


プロジェクト選定・確認調査
(ヴェトナム社会主義共和国)
報告書

1998年6月

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国際協力事業団

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別添

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1 調査団派遣の目的

今回のプロジェクト選定確認調査では、鉱工業関係開発調査を効率的に実施するため、今後我が国に正式要請の可能性のあるプロジェクトにつき、その背景、経済開発計画における位置づけ等を調査し、優良かつ調査実施可能性の高いプロジェクトの発掘、選定確認を行う。

特に、ベトナム側でJICAの開発調査を念頭に置いてTOR等の準備を開始したとの情報のある「中小企業施策支援」、ベトナム側へ「工業標準化・計量・検査・品質管理マスタープラン調査」（昨年度終了）のドラフトファイナルレポートの説明を行った際に、今後の開発調査スキームでの協力の要請が口頭にてなされた「品質管理指導能力向上」、の2案件に関しては、その背景、経済開発計画における位置づけ等を調査したうえで、実現可能性が高いと判断される場合には、早急に要請書を公式ルートを通じて提出するよう非公式に勧告することとする。

また、新規案件の発掘を現在、JICAベトナム事務所へ依頼している「産業公害対策（産業廃水）」、に対しては、他の援助機関の類似プロジェクトの内容を確認するとともに、併せて広い視野から産業公害対策分野でのプロジェクトの発掘に努めることとする。

さらに、その他平成9年度に終了し、最終報告書を送付済みの「鉄鋼産業開発マスタープラン」「ハノイハイテクパーク計画M/P及びF/S」の後継案件、「風力発電」等に関し、先方より要請がなされる可能性があるが、要請があった場合には、背景等を聴取し今後の案件発掘の一助とすることとする。

2 調査団概要

○調査期間 平成10年5月13日（水）から5月21日（木）まで9日間

○団員構成（6名）

1) 団長（総括）	辻 義信	国際協力事業団鉱工業開発調査部計画課長
2) 団員（技術協力政策）	稲田 雅裕	外務省経済協力局開発協力課
3) 団員（技術協力行政）	藤原 秀平	通商産業省通商政策局技術協力課
4) 団員（工業開発）	三木 常靖	国際協力事業団国際協力専門員
5) 団員（調査計画）	吉田 英之	国際協力事業団工業開発調査課
6) 団員（通訳）	永井 蘭	日本国際協力センター

なお、調査団にはオブザーバーとして海外経済協力基金業務第1部業務第4課の小谷氏が5月15日午後～5月16日の間同行した。

○ 日程

月日 日程

5/13 WED 東京(JL731:10'00発) → 香港着(14'00)
香港発(CX791:14'45)ハノイ（ベトナム）着(15'35)

5/14 THU	AM：日本大使館表敬、JICAヴィエトナム事務所打ち合わせ PM：OECDとの打ち合わせ UNIDO/MPI Project Officeとの予備的打ち合わせ
5/15 FRI	AM：UNIDO/MPI Project Officeとの打ち合わせ（中小企業施策支援） 工業省(MOI)との打ち合わせ〔（3案件：中小企業施策支援・品質管理指導能力向上、産業公害対策（産業廃水）プロジェクトを含む） 計画投資省（MPI）との打ち合わせ（中小企業施策支援） 国立銀行との打ち合わせ（中小企業施策支援）
5/16 SAT	ヴィエトナム商工会議所（VCCI）との打ち合わせ（中小企業施策支援） 企業訪問（中小企業（製造業）2社を見学） 非国営経済開発センター（NEDCEN）との打ち合わせ（中小企業施策支援）
5/17 SUN	ハノイハイテクパーク計画候補地視察
5/18 MON	UNDPとの打ち合わせ JETROとの打ち合わせ 鉄鋼公社及び田中専門家との打ち合わせ（「鉄鋼産業開発マスタープラン」（終了案件）の後継案件） 青木専門家との打ち合わせ（「ハノイハイテクパーク計画M/P及びF/S」（終了案件）の後継案件）
5/19 TUE	科学技術環境省（標準化総局(STAMEQ)も含む）との打ち合わせ（品質管理指導能力向上プロジェクト） 科学技術環境省、工業省、ハノイ人民委員会との打ち合わせ（産業公害対策（産業廃水）プロジェクト） カナダ大使館との打ち合わせ（産業公害対策（産業廃水）プロジェクト）
5/20 WED	計画投資省への報告、日本大使館、JICAヴィエトナム事務所報告
5/21 THU	ハノイ（ヴィエトナム）発(CX790:09'55) 香港着(12'40) 香港(JL732:15'10発) →東京着(19'50)

3 協議内容総括

今回のプロジェクト選定確認調査では、鉱工業関係開発調査を効率的に実施するため、今後我が国に正式要請の可能性のあるプロジェクトにつき、その背景、経済開発計画における位置づけ等を調査し、優良かつ調査実施可能性の高いプロジェクトの発掘、選定確認を行った。

正式要請の可能性のあるプロジェクトとしては、下記を想定していたが、

■「中小企業施策支援」に関しては、調査団の訪越直前（平成10年5月12日）に要請書が接到したため、要請内容に関しても関係機関と確認／協議した。確認／協議の結果、本件調査の実施に関して背景等は大きな問題はないと思われるが、調査の実施体制等が不明確であるため、調査団の帰国後ヴィエトナム側で検討し、明確にしたうえで当方へ連絡するよう依頼した（期限は6月15日）。調査団は、同連絡を受領後、内容を確認の上妥当と判断された場合、関係機関に本案件の平成10年度案件としての採択を提案することとする。

■「品質管理指導能力向上」に関しては、JICA事務所へ非公式に調査実施の要請がSTAMEQより行われていたが、本調査の結果、ヴィエトナム側での調査実施体制は

既に整理されており、調査の実施に関して大きな問題はないことを確認した。現在、正式要請書の提出準備を行っている（平成10年6月以降、可能な限り早急に正式要請書を提出予定とのこと）とのことであり、要請書が提出され次第関係機関に本案件の平成10年度案件としての採択を提案することとする。

- 「産業公害対策（産業廃水）」に関しては、ヴィエトナム側（工業省、科学・技術・環境省、ハノイ人民委員会に加え鉄鋼公社）に、本年度新たに導入された廃水処理パイロットプラントの設置を含む鉱工業開発調査スキーム（「エネルギー・環境対策技術協力予算」）の背景、及び現在日本側が想定しているプロジェクトの内容（産業公害対策（産業廃水））を説明した。また併せて、今後本スキームでの案件を的確に形成するため、日本側にて環境対策のための委員会を設置し、コンサルタントをヴィエトナムへ派遣することにより環境関係の法制度の現状・環境の現状等を1年程度調査する予定である旨説明した。

その他の案件に関しては、以下のとおり。

- 「ハノイハイテクパーク計画M/P及びF/Sの（終了案件）」後継案件に関しては、調査の段階を過ぎ現在実施の段階に入っているため、鉱工業開発調査スキームでの特段のフォローアップは現在のところ不要とのこと。
- 「鉄鋼産業開発マスタープラン」（終了案件）の後継案件に関しては、マスタープランの3フェーズの全てに関して、F/Sを実施して欲しいとの要望があったが、予算の制約上、また、全てのF/Sを現在行ったとしても実施段階までに時間が経過し第2フェーズ以降のF/Sが活用されないことが危惧されるので、第1フェーズに対してのみ行うのが妥当であると考えたとのコメントを行った。また併せて、要請があった旨、東京本部に連絡することを約した。
- 「風力発電」に関しては、関係機関（電力庁）の訪問を行わなかったこともあり、要請はなされなかった。

◆正式要請の可能性のあるプロジェクト（派遣前の想定）

- 中小企業施策支援
- 品質管理指導能力向上
- 産業公害対策（産業廃水）
- 「鉄鋼産業開発マスタープラン」（終了案件）の後継案件
- 「ハノイハイテクパーク計画M/P及びF/Sの後継案件」（終了案件）
- 風力発電

今回、大使館はじめ関係各位の全面的サポートにより、上記案件の調査内容の協議／調査背景等の聴取を終了したので、以下、「2 調査結果」及び「3 団長所感」としてとりまとめ報告する。

4 調査結果概要

(1) 中小企業施策支援

調査団は、調査期間を通じて要請書提出機関（カウンタパート機関）であるMPI、現在ベトナムにおいて中小企業に支援を行っているVCCI、NEDCEN、現在MPIをカウンタパートとして中小企業振興プロジェクトを実施しているUNIDO、その他関係機関（中央銀行）と協議を行った。また、VCCIの紹介により自動車部品工場と縫製工場を訪問調査した。調査結果概要以下のとおり。

1) 調査結果概要

◆要請の背景

ベトナム国においては2006年のAFTAへの加盟を控え、中小企業の育成による競争力の強化が喫緊の課題となっているが、これは、カイ首相が表明した6つの改革*1の内「国有企業の改革と民間セクターの開発」につながるものであり、また、当事業団社会開発調査部が実施し先頃フェーズ2を終了した「市場経済化支援開発政策調査（以下「市場化調査」）」においても中小企業の振興は重点検討項目の1つとなっている。このような背景のもと、先方よりの要請内容は、市場化調査でなされている提言の一部を実現化するための具体策を求めたものであり、本調査の要請の背景は本件の正式案件としての採択に十分正当性のあるものであると判断される。

なお、ベトナムにおいては、中小企業に対する統一的な政策はいままで存在せず、計画投資省において中小企業担当（UNIDOの中小企業振興プロジェクトのカウンタパートを兼務）は産業局内に1名配置されているのみであり、カウンタパート機関として、さらには調査終了後、調査結果を実現するための組織として貧弱であり問題がある。また、本件調査の最終報告書が提出された後の報告書の活用方法に関しても、先方が明確なイメージを持っているとの判断には至らなかったが、中小企業に対する統一的な政策はいままで存在しなかったこと、要請内容が組織体制の構築を含めた中小企業振興の基本政策提言を中心としたものであることを考慮に入れた場合、現在の組織体制の問題、具体的イメージの欠如は調査期間中、もしくは調査終了後解決して行くべき問題であり、計画投資省のカウンタパートとしての的確性、及び調査実施の正当性を損ねるものではないと判断される。

