
Dong Nai EPF			
2007	Bien Hoa Packaging Co	Construction of WWTP	63,158
2008	Sun Pack Co Ltd	Construction of WWTP at packaging paper factory.	16,579
2009	Xuan Loc Environmental Sanitation Services Cooperative	Compaction truck	23,947
2009	Thanh Phat Environmental Services Cooperative	Compaction truck and truck for solid waste	46,053
2009	Sonadezi Long Binh Share Holding Co	Construction of WWTP in Xuan Loc industrial park (phase 1)	386,842
2009	Tan Phu Environmental Service Cooperative	Solid waste truck	10,526
2009	Tan Hoa Cooperative	Solid waste truck	9,421
2009	Thanh Lam Environmental Services Cooperative	Compaction truck	42,105
Binh Duong EPF			
2010	Dai Loi Latex Processing	Construction of WWTP	16,842
2010	Tinh Cong Industrial Corp Co	Renovation of WWTP	19,474
2009	Facility Dinh Nam	Solid waste truck	26,316
2009	Binh Duong Water Supply and Sewerage Environment Co Ltd	Solid waste truck	110,526
2009	Gia Dinh Chemical Manufacturing Co Ltd	Renovation of WWTP	42,105
2009	Binh Duong Urban Pacific Project Co Ltd	Solid waste collection truck	157,895
2010	Binh Duong Import-Export Food Co Ltd	WWTP and biogas system	157,895

Source: ICEM 2010a...

Despite the potential of local EPFs to facilitate reduction in pollution discharges, there are a number of issues that are hampering the effective operation of these funds (ICEM 2010a):

- Lending is limited to domestically owned firms – normally foreign owned establishments are not eligible to borrow funds
- Available resources at these funds are small relative to the funding needs to address pollution issues
- Similarly, typical loan size is small relative to the cost of wastewater treatment
- In some cases, loans are available only for equipment costs. In the case of default equipment can be repossessed (in contrast to civil works which are essentially sunk costs)¹¹
- Time consuming bureaucratic procedures mean obtaining credit through these funds can take up to a year
- Poor co-ordination between fund management bodies (i.e. DoNRE, DoF, local infrastructure development funds, PPCs) resulting in poor oversight and slow processing of loans
- Diffuse decision-making bodies – including representatives from line agencies not directly involved with pollution control
- Lack of information dissemination about funds and application procedures
- Limited capacity in terms of proposal assessment and monitoring ability
- Funds are unable to make resources available in the form of grants, thus limiting the type of support which can be provided, including for example the provision of grants to support feasibility analyses of pollution control options as well as the preparation of funding requests

Although most local level funds are in the early stages of development, piloting of various forms of environment funds has been continuing for more than a decade. Already, it is clear that

¹¹In general, it seems that limited capacities at these funds for project appraisal and subsequent monitoring leads decisions makers at the funds to be particularly risk averse. This may prevent the funds from dealing with the worst polluters.

there are a number of shortcomings relating to their basic objectives and mission, the available resources, and fund design and operations, which may prevent them from fulfilling their role effectively. Implementation experience suggests a number of guiding principles to improve their performance and contribution to combating pollution at source.

GUIDING PRINCIPLES FOR SETTING UP AND MANAGING POLLUTION FUNDS IN VIETNAM

Seven principles which pollution control funds should aim to follow can be drawn from the decade of experience with environment funds of various kinds in Vietnam. To be effective, EPFs should:

1. Have a clear and overriding objective of pollution reduction and prevention
2. Work according to a comprehensive pollution control plan of government which is based on credible and systematic priority setting procedures
3. Integrate with the government pollution control and management institutions and procedures
4. Include a strong parallel technical support facility
5. Promote and help implement cleaner production technologies and practices
6. As far as possible, work through existing governmental budgetary mechanisms
7. Operate with strong transparency requirements and the obligation to regularly report on their activities to stakeholders

The principles are considered in more detail below.

The main purpose of a pollution control fund must be to prevent and reduce pollution. The primary consideration of a *pollution control* fund should be how best to use its resources to achieve the maximum pollution reduction in the most efficient and effective way within the fund's design lifetime. That objective should not

be compromised even if it may require setting aside market competition principles on a case by case basis. For example, if for reasons of employment a decision is made to allow a seriously polluting firm to continue operating it may be necessary to provide a one off grant and/or loan to assist the firm meet pollution standards. It should not be permitted to continue polluting and placing workers, the local community and the environment at risk. The financial support would be a one-off transitional subsidy provided for the wider social benefits of maintaining the operation as an employer and producer in the economy. The fund's pollution control objective is paramount – even if in the short term it may appear to be giving serious polluters a competitive advantage over other firms with a good environmental performance. In practice, international experience has shown that one-off subsidies of this kind have little influence on competitive forces within the market.

