14. Vietnam: Study on Past Investments

I. Background

In 1986, Vietnam's Sixth Party Congress committed to the policy of *doi moi* (or renovation). Economic reform pressed ahead throughout the late 1980's and 1990's, although economic crises persisted.

The policies of *doi moi* brought a shift from a centralised planned economy based chiefly on public ownership to a market-oriented economy with state management and a socialist orientation.

The effects of the Asian financial crisis in 1997 were not felt immediately by Vietnam's domestic economy. By 1998-99, the regional economic slowdown did contribute to Vietnam's falling exports and decreasing foreign direct investment. This coincided with economic reforms, which intensified bureaucracy and increased costs for foreign-owned companies. Economic growth is expected to pick up from 2001, driven mainly by the strengthening domestic and external demand.

Vietnam's commitment to privatise approximately 5,700 of its state enterprises has not proceeded as quickly as foreign investors and the international donor community expected. It is anticipated that the slowdown will have an impact on the development of the stock market, whose launch has experienced a series of delays. In the absence of a formal stock market, long term credit available to business remains limited. In July 1988, the government reorganised the banking system to give the central bank more power while diversifying the system and providing services to a broader customer base.

Growth in industrial activity (as high as 100% in some sectors) has had significant environmental consequences. In the past eight years, 67 industrial zones (IZs) have been mapped out, with 48 now operational. Among the 48 operational IZs, only 12 have their own wastewater treatment plants. Other identified types of pollution resulting from IZs include air, solid waste, noise, radiation and toxic chemical pollution.

Vietnam's Central [government] Committee response to the growth in pollution has been to introduce a new Directive relating to the Law of Environmental Protection. The new Directive, which aims at improving current environmental policies and measures, issued recommendations on ways in which environmental protection can be strengthen in conjunction with the national industrial and modernisation programmes.

II. Overview of projects

The Vietnam Cleaner Production Centre (VNCPC) contacted 25 enterprises to request their participation in this study. Eighteen out of the 25 companies agreed to be interviewed by VNCPC. Listed below is an overview of their responses.

Respondents according to sector	
Sector	**Respondents**
Food processing	5
Pulp and paper	6
Textile	4
Cement	3
Total	**18**

Project venture

The projects are categorised according to three types of ventures. These are:

- New construction sites (greenfield or brownfield)
- Plant expansions
- Retrofits.

Out of a total of 18 projects evaluated, 14 projects were identified as expansion projects, two were retrofits and two were new construction projects.

Environmental characteristics

Environmental characteristics of the projects fall into three groups. They include:

- Cleaner production
- End-of-pipe
- Other general industrial projects.

Listed below is a general break down of the environmental characteristics according sectors.

Environmental characteristics according to sector			
	CP	**End-of-Pipe**	**General Industries**
Food processing	1	2	2
Pulp and paper	3	-	3

Textile	2	-	2
Cement	1	-	2
No. of projects	**7**	**2**	**9**

Project description (including economic, environmental and social considerations)

Food processing

Overview	
Number of enterprises	5
Target market	Local and export markets (Asia and Eastern Europe)
Project description[*]	• Wastewater treatment plant • Industrial waste reduction measures • Production line design
Known drivers for change[#]	• Securing competitive advantage • Production efficiency (i.e. cost savings) • Meet local environmental regulatory standards

[*] Companies can have more than one project carried out simultaneously, many of which are inter-related.
[#] Drivers for change are not listed in order of priority.

The food processing industry is represented by 5 enterprises, which produce soft drinks, sugar, candy, beer, alcohol, aquatic products and stock.

Two of the projects involve the design and construction of new production lines, which aim to increase capacity and minimise waste. One of the companies also considered wastewater treatment measures while the other chose a design consistent with the HACCP principles. The latter identified the principles as a prerequisite to accessing new international markets.

Another company incorporated waste minimisation measures into its operations. The measures resulted in significantly reducing levels of wastewater, solid organic waste and air emissions and maximised production efficiency.

Two companies installed wastewater treatment plants. However, even with considerable investment, only one of the companies has been able to meet Vietnamese discharge standards.

In terms of social considerations, two companies noted that as a result of cost savings derived from investments, more jobs were created and revenues generated for the local community. Other social considerations included the existence of better working conditions for employees and a greater incentive to educate workers about environmental protection.

Pulp and paper

Overview	
Number of enterprises	6
Target market	Local markets
Project description*	• Production line/factory design • Resource efficiency measures • Energy efficiency measures • Waste reduction measures
Known drivers for change#	• Public scrutiny of environmental track record • Production efficiency (i.e. cost savings)

* Companies can have more than one project carried out simultaneously, many of which are inter-related.
# Drivers for change are not listed in order of priority.

The six companies, which represent the pulp and paper sector, are producers of pulp and paper, printing paper, packaging and toilet paper. Three companies use waste paper as the raw material for producing pulp and paper.