しかしながら、調査の実施体制等に関し、基本的な部分においても明確になっていない点があるため、カウンタパート機関である計画投資省に対して、調査団の帰国後下記の点を明確にした上で、同内容をJICAベトナム事務所を通じて連絡して欲しい旨要請した。調査団は、同連絡受領後、内容を確認の上妥当と判断さ

*1 6つの改革の内残る5点は「越経済の改革と競争力の向上」「銀行制度の強化」「農村部の開発と貧困の緩和」「人的資源への投資と環境保護」「行政改革の実施」

れた場合、本案件の平成10年度案件としての採択を関係機関へ提言することとする。

- ・本格調査時に調査団は企業訪問を通じた中小企業への技術指導及び情報収集を実施する予定であるが、同訪問を実施する業種（製造業）の選定及びプライオリティ付け
- ・カウンタパート機関の確定（計画投資省内）
- ・ステアリングコミッティの構成案
- ・本格調査時に調査団は企業訪問を通じた中小企業への技術指導及び情報収集を実施する予定であるが、同訪問をサポートする際の企業選考の方法に関するヴェトナム側のアイデア

◆要請内容

先方より提出された要請書では、本調査での調査内容は、a) 中小企業振興のための基本政策提言、b) 政策実施のための地方レベルまでを含む行政組織体制の構築のための提言、c) 信用供与制度の具体的構築方法、d) 中小企業の育成、体力強化のための方策の具体的提言、の4点であったが、c) 及びd) に関しては、同内容の実行に関してヴェトナム側で取得できないと思われる統計（中小企業の財務状況、中小企業の倒産件数等）が多数必要であり、調査可能な内容とするため調査内容を下記のとおり絞りたい、また、先方よりの調査要請内容に加えて、いくつかの業種（製造業）に絞り企業訪問を実施し、同訪問を通じてa) b) 調査の基礎となる具体的情報を収集したい旨説明したところ、先方は同意した。よって、本案件が、上記のヴェトナム側への確認依頼事項が明確となった上で、正式案件として採択された場合には、下記内容を参考に協議を開始することとする。

○調査内容概要（口頭にて合意済み）

- I) 中小企業振興のための基本政策提言、
- II) 政策実施のための地方レベルまでを含む行政組織体制の構築のための提言
- III)c) 及びd) に関してはa)の実施の過程において、我が国の中小企業制度の紹介や越で実施する際の手法の紹介・アドバイスを取りまとめることにて対応することとする。
- IV)企業訪問を通じた中小企業への技術指導及び情報収集
(a)及びb)を実施する際の基礎資料として活用する。)

○カウンタパート機関

計画投資省にてコーディネータを配置すること。

その他の関係省庁にてステアリングコミッティを設置することとするが、詳細は調査団帰国後にヴェトナム側で検討し日本側へ連絡するよう依頼済み。

○調査対象

本調査において対象とする中小企業としては製造業を中心に実施する。

民間企業及び今後株式化する計画を持っている国営中小企業とする。

(OECDが行うツーステップローンの対象企業と同一とする。)

◆調査関係機関（ヴェトナム側）

現在、ヴェトナムにおいて中小企業に対して情報提供、技術指導及び研修等を実施している非政府の独立機関としてVCCIとNEDCENがある。主たる会員の構成がVCCIは国営企業／民間企業であり、NEDCENは、協同組合(COOPERATIVE)とである相違以外はほぼ同様の活動（情報提供、研修、コンサルティング等）を行っている（組織の性格上行うことが出来る）。よって、両機関の活動の現状は、本格調査時には、詳細をレビューする必要があると考える。また、両機関は、本格調査時に実施する企業訪問で、訪問先選定時に必要となる企業リストなどの提供元になることが期待される。

◆調査関係機関（国際機関）

現在、ヴェトナムにおいて中小企業を対象としたプロジェクトをUNIDOが行っている。1996年8月～2000年8月まで実施されるプロジェクトであるが、現在、40社程度の企業訪問を通じて収集した情報を分析し、「中小企業登録制度」「輸出／輸入手続き」に関する問題点を特定し取りまとめた状態であるとのこと（平成10年5月に報告書作成予定）。今後、個々の問題に対する対応策をカウンタパートと協力しつつ実施する段階であるとのことであるが、カウンタパート機関（計画投資省産業局）も同一となる見通しであり、UNIDOプロジェクトの情報は、本調査にも有効に活用できる部分があると思われるので、今後も情報交換を行う必要がある。

（2）品質管理指導能力向上

調査団は、JICA事務所へ非公式に調査実施の要請を行っていたMOSTE(STAMEQも含む)と協議を行った。調査結果概要以下のとおり。

◆要請の背景

「工業標準化・計量・検査・品質管理マスタープラン調査」の提言の1つを実現するために開発調査スキームでの協力を要請したものであり、正当性はあると判断される。

◆調査実施体制

本件調査の実施に際しては、カウンタパート機関となるSTAMEQに加えて、工業省の協力が不可欠であるとの認識を持っていた。同理由として、1)「工業標準化・計量・検査・品質管理マスタープラン調査」においてもステアリングコミッティのメンバーとして当該調査に参加したこと、2)本案件の主要活動内容としてSTAMEQ職員と調査団が共同で調査対象モデル企業へ訪問し、社内標準化・品質管理に関して指導を行うことを想定しているが、調査対象モデル企業が工業省所管の企業となることが予想されるため、工業省の許可が必要と思われることがあげられる。本調査期間中の会議において、MOSTBは既に工業省と本案件に関する協議を行っており、本調査の主管はMOSTEが行うことは合意済みである。また、工場訪問に関しても問題ないとの発言があったため、調査実施体制は、構築されたと考える。

◆要請内容

本件調査の実施に関し、概要がSTAMEQより非公式にJICA事務所へ提出されているが、同概要に基づき別添表1及び調査フロー図を作成し、調査概要（日本側案）として先方へ説明した結果、調査概要に関しては全面的にヴィエトナム側関係機関（MOSTE、MOSTE・STAMEQ）の同意を得た。

よって、今後本格調査を日本側へ要請する際には、同内容を踏まえて要請して欲しい旨非公式に依頼した。

また、本調査実施時の優先業種として、金属加工業が上げられていたが、同要請の背景を確認したところ、中央党第4回会議で優先的に強化を図る業種として決定がなされている（詳細資料を先方より当方へ送付いただきたい旨依頼済み）とのことであり、業種の選択は適当であると判断できる。

◆その他

平成10年度に終了し先方へ送付済みの「工業標準化・計量・検査・品質管理マスタープラン」において、5つのプロジェクトが提案されており、上記「品質管理能力向上支援プロジェクト（開発調査）」に加えて、第3プロジェクトの「電気・電子機器安全にかかる強制認証制度の拡充プロジェクト」に関しても試験機器の無償供与とプロ技の実施を日本側へ要請したいとの意向が表明されたが、詳細内容に関しては、今後JICA事務所と相談して欲しい旨回答した。

(3) 産業公害対策（産業廃水）

◆ヴィエトナム側への説明

本案件に関しては、ヴィエトナム側（工業省、科学・技術・環境省、ハノイ人民委員会に加え鉄鋼公社）に、本年度新たに導入された廃水処理パイロットプラント

の設置を含む鉱工業開発調査スキームの背景、及び現在日本側が想定しているプロジェクトの内容（産業公害対策（産業廃水））を説明した。工業省（Mr. Tran Manh Thu Deputy Director General, Planning and Invest Department）より製紙・パルプ工場、繊維工場での廃水処理が問題となっており早急に関係機関と協議の上要請書を提出したいとの意向が示されたが、全ての機関に対して今後の予定を以下のとおり説明した。

- 1) 日本に環境対策のための委員会を設置し
- 2) 同委員会よりコンサルタントをヴィエトナムへ派遣しヴィエトナムの環境関係の法制度の現状・環境の現状等を1年程度調査するとともに関係機関（国際機関を含む）と協議を行う
- 3) 2)の調査を通じて適当な新規案件を形成する。

◆国際機関への説明

上記のヴィエトナム側関係機関と同様に、国際機関に対しても新スキームを説明するとともに、今後の日本側の実施予定を説明した。調査の過程でa) UNDPは、ハノイのドンナイエリアとホーチミン市で環境プロジェクトを実施予定であること。b) 世銀が、日本側が想定しているプロジェクトに類似した、パイロットプロジェクトの導入を含むプロジェクトを実施する予定であること。c) その他UNIDO、ADBにおいても環境案件プロジェクトを実施していること、が判明した。今後の調査で詳細な情報が収集されることが望まれる。

5 団長所感

（1）中小企業振興

ヴィエトナムは10年間のドイモイを経て市場経済への移行を進めようとしている。政府内に経済活性化のために中小企業の振興が必要であるとの意識が少しずつ芽生えつつある状況であるが、それを現実の政策として移行するには、(イ)政府としての振興のための資金不足、(ロ)社会主義体制による行政組織の中で中小企業振興の政策立案を行う組織体制が出来ていない、(ハ)その結果、中小企業政策が立案されていない、といった問題を抱えている。中小企業振興政策の支援として、既にUNIDOがドイツの資金で活動を始めているが、C/Pとなるべき行政組織には担当者が一人いるだけである。一方で、中小企業の活動はいくつかの法律の規制緩和によって範囲が拡大しつつあり、企業数も拡大の方向にある。これらの中小企業の抱えている問題点を解決できるための政策を的確に実施することがヴィエトナムの市場経済化を活性化するためには不可欠であり、また緊急の課題でもある。

しかし開発調査による政策及び組織の提言を成すにはいくつかの障害がある。一つは、必要なデータが決定的に不足していることである。ヴィエトナムの中小企業

についてのデータベース構築はUNIDOが手がけており有料で入手することができる。更に、ヴェトナム商工会議所（VCCI）も情報センターで企業情報のデータベース化を進めている。JETROも30社程度のデータベースを保有している。本格調査に際しては、これらのデータベースが利用可能であるかどうかの判断をしつつ、独自にデータを収集する必要がある。

二つ目は、実施の際に協力してくれる組織の選定である。本調査団はVCCIと経済開発センター（NEDCEN）の二つの組織を訪問した。どちらも中小企業への支援を政府の補助金及び各国ドナーからの支援によって行っている独立の組織であるが、相互に連携はない。両者ともにJICAの開発調査実施について協力を申し出ている。それぞれ短時間の訪問であったが、UNIDOからの情報も含めて考慮すると、調査団としてはVCCIとの連携の方が調査の充実とその後の提言内容の実施という点では現実的であろうと考える。しかし、VCCIであっても実際には殆ど仕事を頼むことは出来ないとの意見もあり、実施の際に協力体制を確認しつつ協力機関を決めていくことが必要である。