Funds must be linked to credible and systematic priority setting procedures. To be effective a fund must draw on a set of clear priorities that identify the most serious polluters as part of a government's pollution control plan. Where resources are scarce, managers must tackle the most serious polluters. Establishing and maintaining a priority listing requires a number of steps. First, an audit of polluting firms in the area of operations of the fund is needed to find out who the firms are (their location, size, sector, ownership etc.) and the nature and

extent of their pollution. In setting priorities pollution load and the relative toxicity of the pollutants are important measures. Additional criteria for the selection of pollution control priorities include, the extent to which polluters are in environmentally sensitive areas, sectors which are either expected to grow quickly (for example, food processing in Vietnam's case) and sectors that are regarded as strategically important for long term development (for example, the petrochemicals sector).

Second, polluting firms identified in the auditing process need to have their requirements for pollution control facilities and staff training assessed, and the likely cost of the provision of these facilities estimated. Finally, the financial situation of the firms needs to be investigated including their ability to repay loans, and whether the production facility itself is viable. As pointed out under principle 1, in special circumstances, firms which are marginal economically may be supported if there are other social, economic and political considerations which justify subsidies but where serious pollution must cease. Table 4 suggests criteria which could be considered in setting pollution control priorities.

Auditing and priority setting procedures are essential steps in good pollution control planning and management. They enable a fund to support pollution control priorities in the most effective way.

Table 4 Example criteria for setting pollution control priorities

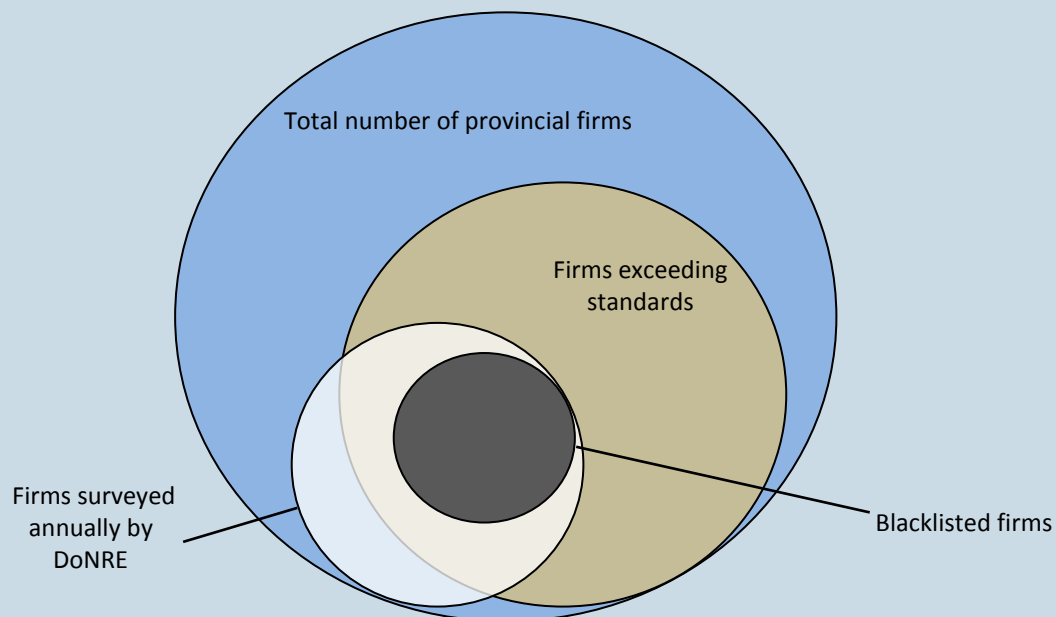
Prioritisation criterion	Measure
Pollution load	<ul style="list-style-type: none"> Amount of pollution (usually volume x concentration) Relative toxicity of pollution (more toxic pollutants will have a higher priority) (These two measures are often combined in toxicity weighted pollution loads)
Location	<ul style="list-style-type: none"> Polluters in more sensitive areas, such as upstream of drinking water sources should have a higher priority
Sector and sub-sector	<ul style="list-style-type: none"> Quickly growing sectors Sectors in which pollution control is difficult Not sunset sectors
Financial capacity	<ul style="list-style-type: none"> Production facilities that are viable in the longer term Ability to repay loans

Box 1 Black listing of pollution firms – Decree 64

Current pollution auditing and priority setting procedures in Vietnam are inadequate. Decree 64, adopted in 2003, identified a national list of seriously polluting establishments and proposed measures for addressing their pollution problems. However, a lack of funding to assist the listed establishments address their pollution problems has reduced the Decree’s impact. More recently, following provisions made in the amended Law on Environmental Protection (2005), some provinces have established their own local level “blacklists” of seriously polluting establishments which are published. Many provinces do not update and publish the blacklists on a regular basis (e.g. Ho Chi Minh City has not published a list of polluting enterprises since Decree 64 was issued).