Most of the six companies expect the demand for pulp and paper products in Vietnam to increase significantly in the next few years, although illegal imports do pose a threat to local production. Consequently, four of the six companies have embarked on designing and constructing new production lines, as the existing ones are considered dated and restrict production capacity. The design of the new production line have also build in waste reduction and resource efficiency measures.

The pulp and paper companies were also confronted with the effects of pollution on nearby local communities. Although these companies have taken some steps to reduce dangerous levels of pollution, three of them continue to discharge large quantities of effluent, which includes a large portion of untreated wastewater, into the local waterways.

Textiles

Overview	
Number of enterprises	4
Target market	Local and export markets (EC and Japan)
Project description*	• Production line design • Energy efficiency equipment • Waste reduction measures
Known drivers for change#	• Public scrutiny of environmental track record • Production efficiency (i.e. cost savings) • Securing competitive advantage

* Companies can have more than one project carried out simultaneously, many of which are inter-related.
# Drivers for change are not listed in order of priority.

The textile companies produce dyed fabrics and garments for both the local and export markets. Three enterprises invested in the expansion of new production lines, brought on by expectation of growth in the market.

One of the companies, which produces almost exclusively for export markets, noted that EC requirements of high quality fabrics matched with environmental protection prompted them to invest in the new product line.

A fourth company implemented a new boiler system and additional energy-efficiency technology, which helped to decrease energy consumption, dust and smoke emissions and wastewater effluents. Regardless of the new investments, it is thought that the nearby local community continue to be effected by the company's poor environmental track record. The company's name remains on the environmental blacklist of Ho Chi Minh City.

Cement

Overview	
Number of enterprises	3
Target market	Local and export markets
Project description*	• Production line design • Water recovery system • Dust control measures
Known drivers for change#	• Public scrutiny of environmental track record • Production efficiency (i.e. cost savings) • Securing competitive advantage

* Companies can have more than one project carried out simultaneously, many of which are inter-related.
# Drivers for change are not listed in order of priority.

Three cement companies represent the industry. Growth is expected in the sector over the next few years and, consequently, two of the three companies have designed and installed new production lines. The companies identified old and out-dated equipment as a limiting factor to keeping up with expected production capacity, rather than those relating to environmental concerns.

The third company is due to install a water recovery system.

All three companies sited dust as a major environmental concern at the factories and/or during the transportation of raw materials. This has been a particularly significant issue for one company that is located near a residential community. One company now transports all raw materials in closed pipes to minimise dust.

III. Type of financing

In almost all cases, discussions with companies about the financial aspects of their projects were considered a sensitive issue. The difficulty in gathering financial information is exacerbated by the fact that most interviewees were technical managers, therefore they did not know the financial details of the projects. Unfortunately, further questions posed to financial departments did not prove to be satisfactory. Nevertheless, some information was extrapolated and a general picture on financing CP, end-of-pipe and industrial investments begins to emerge.

The decision to invest in CP technologies and processes is likely to have been considered by technical managers with the approval from financial controllers, rather than senior management. When board members were interviewed about CP, only 4 of 18 board members had a broad understanding the concept.[1] Most interviewees associated CP technology and processes with excessive capital expenditure.

Of the 15 companies that provided financial details about their projects, the quality and detail of information was considered, at best, vague. Rather than give specific financial figures about the size of investment, five of the companies were only willing to provide the following:

- An investment range (e.g. $1-3 million)
- Examples of similar past projects and investment levels, or
- General details of investments that companies are intending to make in the immediate future.

These figures were used in the analysis.

The average size investment among the15 companies, which provided financial information, was $26 million. Investments range from $230 million to as little as $7,000. With regard to the design and construction of new production lines, it is unclear to what extent the portion of the investments were

[1] Report on Data Collection in Vietnam prepared by INEST/VNCPC, January 2000.

spent on CP or end-of-pipe technologies and techniques. The table below indicates the size of investment according to sector.

Size of projects according to industry (US Dollars)			
Industry	**500,000 & more**	**100,000 to 500,000**	**100,000 & less**
Food processing		2	1
Pulp and paper	4	1	1
Textiles	3		1
Cement	1	1	
TOTAL	**8**	**4**	**3**

Although the information regarding the financial aspects of many projects is incomplete, observations can be made to reflect activity on a sector-specific basis.

Food processing

Among the 5 food processing companies, only one is privately owned. The company is a joint venture between the Vietnamese government and a foreign company. The financing for a wastewater treatment facility was provided by foreign direct investment. No other financial information was provided.

The remaining four companies are state owned. Two of the companies did not provide financial background about the project, with the exception that provincial bank loans and internal company resources were accessed.

The two other companies were more transparent. They financed their projects through a combination of internal resources, local government funds and banks, such as the Industrial Commercial Bank of Pho Tho Province and the VIETINCOMBANK. One company secured a loan from a provincial bank at a rate of 1.15%/month based on a 4-year term.

Only one company commented that the loan proposal was prepared in-house. It is unclear about the length of time it took to arrange finance or the extent of prior experience in preparing proposals and securing financial support for these types of projects.