三つ目は、情報収集を充実するために行うコンサルテーションの対象となる対象業種、対象企業の選定についての考え方である。現在ヴェトナムには国有企業（中央国営、地方国営）非国営企業（株式会社、有限会社、個人会社、合作社、家内工業）がある。これから実施されるであろう開発調査は、来年度からの実施が検討されているOECFのツー・ステップ・ローンとの連携を踏まえるべきであることを考えると、今回の開発調査もツー・ステップ・ローンが対象とする企業の形態を選ぶべきである。したがって、OECFとの密接な情報交換が必要であるが、現在のヴェトナムの状況を考えると、具体的には登録されている非国有企業と及び国有企業であっても民営化が明確になっている企業を対象にすべきであろう。また、中小企業の中には商業・製造業などが存在するが、当面ヴェトナムの産業の活性化と生産性向上を進めるうえで製造業の振興が急務である。開発調査でファーストステップとして製造業中心に調査を進めるべきである。

これらの問題点は、本格調査を実施する前に解決しておかなければならないことではあるが、市場経済化の一步を踏み出したばかりのヴェトナムに対しては、このような現状を認識しつつ、全ての体系をステップ・バイ・ステップで構築していく協力が必要である。すなわち現状を把握したうえで最小限の体制をとれるようにするために、まずは短期間での開発調査を実施することがヴェトナムのために大きな意義を持つと考えられる。

（２）工業標準化関連プロジェクト

本件は昨年度終了した案件の次のステップであり、JICAの開発調査で作ったマスタープランの実施でもある。協議を通じて、ヴェトナムとJICAとの間に共通の意

識ができあがり、協議は短時間で合意に達することができた。MOSTEによれば、6月中にも正式要請書が提出される予定である。さらに、MOSTEからは電子・電気分野でのプロ技や機器供与要請についても提出したい旨の発言があった。

(3) 産業公害対策（産業排水）

産業公害対策として発生源対策の新しいスキームは、ヴィエトナム政府関係機関にとどまらずUNDP、CIDA等の国際機関、他ドナーに大いに歓迎された。MOIの計画投資局次長は頭を悩ませている紙パルプ産業、織物産業の廃水対策を解決することができるので早急に幹部と相談すると発言し、VSCからは古い鉄鋼所の廃水対策や電気炉の煤塵対策に使えるのではないかと提案があった。ハノイ地域等でのモニタリングを実施しているCIDAは素晴らしいアイデアであると絶賛した。

しかし、これらの組織は自らのプロジェクトの問題解決の方策として本スキームを利用したいとの思惑故に歓迎していることは想像に難しくなく、プロジェクトをどこでどのように実施するか、といった検討が行われるときには関係機関との調整に困難が予想される。本件は、早急に実施しようとするとうる相当の困難が予想されるところであり、ヴィエトナムの産業公害の現状をじっくりと調査しつつ、最も効果的なプロジェクトを選定することが必要である。近々、鉦工業開発調査部に設置される環境関連の委員会が、エキスパートを含んだ調査団を組織して派遣することが適当であるとする。また、UNDPによれば、世界銀行が本スキームと同様のプロジェクトを実施する予定であるとのことであり、相互の連携が必要であろう。

(4) 「鉄鋼産業開発マスタープラン」（終了案件）のフォローアップ

JICAより派遣された山田専門家及びVSCの要望として、本件についてベーシックデザインを含むF/Sを開発調査で実施して欲しいとの希望があったが、仮にこれを実施するとなると開発調査であっても15億円程度が必要であり現実的でないこと、一貫製鉄所を実現するための資金計画について、より具体的な計画が存在することを示さないと採択は困難であることを説明し理解を得た。今後のアジア経済の状況が不透明であること、資金規模が巨額でありヴィエトナム政府にとっても相当のリスクがあること、日本企業の参画が期待できないこと等を勧告し、より堅実な対応をすべきであるとする。

(5) 「ハノイハイテクパーク計画MP及びF/Sの後継案件」のフォローアップ

ハイテクパークへの高速道路の工事やハイテクパーク側のインターチェンジ付近の道路工事は着々と進みつつあり、実現化に向けて大きく進みつつある印象を得た。既にプロジェクトは開発調査の段階を過ぎ、国家事業としてのオーソライズを待つ

ばかりである。青木 JICA 専門家は、かつて筑波学園都市ができるまでのような数々のアイデアを膨らませてはいるが、今は国家事業としてのオーソライズが必要な時期であり、あまりに多くのことをいちどきに要求することは、かえって危険であるとの意識の下に、協力を着実に進めつつある。予想以上に具体化への動きが早まっている印象を受け、日本として同氏と連絡を取りつつバックアップをしていくことが望ましいと考える。

6 主要面談者 一覧

[ヴェトナム側機関]

(1)計画投資省

Mr.Do Van Hai	Deputy Director of Industrial Department
Mr.Tran Tien Coing	Director of Business Department of CIEM
Mr.Bui Ngoc Hien	Senior Economist, Industry Department, Oil and Gas Sector
Mr.Dang Nghiem Dien	Senior Expert of Industrial Department
	NPC Projects Assistance to SME in Vietnam
Mr.Nghien Viet Ans	Expert of Project Assistance to SME in Vietnam

(2)科学・技術・環境省

Mr.Dau Dinh Loi	Director General, International Relation Department
Mr.Nguyen Xuan Biotain	Expert, Institutional Cooperation Division
Mr.Nguyen Thu Ha	Deputy Director, International Cooperation Division, STAMEQ
Mr.Nguyen Thitho	Deputy Director, NEA
Mr.Hua Thang	Deputy Director of Division, NEA
Mr.Nguyen Ninh Cuong	Expert, Pollution Control Div, NEA

(3)工業省

Mr.Tran Manh Thu	Deputy Director General, Planning and Invest Department
Mr.Pham Thanh Tam	Senior Expert, Planning and Invest Department
Mr.Do Thanh Bai	Deputy Director, Center for Environmental Protection and Chemical Safety

(4)ハノイ人民委員会

Dang Duo Nu Binh	Deputy Director, EMD of Hanoi DOSTE
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(5)鉄鋼公社

Pham Chi Cuong	Vice President
Nguyen Kim De	Director Technical
Phan Doc Lap	Senior Manager, Rolling Technology Environmental Management
Trinh Khoi Nguyen	Planning and Invest Department
Nguyen Van Ke	Director, Technical Department, Thangan Steel Corp
Nguyen Van Long	Senior, Technical Department, Thangan Steel Corp

(6)ヴェトナム商工会議所 (VCCI)

Mr.Vu Tien Loc	Secretary General
Ms.Pham Thi Hang	Managing Director
Mr.Pha Tat Dinh	General Director

(7)非国営経済開発センター (NEDCEN)

Mr.Nguyen Van Nen	Vice General Director
Mr.Trinh Xuan Dien	Senior Expert

(8)国立銀行

Mr.Cat Quang Duong	Vice Manager, Credit Division
Mr.Nguyen Xuan Bac	Expert, Appraisal Division
Mr.Nguyen Quochung	Expert, Appraisal Division

[国際機関関係]

(9)UNIDO

Ms.Nilgun F Tas	Chief Technical Advisor
Ms.Kasue YANAGI	Associate Expert

(10)UNDP

Ms.Minoli de Bresser	Assistant Resident Representative
Ms.Nguyen Ngoc Ly	Senior Advisor on Sustainable Development

(11)Embassy of Canada(CIDA:VCEP)

Mr.Claude Potvin	Director, Canadian Cooperation Office
Ms.Nguyen Chau Anh	Admin/Program Assistant
Mr.Peter Guy	Program Manager, Vietnam Canada Environmental Project

[日本側関係機関]

(12)在ヴェトナム日本大使館

嘉治 美佐子	参事官
和田 純一	一等書記官
宮崎 祥一	一等書記官

(13)JETRO

朝倉 俊雄	所長
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(14)JICAヴェトナム事務所

地曳 隆紀	所長
畠山 敬	次長
菊地 和彦	職員
Ms.Diep	職員

別添資料

Study on Promotion of Small and Medium sized Enterprises in Vietnam

1. Image of the Study

After a discussion between Ministry of Planning and Investment of Vietnam ("MPI") and JICA Project Identification Study Team ("the Team"), the Team understand that both sides agreed the Image of the Study on Promotion of Small and Medium sized Enterprises in Vietnam ("the Study"), and subject to the authorization of the Ministries concerned in Japan, the Study will be conducted in the following areas:

- 1) Recommendation of SME Support Programs Policy Framework,.
- 2) Recommendation of SME Policy Administration System and coordination Network at the national and provincial levels.
- 3) Detailed description of selected schemes of SME support services and systems recommended in 1) above, such as, for example, a Credit Guarantee Scheme and a Business Development Services Subsidy Fund,
- 4) Diagnostic study of selected companies, which will provide necessary input for the above 1) & 2) and, at the same time, will provide advices to the companies how they can improve their production technology and management.

2. Request to MPI

Although the Team understand that both sides have agreed the Image of the Study, the Team consider following points should be cleared before the approvment of the Study. Since the Study is decided to be in the fiscal year 1998 of JICA, the team request MPI to answer to these questions by June 15, 1998.