Even where blacklists are regularly published there are a number of shortcomings. First, provincial environmental protection agencies do not have the capacity or resources to monitor all potential polluters. Instead only a portion of all establishments in a province are monitored, usually targeted due to their location, size, sector and, frequently, the extent to which local communities have complained about their polluting activities. Second, the technical criteria used to establish whether a firm should be regarded as “polluting” or not are based on the concentration of pollutants in point source wastewater rather than overall pollution load or toxicity. This means some very large polluters are not included on the sanctioned list. Third, the blacklists are not determined on technical criteria alone. The final decision on which establishments are included on the list rests with the provincial authorities, rather than the pollution control agency. The figure illustrates the extent to which blacklists are likely to identify polluting establishments.

Blacklists and the identification of polluting firms



Funds must be well integrated within the overall government pollution control and management institutions and procedures. A pollution control fund needs to be built into the broader institutional and management environment in which it will function, so it supports and actively engages with host environment institutions to raise their capacity and reinforce their policy and planning priorities.

Without broader institutional engagement the funds leave little room for developing sustainable institutional capacity.

The establishment of provincial environmental protection funds in some provinces offers the opportunity to seat any additional funds within existing and operational funding mechanisms. Auditing, priority setting, planning, monitoring

and enforcement, financial management and evaluation, and technical capacities undoubtedly need to be built at these institutions. This must be through a process of active engagement with the pollution control agencies and their planning frameworks.

Fund should have a strong parallel technical support facility: In most cases polluting enterprises and the regulating authorities have little experience and expertise in the details of design, construction, operations and maintenance of control technologies. Often, long term technical support is needed to effectively seat the new technologies and procedures in plant operations. Pollution control funds need to include a strong technical support program well integrated with the disbursements of grants and loans.

A key constraint in both pollution control at establishments and in pollution control planning at the provincial authorities in Vietnam is the lack of capacity in and understanding of pollution control technologies and their operations (ICEM 2010a, Mitchell 2006). The broader development of technical capacity for the design and operation of wastewater treatment systems is essential. Developing proposals for pollution control funding will also require adequate technical capacity.

Promote and help implement cleaner production technologies and practices: Upgrading available environmental technology and improving production practices should be an important part of the fund's operations. Part of the pollution problem is a lack of knowledge relating to pollution control at firm's and in some circumstances a lack of appropriate technology. The fund should seek to establish best practice examples of pollution control in different key sectors as established at the planning stage. Dissemination of these best practice models and promotion of the service the fund can offer should be an important part of the funds activities.

The evidence in Vietnam is that the technical capacity for water pollution control is weak across the board (ICEM 2010a, LBCD 2010). Government agencies and polluting establishments frequently do not have adequate capacity to design pollution control projects, let alone institute cleaner production practices (Mitchell 2006). Establishments often lack adequately trained staff to operate pollution control equipment. Moreover, skilled contractors and suppliers of pollution control equipment can be limited. As part of the parallel technical support facility, it is important that adequate resources are set aside for the implementation of best practice cleaner production technology at some plants. Key sectors in Vietnam are likely to include those with high pollution levels and which are of strategic importance for the economy, for example food processing, chemical production and refining.

Funds need to be integrated with host agency budgetary mechanisms: This principle is straight forward in intent but often challenging to implement in practice. It is essential that the initial fund capital and then the replenishments be reflected and picked up over time in the normal government annual and five yearly budget cycles for the environmental regulatory agencies concerned – in most cases the provincial DONREs. Pollution control funds should not function as a mechanism external to the normal budget allocation process of government – even if the start up and replenishment capital includes significant contributions from international organisations. This is especially important because other principles set out here require the funds to be part of the pollution control planning and priority setting process of government.

Funds need to be well integrated with government priority setting and planning processes *and* with existing budgetary mechanisms. Already, there are Local Environmental Protection Funds funded through provincial budgets and replenished through various natural resource use and environmental

fees (e.g. mining fees and waste water discharge fees) (ICEM 2010a). Those existing government funds at local and national level (eg the National Environment Fund) are well integrated with existing budgetary processes. The utilisation of the local funds as a vehicle for additional pollution control funding would facilitate integration with the regular budgetary process.

Transparency and accountability: A strong and reliable system of monitoring, auditing, and reporting of the fund's activities is a crucial determinant of the fund's credibility, and hence of its sustainability. Internal control should therefore be exercised by means of legal, financial, and performance audits.