Pulp and paper

All six pulp and paper companies are state-owned. In all cases where external financial support was needed, the Vietnam Paper Corporation, acting as the legal agency on behalf of the paper companies, secured the loans. The loans were financed from VIETINCOMBANK, regional banks and government credit lines and funds. The rates at which these loans were secured ranged from 1.1%/month down to 0.85%/month for terms between 3-7 years.

Unwilling to confirm that exact source, one company said that they received foreign aid from either SIDA (Sweden) or JBIC (Japan).

In terms of the relatively small size of investment that was needed for two CP projects, the companies did not approach the commercial bank because of the high interest rates and unattractive terms on the loans. In these cases, the projects were financed from internal resources.

Most proposals for external financial support were prepared in-house.

Textiles

Three of the four companies are state-owned. A combination of government support, bank loans and internal company funds were used to finance projects. Internal resources were always used to finance specific CP/end-of-pipe aspects of the larger industrial projects. It's not clear whether companies originally sought financial support from banks for these specific measures, although it is considered unlikely. In one case, alternative financial support was sought from a local government scheme.

Loan terms ranged from 1-10years based on rates between 5-12%/year.

Cement

Among the three cement companies, only two provided financial background about the projects.

One company constructed a new production line at the cost of $66.1 million. In 1980, the former Soviet Union funded the construction of the original plant. Internal resources and a bank loan funded the recent expansion. The loan was secured at a rate of 7%/year based on a 10-year term. In-house staff and an external consultancy prepared the loan proposal.

The second company is due to install a new water recovery system at the cost of $207,000. A feasibility study was conducted and submitted to the Vietnam Cement Corporation for prior approval. The Corporation has not yet confirmed its decision.

IV. Conclusions

Like many emerging economies, the challenge for Vietnam in the forthcoming years will be to strike a balance between economic growth, social equity and concerns for the environment. Moreover, as Vietnam's efforts to attract foreign direct investment are expected to intensify, so will it heighten the need for the country to create links between development and environmental protection.

Vietnam's privatisation programmes pose a unique opportunity for economic efficiency and environmental protection to be achieved simultaneously. These opportunities include industrial modernisation, improving productivity operations, replacing obsolete technology and updating work methods.

Capital investment will flow to these enterprises at the time of privatisation and CP investments could be promoted as part of the privatisation programme. This would require an awareness raising exercise to be undertaken, led by the appropriate ministries to inform those who are managing privatisation. Given that the privatisation programme has not moved ahead at the pace originally envisaged such an exercise may stimulate change and help to transfer enterprises into the private sector.

Industrial activity on Vietnam has grown by 14% per year, with some sectors as much as 100% in recent years. Since 1992, 63 industrial zones (IZs) have been mapped out, with 20 now operational. Such a high level of industrial growth has resulted in environmental degradation. Among the 20 operational IZs, only eight have their own wastewater treatment plants. Other identified types of pollution resulting from IZs include air, solid waste, noise, radiation and toxic chemical pollution.

The growth of IZs offers an opportunity for the government to introduce environmental planning regulation alongside the promotion of CP solutions. Elements of a new Directive relating to the Law of Environmental Protection are relevant to CP investment opportunities and implementation (See Appendix). The new Directive, which aims at improving current environmental policies and measures, issued recommendations on ways in which environmental protection can be strengthened in conjunction with the national industrial and modernisation programmes.

With regard to securing finance for CP solutions, few companies in this study approached external financial institutions for specific CP/end-of-pipe investments. Bank loans are considered unattractive due to high interest rates and unattractive terms on loans. Most companies require low interest, long term loans for environmental projects. Furthermore, the procedure for borrowing money from commercial banks in Vietnam is considered by many companies to be complicated and costly.

As the nascent private commercial financial sector develops there is a role for the CP sector in training the lending function to develop appropriate risk management policies and procedures. This could be done in partnership with the development agencies, both national and international, to achieve a higher impact and more efficient use of scarce resources.

Annex to Vietnam Study on Past Investments

The new Directives relating to the Law of Environmental Protection make recommendations, which include:

- The national educational system must build formal environmental criteria into the curricula in order to improve the accessibility of environmental information.
- Funding for environmental protection must be institutionalise. This can include the adoption of cleaner production technologies through the creation of tax incentives and credit policies.
- Environmental impact assessment (EIA) procedures must be implemented when reviewing and licensing any investment plan and projects. Plans and projects, which fail the terms of an EIA, could result in suspension or relocation.
- Priority should be given to the adoption of technologies, which are considered cleaner or require low or no waste raw material and are energy efficient.
- Extraction and utilisation of natural resources must be rationalised, and biodiversity and nature conservation must be improved.
- The government should determine rates of environmental investment by state owned businesses.
- The government management of environmental protection at both central and local levels must be strengthened in terms of institutional arrangements, human resources as well as physical and technical infrastructures.
- A system of scientific research and environmental technology institutions must be established with a training system of specialised environmental disciplines developed to support environmental experts and managers on environmental protection.
- International co-operation in the field of environmental protection should be extended to regional and international organisations.