- 1) Identify the Type(s) of Industry (within a Manufacturing Industry) to be studied through factory visits and their priorities,
- 2) Identify which organization such as Ministry, Bureau or Department would be the main counterpart for this project (There may an official C/P and a working C/P),
- 3) Identify the Steering Committee Member(s) (Tentative)

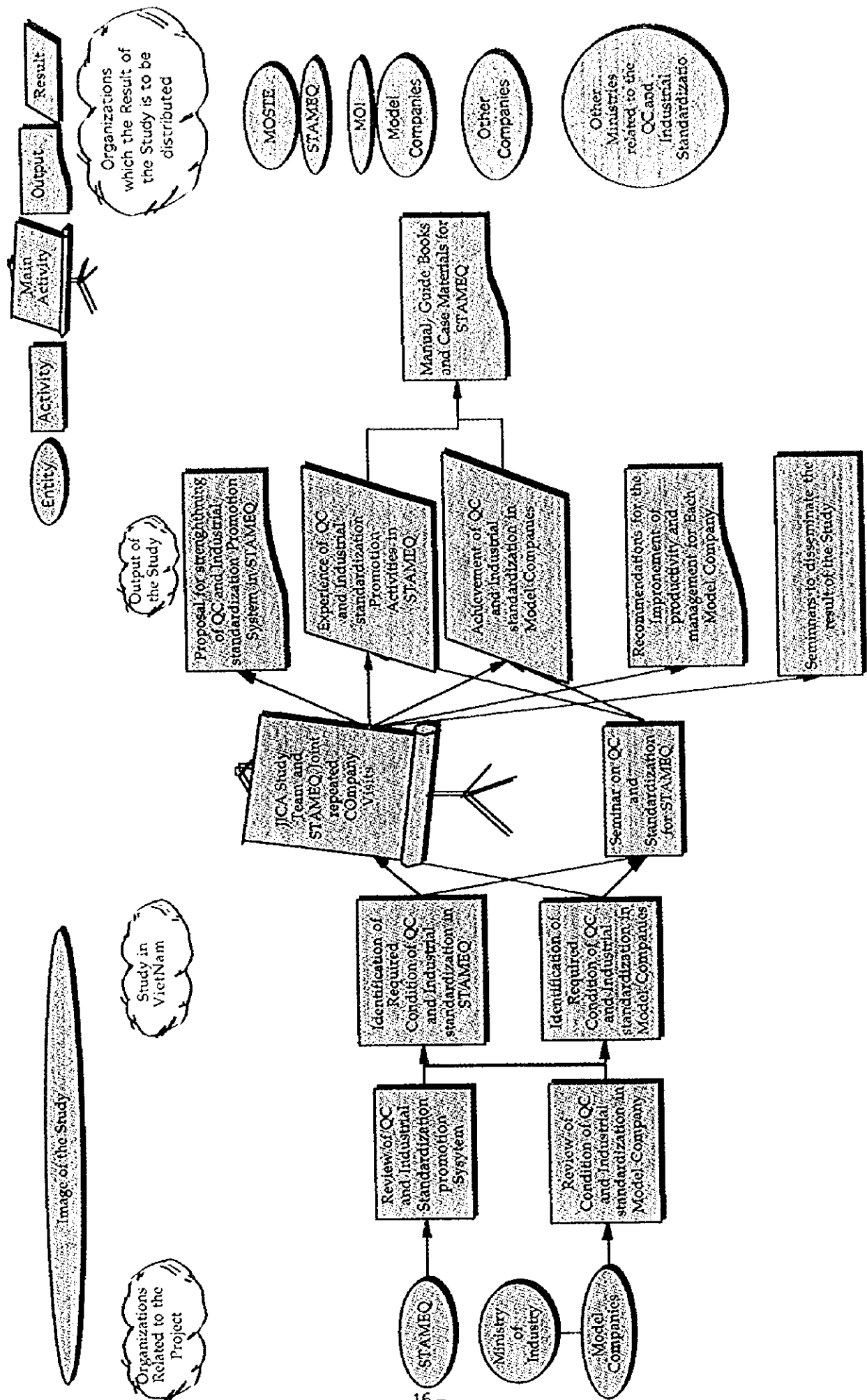
JICA consultant Study Team needs the support in terms of selecting appropriate factories to be surveyed under the Study as mentioned above 1.4). Therefore the Team request MPI to

- 4) Identify the idea of how these above factories will be chosen.

Logical Framework for the Study Project (for discussion)

Narrative Summary	Verifiable Indicators	Means of Verification	Important Assumptions
<p>Overall Goal (Within a measurable period of time after the completion of the Study, we expect that the following desirable impacts will be produced:)</p> <p>Technical support system for promotion of better industrial standardization and quality control in the manufacturing industry in Viet Nam is developed.</p>			
<p>Project Purpose (At the end of the Study, we expect to arrive at the following end-of-project status.)</p> <p>Capabilities of STAMEQ for conducting extension services are developed for continued technical guidance activities on industrial standardization and quality control vis-a-vis the manufacturing industry.</p>	STAMEQ can continue conducting technical guidance activities on industrial standardization and quality control continuously.		Based on the findings in and/or lessons learned from the Study, MOSTE and other governmental bodies take appropriate measures to develop the technical support system for the manufacturing industry.
<p>Output (By the end of the Study, we expect to see that the following outputs are produced:)</p> <p>1 A specific development plan of STAMEQ is compiled for the development of its capabilities related to the promotion of industrial standardization and quality control activities in the manufacturing industry.</p> <p>2 Recommendations for the selected model companies are compiled for the improvement of their competitiveness in general, and for better industrial standardization and quality control in particular.</p> <p>3 An extension service manual and case studies materials are compiled for use by STAMEQ and other similar organizations, for their continued activities.</p> <p>4 Staff of STAMEQ are trained for continued guidance on industrial standardization and quality control for the benefit of the manufacturing industry in Viet Nam.</p>	<p>Final report</p> <p>ditto</p> <p>ditto</p> <p>No. of qualified c/p</p>		Making use of the output of the Study, systems for technical guidance viz a viz the manufacturing industry are developed in STAMEQ.
<p>Activities (During the Study, we intend to do the following activities :)</p> <p>1 Present conditions, activities and development plans of STAMEQ are reviewed.</p> <p>2 Technical guidance activities of other institutions in Viet Nam are reviewed.</p> <p>3 Direct technical guidance to selected companies will be provided by means of field visits conducted jointly by the Japanese consultants and the experts of STAMEQ.</p>	<p>Input as per the tentative work schedule.</p> <p>(necessary equipment for the testing and quality control activities can be supplied within the framework of the Study.)</p>		





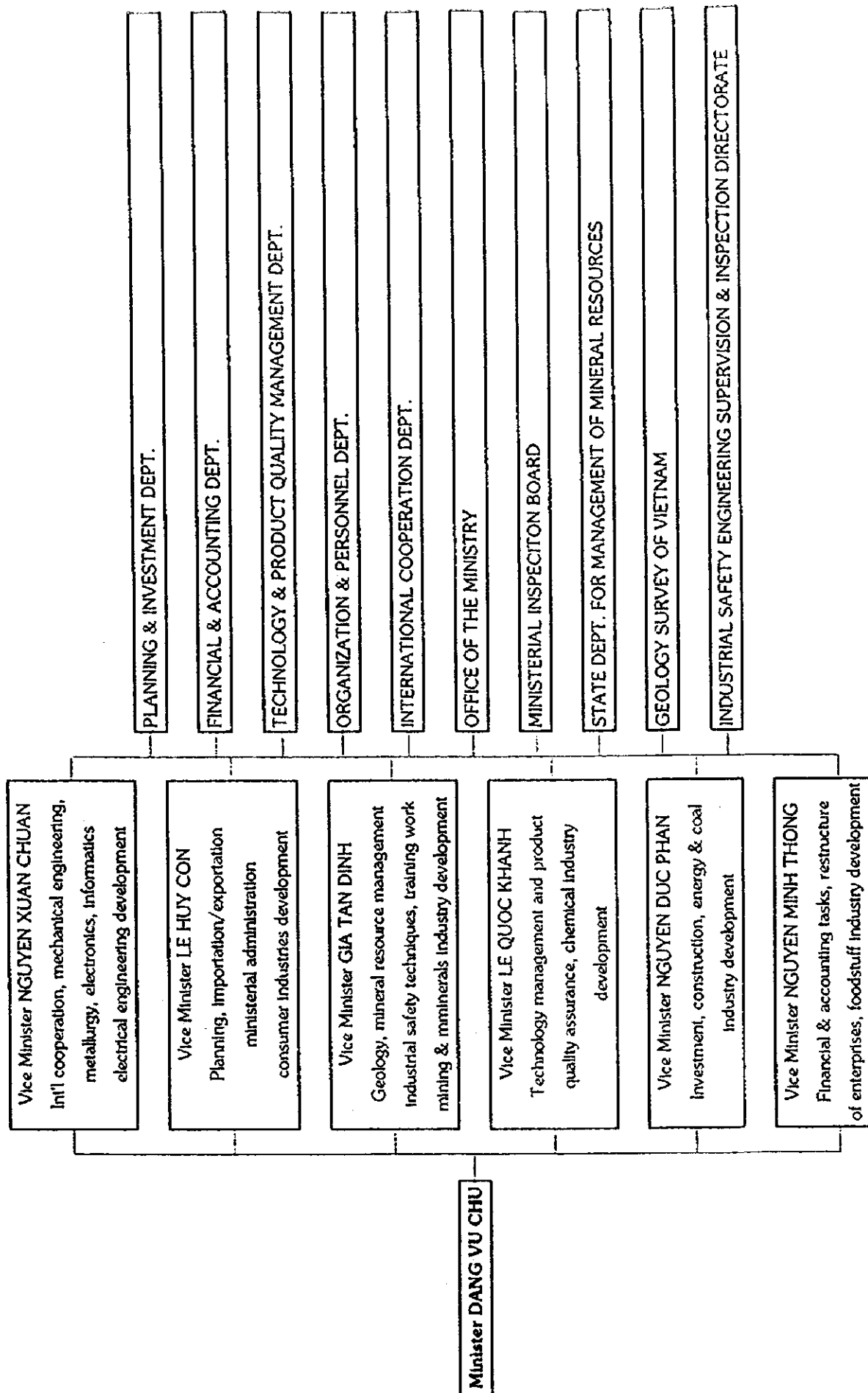
MPI ORGANIZATION CHART

Vice Minister VO HONG PHUC 08042569	Vice Minister DO NGOC TRINH 8242670	Vice Minister NGUYEN NIAC 08042800	Vice Minister TRAN DINH KHIEN 08042531	Minister TRAN XUAN GIA 08043782	Vice Minister PHAN QUANG TRUNG 08043109	Vice Minister LAI QUANG THUC 08043280	Vice Minister NGUYEN XUAN THAO 08043109	Vice Minister VU HUY HOANG 08043981
External Economic Relation Dept. Duong Duc Ung 8230628	EPZ & IZ Management Dept. Ng. Ngoc Phuc 8458148	Foreign Investment Dept. Nguyen Bich Dai 8454970	Project Evaluation Office Nguyen Viet Lam 08044452	Development Strategy Institute Lau Bich Ho 844735	Labor, Culture & Social Affairs Dept. Do Xuan Mao 08044983	Finance & Monetary Dept. Trinh Nhu Phuc* 8237599	Agriculture & Rural Development Dept. Phan Doanh 08043128	Industry Dept. Vu Ngoc Xuan 08044903
Ministerial Office Le Dinh An 08043255	Project Monitoring Dept. Phan Huu Thang * 8454970	Investment Legislation & Promotion Dept. Dinh Van An 8232890	National Bidding Office Ng. Viet Hung 8430415	Economic Management Ins. Le Dang Doanh 8431872	Science, Education & Environment Dept. Phan Thu Huong 08044432	Trade & Service Dept. Dao Thuy Phi 08044426	Regional & Territorial Economic Dept. Pham Hai 08043470	Information Center Khuu Van Hoang 08044957
Relations with Laos & Cambodia Dept. Le Chi Hien 08044426	Rep Office in HCMC 08.8294057		Infrastructure Dept. Ng. Ngoc Nhat 08044254	General National Economic Dept. Ng. Bui Quyen 08044987				
	Southern Economy Research Center Tran Van Thanh 08.8296852			Personnel & Training Dept. Le Van Kien 08044498				
				Defense & Security Dept. Nguyen Sang 08043798				
				Enterprise Dept. Le Van An 08043470				