The purpose of internal control is to ensure that the funds achieve their intended results (performance auditing), that it is protected from risks such as misuse, waste of financial and other resources, fraud and error, unsatisfactory accounting records, and the failure to execute decisions in an effective manner (legal and financial auditing).

Linking the fund operations to a public disclosure program which recognises and rewards clean enterprises and exposes serious polluters is another important element of a communications program aimed at promoting commitment to pollution control.

Finally, making meaningful information available to the public is a prominent characteristic of transparency. In this regard, an important issue is the willingness (or lack thereof) of authorities to disclose relevant information and increasingly open the EPFs to public scrutiny.

CONCLUSIONS

There is a strong case for making concessional financing available for water pollution control in Vietnam. While capacity for pollution control, both in environmental agencies and at firms, is generally weak, the existing administrative and legal framework for pollution control is substantial. Moreover, a series of legislative and

administrative reforms over the last decade have strengthened institutions considerably. This improving capacity is backed by an increasingly robust political response to pollution, and water pollution in particular. It is no coincidence that the provinces with the greatest pollution control challenges are also the first provinces to institute provincial Environmental Protection Funds.

Funding mechanisms need to be integrated with existing institutional arrangements. EPFs are already in place in key provinces where they are an integral part of the pollution control architecture. EPFs are part of the pollution control administration and share capacity challenges. In most cases provinces have set up these funds independently, demonstrating a local political commitment to controlling pollution, and recognition that making funds available for pollution control is a prerequisite to success. This level of ownership of the funding process is important for sustainable results. Additional funding made available from the central government or from ODA sources for point source water pollution control should help build EPFs as effective pollution control institutions.

An understanding of who polluters are and what their technology, capacity and financing needs are is a necessary pre-condition for the effective functioning of a pollution control fund. Effective audits need to be carried out in areas where pollution control activities are planned to ensure resources can be channelled to the most serious pollution problems.

Funding for pollution control should be flexible. Project funding should extend a significant proportion of funds as grants to address the most severe cases of pollution as quickly as possible. This may be a particularly important strategy where firms that are otherwise unable to afford pollution control expenditures play important social or strategic functions.

REFERENCES

ICEM 2007, *Vietnam Country Environmental Audit: Analysis of pollution from manufacturing sectors in Vietnam*. Technical report for the World Bank in partnership with MoNRE and Mol. World Bank, Vietnam.

ICEM 2008, Assessment of pollution and public health in the Day-Nhue River Basin, Technical report for the ADB in partnership with MoNRE, Vietnam.

ICEM 2010a, *Survey of financing demand and mechanisms for addressing pollution in the Dong Nai River Basin and Danang City*. JICA Consultant's report. Hanoi, Viet Nam.

ICEM 2010b, *Study on a revolving fund for household sewerage connection in Binh Duong and Vinh Phuc province*. JICA Consultant's report. Hanoi, Vietnam.

Laplante, B. (2006), *Review of Implementation of Decree 67/2003 on Environmental Protection Charges for Wastewater in Viet Nam*. Mimeo prepared for United Nations Development Program, Ha Noi, Viet Nam.

LBCD 2010, *Industrial wastewater management in river the Nhue-Day and Dong Nai river basins*. Consultant's report prepared by LBCD for the World Bank, Vietnam.

Mitchell 2006, *Beyond barriers: examining root causes behind commonly cited Cleaner Production barriers in Vietnam*, Journal of Cleaner Production, 14 (18): 1576-1585

Mori 2008, *Environmental soft loan program in Asian countries: industrial pollution control or mal-use of foreign aid resources?* Journal of Cleaner Production 16 (5): 612-621

TEEB (2010), TEEB (2010) *The Economics of Ecosystems and Biodiversity: Mainstreaming the Economics of Nature: A synthesis of the approach, conclusions and recommendations of TEEB*.

UNEP (2011), *Towards a Green Economy: Pathways to Sustainable Development and Poverty Eradication. A Synthesis for Policy Makers*, United Nations Environment Program. Access at www.unep.org/greeneconomy.

This ICEM Water pollution control funds in Vietnam Brief is based on two ICEM reports that were developed and completed for the Japanese International Cooperation Agency – JICA. ICEM briefs contain preliminary research, analysis, findings, and recommendations. They are circulated to stimulate timely discussion and critical feedback and to influence ongoing debate on emerging issues.

© 2011 ICEM

Citation: Sawdon, John, Jeremy Carew-Reid and Benoit Laplante. 2011. *Water Pollution Control Funds in Vietnam Brief*. ICEM – International Centre for Environmental Management. Prepared for the Japanese International Cooperation Agency, Hanoi, Vietnam.