MPI chart as of 12/31/98

Prepared by NGA 5/19/98

ORGANIZATION OF THE MINISTRY OF INDUSTRY



May 1993

Ministry of Industry

Name of Project	ASSISTANCE TO INDUSTRIAL SMEs IN VIETNAM
Number	US/VIE/95/004
Budget	2,338,179 USD (German Government) 192,180 USD (Japanese Government)
Local contribution	Office space; staff and some cost sharing with respect to operations; all partners
Project sites	Hanoi and Ho Chi Minh city
Coordinating Agency	Ministry of Planning and Investment (Industry Department)
Executing Agency	UNIDO
Project Duration	From September 1996 to June 2000
Project Objectives	The project is intended to support selected aspects of a national programme to strengthen the private small and medium industrial enterprises (SMEs) sector in Vietnam. The project will contribute to making products of the private SMEs better able to meet the demands of domestic and foreign markets in terms of price, quality and design - i.e to making the enterprises more competitive. <u>Contribution to this increased competitiveness will constitute the project's immediate objective.</u>

The project outputs contributing to the immediate objective fall in two categories :

- a) institution-building : strengthening the capacity of
 - selected public and private training, technological, and representative institutions, including private SME associations, thereby enabling these institutions to provide -in networking cooperation with each other to increase organisational effectiveness - better services to SMEs, and
 - the Ministry of Planning and Investment (MPI) and other relevant authorities at the national and provincial levels - in respect of overall planning and coordination functions
- b) direct support, in the form of advice to relevant governmental departments, including MPI, in respect of areas such as streamlining the legal and regulatory framework concerning SMEs.

Output 1 (Direct Support)

Recommendations to for government policy and regulatory framework contributing to enhancing the competitiveness of SMEs, including - but not necessary limited to - those relating to :

- registration procedures
- import/export procedures
- other disincentive or regulatory barriers affecting SMEs

Institution-building

Output 2 :

Strengthening the capacity of selected private and public institutions to provide effective market-led services to SMEs in selected industrial branches in the field of technological information, upgrading and development;

Output 3 :

Strengthening the capacity of selected private and public training institutions to provide effective market-oriented technical training services pertinent and responsive to the needs of SMEs in selected industrial branches;

Output 4 :

Promoting subcontracting work awarded on a regular basis to SMEs in selected industrial branches through selected business organizations;

Output 5 :

Enhancing the capacity of selected private institutions to assist local SMEs to prepare satisfactorily documented project proposals in order to apply for Vietnamese or foreign bank credit and also (possibly) proposals for attracting foreign joint-venture partners;

Output 6 :

Strengthening the capacity of relevant agencies to plan, monitor and coordinate and support SMEs development programs

Project Organisation Project Management Board :
National Project Director : Dr. Tran Dinh Khien, Vice Minister of MPI

Chief Technical Advisor : Ms. Nilgun F.Tas, UNIDO

Advisory Board :

Chairman of the Board : Dr. Tran Dinh Khien, Vice Minister of MPI

Members : representative from authorities concerned and partners.

Partner Institutions Hanoi University of Technology, Hanoi Cooperatives Union and SME Promotion Center of VCCI in Hanoi; Center for Scientific and Technical Information attached to the HCMC People's Committee, Department of Science, Technology and Environment and Union of Associations of Industry and Commerce-UAIC in HCMC and the HCMC University of Technology. In addition, other institutions will be invited to cooperate by the core group of partners on an as needed basis. Partner institutions will be working in networking cooperation in the delivery of services to SMEs. The selected counterpart institutions will be working with industrial SMEs in Hanoi and HCMC. It is targeted that, by the end of project life, recommendations are drafted for streamlined registration of SMEs, import/export procedures, etc.; counterpart institutions in Hanoi and HCMC will deliver SME clients:

- technological information and upgrading services,
- organize technical programs,
- promote and support regular subcontracting work; and
- provide consultancy in preparing business plans that may also be instrumental in obtaining loan financing.

Project's Targets SMEs in manufacturing sectors
Project SME criteria (suggested):

- small enterprises: less than 30 employees and less than VND 1 Billion (approx. US\$ 90,000) in legal capital,
- medium enterprises: less than 200 employees and less than VND 4 Billion (approx. US\$ 360,000) in legal capital.

Project Activities

The direct support activities involve providing support to relevant agencies for drafting recommendations on improved administrative procedures affecting SMEs.

The majority of project's activities will be of institution-building nature and consist of:

- identifying suitable existing institutions in Hanoi and HCMC which may provide business development services to SMEs and establishing networking cooperation among them;
- assisting the counterpart agencies in assessing the needs of SMEs in technology information, upgrading and development, technical training, business planning and subcontracting promotion;
- assisting counterpart agencies in designing service packages (tools and systems of delivery, including a system of referrals) in technology information, upgrading and development, technical training, business planning and subcontracting promotion;
- assisting the counterpart agencies in promoting and delivering services among targeted SMEs;
- training counterpart agency staff in continuous reassessment of SMEs' needs, redesigning and delivery of services and monitoring of service provision;
- organizing study tours for relevant counterpart agency staff.

Results to date

Subcontracted CIEM in February 1997 to implement the Output 1. This Output has been completed with the report "Completion of macro economic policy, reform of administrative procedures to promote the development of SMEs" which was presented in two workshops in Hanoi and HCMC in January, 1998. At present complete recommendations are being formulated on business establishment and registration procedures and import/export procedures. A study tour covering SME development programs in the Philippines and Singapore was organized for some partners' management staff in April 1997. A study tour to Italy and Germany on SME support systems and credit guarantee funds for high level authorities of MPI will take place end May-early June 1998. The project has prepared a proposal for implementing master craftsmen training within the education system of Vietnam for discussion among related organization.

Identification and selection of the service provider counterparts in Hanoi and HCMC was completed in March, 1997, cooperation and financing agreements with each partner was signed on 24 July 1997. The HCMC University of Technology has joined the network as of 21 March 1998. Development of systems and tools to be used within the network of partners is on-going; specifically on a domestic company/enterprise database (~3000 entries) to support a market information service, a domestic experts/consultants database for referrals to satisfy advice and consultancy needs of SMEs, membership databases for business organization partners, a business planning workbook, modular training materials in the same and simple financial forecasting software in Vietnamese, a computerized client monitoring system for all partners, short term technical training programs for SME owner/managers and network consolidation tools such as a newsletter, a common logo and brand name for the network. Staff training is underway and to date various seminars and workshops have been held to validate the project implementation strategy and activities with the SMEs. The business organization partners (HCU, VCCI and UAIC) have established small (5-6 member) business services sub committees consisting of leading SME entrepreneurs in the locality and local network partner representatives to take responsibility for implementation of project activities. The Project Partners have been linked to Internet. The

network is called "SMELINK". Office equipment has been delivered to each partner.

Three business plans in actual companies have been prepared as a part of the business planning workbook preparation. One training program on job costing has been prepared and conducted in Hanoi in April 1998. Network partners are preparing training programs that will be run in May-August 1998 in fashion design for garment industries, accessing information sources in the food industries and raising finance in Hanoi and HCMC. Network partners have started working on 2 business plans in Hanoi and 2 business plans in HCMC with another 2 to be started soon. In HCMC, District 6 and District 11 have joined the network as information focal points of CESTI. In Hanoi, a memorandum of understanding between the Handwerk Center (STAMEQ), the VCCI, HCU and the Project has been signed to promote welding training among SMEs with subsidies from SMELINK partners.

Links to other Projects The project has cooperated with the GTZ-VICOOPSME "Promotion to Non-state SMEs" project through the participation of a member of the GTZ project in the CIEM project team which is working in the area of policy analyses and advice for streamlining administrative procedures. The two projects are also planning conduct joint training programs in marketing and financial management for SMEs. The project is closely coordinating with the ADB Enterprise Reform project by providing information on the on-going work with the CIEM. The Project has established cooperation with GWZ-Viet Duc Technical Training Center in HCMC. The Viet Duc Technical Training Center is training Binh Thanh Vocational Training School instructors, who will in turn, be upgrading their training of SME production workers accordingly. An agreement has been reached with the Koblenz-STAMEQ Welding School in Hanoi to promote their training programs among SME clients.

Remarks

- Assisted SMEs are expected to pay an affordable fee for services provided by service providers in the network of institutions.
- Selected private and public institutions must be close to SMEs, have members, and provide services to SMEs.

E-mail Addresses:

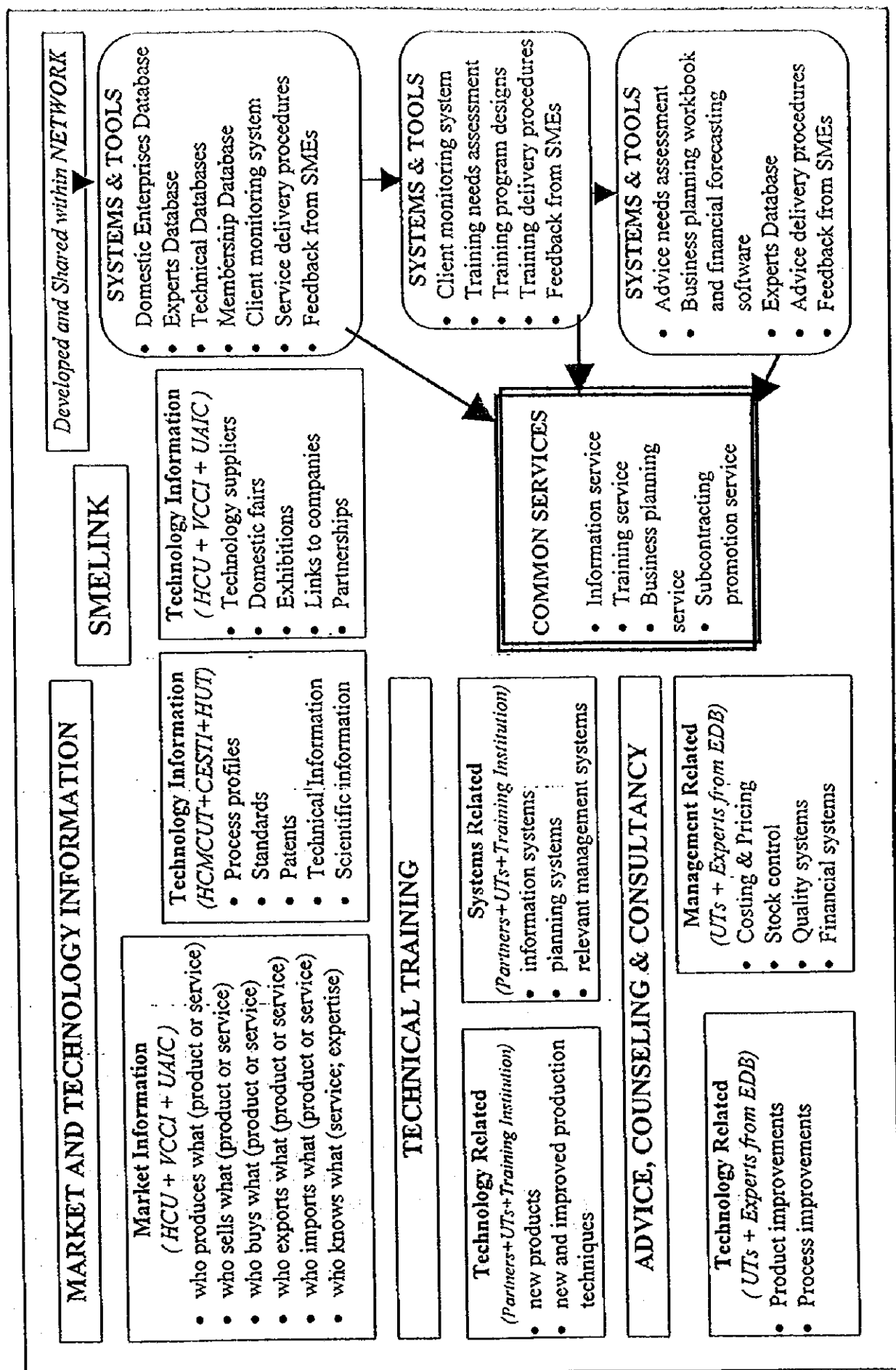
Project Office in Hanoi
Liaison Office in HCMC
Hanoi University of Technology
Hanoi Cooperatives Union
Vietnam Chamber of Commerce and Industry
Center for Science and Tech. Information
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vcci@smelink.netnam.vn
cesti@smelink.netnam.vn
uaic@smelink.netnam.vn
(to be coming on-line soon).

Contact Addresses:

1. Hanoi Cooperatives Union (HCU) 15 Quan Thanh, Hanoi Contact person: Mr. Le Tao Tel: 843 44 11 Fax: 843 44 11	2. Hanoi University of Technology (HUT) 1 Dai Co Viet, Hanoi 10251 Contact person: Dr. Do Ngoc Uan Tel: 868 10 96 Fax: 868 10 96
3. Vietnam Chamber of Commerce and Industry (VCCI) 33 Ba Trieu, Hanoi Contact person: Ms. Pham Thi Thu Hang Tel: 825 81 74 Fax: 825 64 46	4. Center for Science and Technology Information (CESTI) 79 Truong Dinh Street, District 1, HCMC Contact person: Ms. Ngo Thanh Thao Tel: 823 48 51 Fax: 829 19 57

<p>5. Union of Associations of Industry and Commerce, HCMC 51 Ben Chuong Duong, District 1, HCMC Contact person: Mr. Nguyen Truong Con Tel: 821 53 61 Fax: 821 18 06</p>	<p>6. HCMC University of Technology 268 Ly Thuong Kiet Contact person: Dr. Bui Nguyen Hung Tel: (08) 865 04 60 Fax: (08) 863 50 58</p>
<p>7. Project Office in Hanoi 47A Quan Thanh Contact person: Mr. Dang Nghiem Dien Tel: 843 92 46/843 70 38 Fax: 843 92 18</p>	<p>8. Liaison Office in HCMC c/o Southern Economic Studies Center 33 Ngo Thoi Nhiem Street, District 1, HCMC Contact person: Dr. John Powell Tel: 930 00 44 Fax: 930 00 44</p>



BUSINESS DEVELOPMENT SERVICES TO SMEs IN VIET NAM

*Nilgun F. Tas, Chief Technical Advisor
UNIDO-MPI "Assistance to Industrial SMEs in Viet Nam" Project*

The objective of our Conference is to inform donors and implementing agencies about the future plans in Small and Medium Enterprise (SME) development in Viet Nam and to contribute to increased impact from on-going and future SME development programs by starting a process of information sharing and discussions on the means and ways of cooperation and coordination.

Why do donors support SME development?¹

It is almost impossible to define the term "small" enterprise universally. The Donor Committee considers this term to include formal and informal non-agricultural privately owned enterprises ranging from micro to medium size.

Donors support the development of SMEs for five main sets of reasons:

1. SMEs are important for the promotion of national and regional economic development.
2. SMEs have an important role in poverty alleviation and assisting those who are disadvantaged.
3. SMEs are important in the transition to a market economy. SMEs are the private sector.
4. SMEs are important in promoting democracy and a civil society.
5. SMEs are important in promoting a more flexible, innovative and competitive economic structure.

International donors are showing an enhanced interest to support SME development programs in Vietnam to assist the Government of Vietnam to achieve its development objectives. Each donor may be pursuing one or more of these objectives. Best synergies are obtained if and when the objectives of the donors and recipient countries coincide. Although there are numerous on-going projects in the field of SMEs, a definition and a clear statement of development objectives are still lacking in Vietnam.

The UNIDO-MPI Project "Assistance to Industrial SMEs" has been providing direct assistance to MPI in identifying policy measures that will improve the business environment for SMEs. The Project has commissioned the Central Institute of Economic Management (CIEM) to conduct research on the legal and administrative procedures that effect the SMEs in Viet Nam. The research report that was prepared by CIEM and discussed extensively with major stakeholders in the field has contributed to the identification of potential policy fields and instruments in support of SMEs. This report will be shortly available for wide distribution.

This morning, Mr. Do Van Hai of Industry Department of MPI presented a draft policy statement for SME development. The statement contains a proposal for an SME definition, an institution for coordination/policy making and identifies some policy fields and instruments for resolving the difficulties faced by SMEs.

The policy proposal (Table 1), if and when it is formally approved, will provide a reference frame/an initial starting point for future interventions not only for the donors but also for domestic agencies. A policy statement will also enable donors and domestic agencies involved with SMEs plan and implement cooperative actions and may eventually result in coordinated programs.

¹ Donor Committee Report on Small Enterprise Development, October 1997, p. 5.

Table 1. Comparison of Japan's SME Policy with Viet Nam's SME Policy Proposal

1996 SME DEVELOPMENT POLICY OF JAPAN ²		DRAFT POLICY PROPOSAL OF VIETNAM	
Basic Position		Basic Position	
"Japan's small businesses will play a crucial role as the foundation of the Japanese economy and the driving force behind the development of new business sectors in the next century."		SMEs are important to the socio-economic development of Vietnam, they contribute to industrialization and modernization.	
Policy Fields	Policy Instruments	Policy Fields	Policy Instruments
1. Technical development of SMEs	<ul style="list-style-type: none"> Financial support for R&D, Loans and leasing for technological investments Support services 	1. The State will provide support to SMEs (policy measures, financial support and business development services)	<ul style="list-style-type: none"> A coordination-policy agency Fresh financing for SMEs Financial support to a network service agencies for SMEs
2. Support to new SMEs	<ul style="list-style-type: none"> Financial support through loans, Support services 	2. Priority will be given to industrial SMEs for investments in technologies	<ul style="list-style-type: none"> Loans, credit guarantees, Tax incentives for R&D, testing of new products, training Rapid depreciation Enable leasing Provide support services
3. Computerization of SMEs and encouraging the use of Internet	<ul style="list-style-type: none"> Financial support for computer hardware and software, Support services 		
4. Improve access to financing	<ul style="list-style-type: none"> Loans, guarantees 	3. Priority will be given to rural SMEs to develop linkages between processing industries, agricultural production and industrial services	<ul style="list-style-type: none"> Loans, Support services
5. Stable business environment and passing of policy initiatives for more support services	<ul style="list-style-type: none"> More State funding to local chambers of commerce and business/industry associations offering services to SMEs 	4. Priority will be given to sustainable industrial linkages	<ul style="list-style-type: none"> Policy measures to enable access to public procurement by SMEs, Policy measures to encourage SOEs to purchase more from SMEs
6. Revitalization of small distribution sector	<ul style="list-style-type: none"> Policy measures to revitalize shopping areas and districts. 	5. Ease exports/imports of SMEs and increase domestic industrial production	<ul style="list-style-type: none"> Policy measures to abolish non-tariff and administrative barriers Provide export guarantees/loans Provide support services

The policy statement of 1993 has been financed by **4.1 Billion USD** through direct transfers from the Japan's State Budget³.

Funding in Viet Nam ???

² "Small Business in Japan 1996 White Paper on Small and Medium Enterprises in Japan", Small and Medium Enterprise Agency, MITI, 1996, p. 253.

³ Teraoka, Hiroshi, "Economic Development and Innovation", Japan International Cooperation Agency, 1996, p. 154.

The main features of the proposed policy can be summarized as follows:

1. A coordination agency for SME Development Programs,
2. Starting of a financial support program made up of SME loans and loan guarantees, and
3. Consolidating and strengthening a network of support organizations to provide services needed by SMEs.

Are these proposals in line with international experiences and practices in the field of SME support?

A comparison (Table 1) of the proposed SME policy of Viet Nam with the SME policy of Japan in 1996 reveals some similarities and differences:

1. The basic positions of both Governments are similar. They both perceive SMEs as important economic entities that will fuel economic development.
2. Policy fields and instruments identified to support SME development are also similar in both statements.
3. The main difference in the statements is the more explicit nature of the Japanese policy statement with respect to the Vietnamese proposal. This difference is the result of over 50 years of experience and State support to the SME sector in Japan, while SME support in Viet Nam is still in its infancy.

What is the state of SME support in the world?

International research⁴ shows that there are two major categories of policy instruments being used to support SMEs:

- Financial measures (investment loans, grants, loan guarantees, tax relief, subsidies, infrastructure loans)
- Non-financial measures (information, training, advice and counseling services)

The policy fields where these instruments are applied depend on national traditions, socio-economic and constitutional conditions and the availability of funding. In broad categories major fields of SME policy measures converge towards the following sets of activity areas:

- | | | |
|-----------------------------|------------------------|-------------------------|
| • Investment promotion | • Finance and capital | • Export promotion |
| • Sub-contracting promotion | • Education | • Partnership promotion |
| • Research and development | • Support to start-ups | • Job Creation |

Due to their characteristics, financial measures are delivered through financial institutions and may focus on specific fields. It is customary and more convenient, on the other hand, to deliver non-financial support measures in combination with each other. In other words, information services may be delivered together with advice and counseling services, training may be supplemented by counseling, enterprise level advisory services may be take the form of on-the-training, etc.

⁴ "Second Annual Report of The European Observatory for SMEs", European Network for SME Research, 1994, p. 219.

Table 2 gives an overview of the state SME support in developed and developing countries. The numbers in the table show the importance of each instrument in descending order in each field. For instance, Governments use loans, subsidies and grants as the most prominent instruments to encourage investments. In addition, they provide loan guarantees and tax relief. Support in preparing business plans and projects, information and training make up the portfolio of business development services that are offered through various organizations to promote investments. Governments also provide long term and usually soft term loans for constructing buildings and offices and developing industrial zones as well as investing in industrial infrastructure.

What is the state of SME support in Viet Nam?

Financial Support Measures

Table 3 shows the state of Financial Support available to SMEs in Viet Nam as of April 1998⁵. The largest loan program is a World Bank loan administered through the State Bank of Viet Nam in the field of rural industrialization. This loan facility targets farmers and farm households in addition to private SMEs. When the overwhelming needs in the agricultural sector are considered, the size of loan financing available for servicing the SME sector may be lower than that is implied by the total size of the loan package. The second largest loan program is the EU funded SME Development Fund (SMEDF) with approximately 25 Million USD. Despite its size, the needs of the existing 24,000 SMEs can not be fully covered by the SMEDF program.

Financing is also available for promotion of partnerships with foreign companies through the OECF and DANIDA programs⁶. These programs may be more focused on setting up joint ventures with foreign companies. Most Vietnamese SMEs may not be able to satisfy criteria required for setting up joint ventures with foreign enterprises.

Government of Viet Nam offers tax relief to encourage investments through the implementation of the "Law of Encouragement of Domestic Investments". This law is currently being reconsidered due to limited results obtained since its coming into effect.

Non-financial Support Measures

Table 4 depicts the availability of non-financial support measures at the present. The table reveals that the UNIDO-MPI and GTZ-VCU SME Projects are strengthening capabilities of existing organizations in providing information, training, advice and consultancy services in the fields of investment promotion, export promotion, subcontracting promotion and start-ups. Closer examination of the table shows that the total amount of these two projects is just over 4 Million USD. These two programs are working to strengthen institutions that are providing business development services. The UNIDO-MPI project is working with a total number of 6 organizations in two largest cities and the GTZ-VCU project is concentrating its efforts to strengthen one institution with branches in different provinces. The total funding available to all the other smaller business development service programs is less than 1 Million USD. It is

⁵ The source of information presented in Tables 3 and 4 is a survey done by Mekong Project Development Facility (MPDF) in the second half of 1997.

⁶ Please refer to Table 5 for acronyms used in identifying programs.

obvious that the needs of a Viet Nam with 24,000 SMEs can not be fully serviced with such limited funding through a limited number of institutions covering a limited geographical area.

Project preparation assistance of a more focused nature is available through the MPDF in a regional program including also Laos and Cambodia in addition to Viet Nam.

Some amount of financing has gone into strengthening education institutions. Efforts have concentrated on developing new curricula and training instructors with an understanding of market oriented business management principles. It may be safe to say that the limited number of teachers trained and the limited numbers of graduates produced by these educational institutions are still not sufficient to jump-start the development of SMEs.

An important characteristic of providing business development services to SMEs

In most countries including developed countries, but especially in developing countries institutions providing business development services to SMEs can not recover their costs fully. These services, at least in the beginning, are not or can not be commercial. In other words, they are not fully sustainable in a financial sense. For example, in SME training programs a 50% *direct* cost recovery rate is considered a success in most countries. Those programs that are financially sustainable may be prohibitively expensive for the average SMEs. It is not difficult to say that some SME training programs that are charging 100USD per day of training may be reaching only a very limited number of SMEs in Viet Nam at the present. Similar considerations apply to expert advice and consultancy services available for SMEs.

These considerations require Governments to provide subsidies for the provision of business development services through public and private institutions. The sustainability of services that are being strengthened through various donor-funded programs in Viet Nam also requires similar funding either through domestic (State) sources or new donors that are interested in continuing the work started by others.

Cooperation and Coordination in SME Development in Viet Nam

Policy statements can come to life if and only if they are funded. Funding will be required for fine tuning policies through research and further development, for loan and guarantee programs, and for business development services such as training, advice and counseling and information provision to SMEs through a network of service agencies. Additional funding will be required to improve the physical infrastructure of power, communications, transportation and workspaces for the development of industrial SMEs.

Providing information to donors in advance on the intentions of the Government, sharing information and comparing results among on-going SME projects are methods of initiating cooperation. Institutionalizing the information sharing process by organizing annual SME cooperation and coordination conferences, involving members of on-going projects in Project Advisory Boards are ways to encourage joint activities between projects and programs.

Table 2. SME DEVELOPMENT POLICY INSTRUMENTS AND PRIORITY AREAS (International Practice)
(Numbers show commonly applied priorities in use of policy instruments in descending order)

Policy Instruments	Investment Promotion	Finance & Capital	Export Promotion	Sub-contracting	Education	Partnership promotion	Research & Development	Start-ups	Job creation
	Fields →								
<i>Financial Support Measures</i>									
Loans (may be subsidized)	1	1	3	3		4	3	2	3
Loan guarantees/equity participation	3	2	6			3	4	5	
Export guarantees			4						
Tax relief	4	3	5			5	5	6	
Subsidies and grants	2	4	2	2	2	2	1	1	2
Workspace development (IZ, offices)	6	5						4	4
Infrastructure development	7	6							
<i>Non-financial Support Measures</i>									
Business Development Services	5		1	1	1	1	2	3	1
• Information									
• Training									
• Advice, counseling, consultancy									

Table 3. FINANCIAL SUPPORT PROGRAMS in VIET NAM (April 1998)

Policy Instruments	Fields →		Investment Promotion	Finance & Capital	Export Promotion	Sub-contracting	Education	Partnership promotion	Research & Development	Start-ups	Job creation
Financial Support Measures											
Loans				SMEDF IFC SIDI EIB-SW WB-SB SIDA				OIECF			WB-SB
Loan guarantees/equity participation											
Export guarantees											
Tax relief			Government of SRV								
Subsidies and grants								DANIDA			
Workspace development (IZ, offices)											
Infrastructure development											
SMEDF	25	WB-SB	122	SIDI		0.7	OIECF	50	Numbers in million USD.		
IFC	4	EIB-SW	8.25	SIDA		1	DANIDA	125*	* For 6 countries.		

Table 4. NON-FINANCIAL SUPPORT PROGRAMS in VIET NAM (April 1998)

Policy Instruments	Fields	Investment Promotion	Finance & Capital	Export Promotion	Sub-contracting	Education	Partnership promotion	Research & Development	Start-ups	Job creation
Non-financial Support Measures										
Business Development Services										
• Information		UNIDO GTZ-VCU ZDH		GTZ-VCU	UNIDO		DANIDA UNIDO			
• Training		UNIDO GTZ-VCU FES ZDH	MPDF		UNIDO	CFVG AIT-SAV BMEP-AU NEU-SIDA	DANIDA		GTZ-VCU WED-CAN	
• Advice, counseling, consultancy		UNIDO GTZ-VCU FES	MPDF	GTZ-VCU	UNIDO		DANIDA		GTZ-VCU	
MPDF	20	GTZ-VCU	1.7	AIT-SAV	12	BMEP-AU	?	WED-CAN	0.4	In
UNIDO	2.5	CFVG	1.4/ann.	NEU-SIDA	3.4	FES	0.5	ZDH	0.01	MUSD

Table 5. List of SME Related Programs and Donors

ACRONYM	NAME OF PROGRAM (Domestic Partners)	DONOR
AIT-SAV	Swiss AIT-Viet Nam Management Development Program (Ministry of Education and Training)	Switzerland
BMEP-AU	Swinburne University of Technology (Viet Nam Chamber of Commerce)	Australia
CFVG	Paris Chamber of Commerce and Industry (Ministry of Education and Training, NEU and HCMC UB)	France
DANIDA	Private Sector Development Program	Denmark
EIB-SB	Credit Line (Viet Nam Export Import Bank)	Switzerland
FES	Friedrich Ebert Stiftung (Bac Giang People's Committee)	Germany
GTZ-VCU	Promotion of Non-state Enterprises (Viet Nam Cooperatives Union)	Germany
IFC	International Finance Corporation (State Bank of Viet Nam)	Australia, Finland, Norway, Sweden, Switzerland, EU, UK and Japan
MPDF	Making Project Development Facility	Sweden
NEU-SIDA	Swedish International Cooperation Agency (National Economics University)	Sweden
OECF	Overseas Economic Cooperation Fund	Japan
SIDA	Credit Line (East Asia Commercial Bank)	Sweden
SIDC	Société D'Investissement Pour Le Développement International (VP Bank)	France
SMEDF	Small and Medium Enterprise Development Fund (Min. of Labor, Invalids and Social Affairs, Banks)	EU
UNIDO	Assistance to Industrial SMEs in Viet Nam (MPI, VCCI, HCU, HUT, UAIC, HCMC UT, CESTI)	Germany through UNIDO
WB-SB	Credit Line and Technical Assistance (State Bank of Viet Nam)	World Bank
WED-CAN	Canadian Government (The Viet Nam Women's Union and the Center for Family and Women Studies)	Canada
ZDH	German Government (Viet Nam Chamber of Commerce and Industry)	Germany

Source: MPDF Survey, 1997

THE NATIONAL ENVIRONMENTAL MONITORING NETWORK AND ITS ACTIVITIES

National Environment Agency

VCEP	(Received) / Sent
Date:	5/3/98
File No.:	A-0000
DISTRIBUTION	
file	<input type="checkbox"/>
NG NETWORK	<input type="checkbox"/>
base	<input type="checkbox"/>
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I. The legal basis for the network developing

a) The Environmental protection law (EPL)

In EPL approved by the National Assembly of Vietnam 27th December 1993 at the Article 3, Chapter I and Article 38, Chapter IV it has been stipulated that the Government perform an unify management in environmental protection and the Ministry of Science, Technology and Environment (MOSTE) has a responsibility to implement this function.

Regarding environmental monitoring activities EPL stipulate:

Article 10, Chapter II:

"The state offices, within the scope of their functions and tasks, shall be responsible for organizing the investigation, study and evaluation of the existing conditions of the environment, periodically reporting to the National Assembly on the current status of the environment; for identifying areas of environmental pollution and notifying the public thereof and for drawing up plans for the prevention and combat against environmental degradation, environmental pollution and environmental incidents."

Article 37, Chapter IV:

"The scope of State management of environmental protection includes:...4. Organizing, establishing and managing monitoring systems, periodically assessing the current state of the environment, forecasting environmental changes..."

b) Environmental standards:

Measurement standards are judicial basis to identify the environmental parameters which must be monitored as well as to evaluate and to analyze the monitored data.

Before 1995 there was no National set of environmental standards in Viet Nam. In response to the urgent need of environmental standards, in 1993, the "Provisional Environmental Criteria" has been compiled by MOSTE to serve as a basis for

environmental protection activities. This includes a number of existing Vietnamese standards on the state, sectoral as well as local levels on environmental quality.

In 1995, the first time in Viet Nam, the National Set of Environmental Standards with 71 environmental standards has been issued by MOSTE. Among them, the standards relevant to the monitoring activities are:

Air quality standards: Ambient air quality standards (TCVN 5937-1995), The maximum permissible concentration for toxic gases in ambient atmosphere (TCVN 5938- 1995); The standards for emission gases from industry: TSP and inorganic matters (TCVN 5939-1995); The standards for emission gases from industry: organic matters (TCVN 5940-1995);

Noise level standards: The maximum permissible noise level for transportation vehicles (TCVN 5948- 1995); for public works and residential areas (TCVN 5949-1995).

Soil quality standards: The maximum permissible residues of the pesticides and insecticides in soil (TCVN 5941- 1995); Waste papers (TCVN 5946-1995).

Water quality standards: The surface water quality (TCVN 5942-1995); Coastal water quality (TCVN 5943- 1995); Ground water quality (TCVN 5944- 1995) and Industrial waste water standards (TCVN 5945-1995).

In 1996, 27 further standards have been issued.

2. Developing the Network plan

a) Main concepts in developing the Network

- The monitoring network shall be developed step by step, both operating and upgrading
- The monitoring network shall be developed with priorities, first with key stations then expanding, implementing the monitoring program with the scale from low level up to high level, high quality.
- The monitoring network shall be uniformly managed through the whole country (The National Environmental Agency - NEA - is a Central Managing Organization).
- The network shall be hierarchical: NEA is Central Executive Coordinate Office and directly coordinates monitoring stations at the state and regional levels; The provincial stations shall be supervised by regional or central stations.

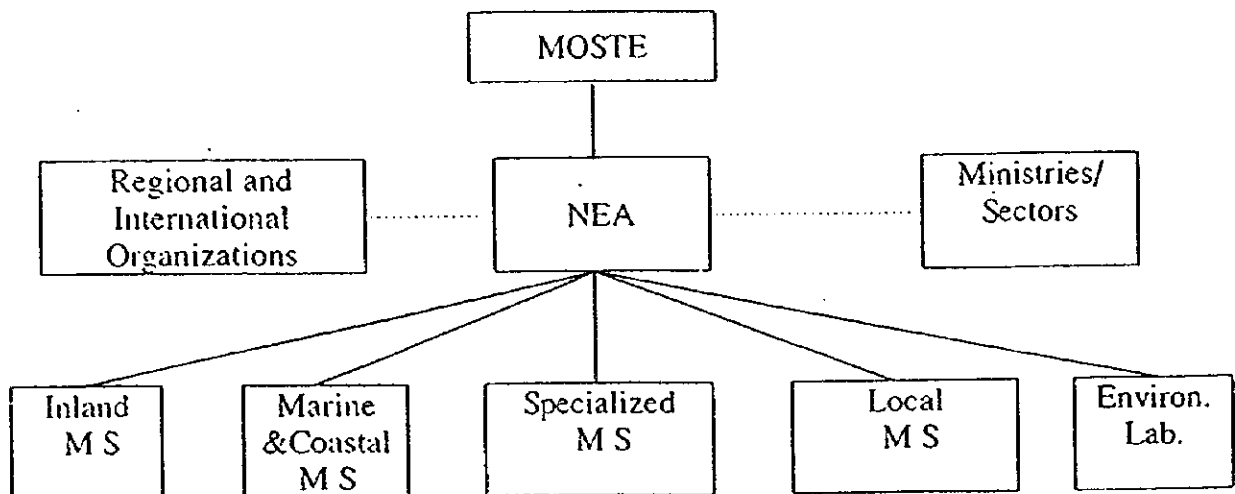
- The monitoring network shall closely cooperate with relating offices, ministries, universities, institutes, provinces and projects which have environmental analyzing facilities and perform similar activities so that the equipment and their facilities can be used effectively.

- To apply as soon as possible in the Network the data processing, analyzing and consolidation methods that help to limit the number of real measuring such as remote sensing, simulation, GIS,...

- To cooperate with and participate in the regional and international environmental monitoring networks.

b) The Network structure

- Schema of the Network



- Function and responsibility of the network members

- * The National Environment Agency

The unit for management of environmental monitoring activities in NEA has the following responsibilities: Building and managing the National Environmental Monitoring Network; Developing annual national environmental monitoring programs and plans and supervising their implementation; Acquisition, storage and processing the results of environmental monitoring and making outputs for

managerial requirement: Coordination of the cooperation between the monitoring activities in country with international monitoring systems.

*** Inland regional stations** - carry out monitoring according to the assigned inland regions; Coordinate and assist other environmental activities in the region; Store and send the data according to the regulations in the network and participate in the data processing and reporting.

*** Marine regional stations** - carry out monitoring according to the assigned coastal regions or offshore areas; Coordinate and assist other environmental activities in the region; Store and send the data according to the regulations in the network and participate in the data processing and reporting.

*** Specialized stations** - carry out monitoring one or some environmental special components such as acid rain, toxic chemicals, radiation, soil,...; Store and send the data according to the regulations in the network and participate in the data processing and reporting.

*** Baseline monitoring stations** - carry out baseline monitoring at the state, regional level or according to the environmental components. These stations, based on the level of the network development, can be supervised by NEA or by the regional stations.

*** The environmental laboratory** - can have two functions: Assisting other stations in the network in carrying out some difficult analysis that these stations are not be able to perform; Calibrating the equipment and standardizing the methods used in the network. In the first stage the Laboratory can mainly perform the first function. Later, when the regional stations are already well equipped and the Laboratory well developed, it can mainly perform the second tasks.

c) Environmental Monitoring Network Plan for the year 2000

During the period from present to the year 2000 the air, water, noise, solid waste and a part of soil component shall be monitored. About twenty key stations of the monitoring Network shall be established. Depends on the functions of each, one or several environmental components shall be monitored by each station. The monitoring work will be carried out by selection of significant points and by routing to cover the large area.

Methods used for monitoring shall be unified according to the Standards of Vietnam (TCVN) and other widely accepted international standards such as GEMS, ISO, AS....

The monitoring parameters include about 20 basic parameters on water, 9 on air, 10 on the amount and composition of the urban solid waste, 3 on noise from transportation, concentrations of some toxic chemicals, level of radiation in air and water, pH and chemical composition of rain water.

3. The process of developing the National Environmental Monitoring Network in recent years

As mentioned earlier, the key stations of the Network were established in the organizations in various ministries that have already capability of monitoring. The legal basis for these stations to operate according to the requirement of NEA are the inter-ministerial agreements between MOSTE and related ministries. MOSTE is to provide these stations with additional necessary equipment and finance for annual monitoring activities. The stations operate according to the regulations issued by MOSTE and agreed by related ministries.

a) The process of developing and activities of the Network

Table 1: Development and activities of the National Environmental Monitoring Network (1994-1997)

	Station	Kind of stations	Year of Establishment	Year of Performance
1	The Monitoring Station at the Center for Environmental Engineering of Towns and Industrial Areas, University of Civil Engineering, MOET	Inland regional station for the Northern Region	1994	1995
2	The Monitoring Station at the Environmental Protection Center, Institute of Tropical Technology and Environmental Protection,	Inland regional station for the Central Region	1995	1995
3	The Monitoring Station at the Training and Research Center for Water Supply and Environmental Technology, Ho Chi Minh City's Polytechnics, MET	Inland regional station for the Southern Region	1994	1995
4	The Monitoring Station at Hai Phong Institute of Oceanography, National Center for Natural Sciences and Technology	Marine regional station for the Northern Coast	1994	1995
5	The Monitoring Station at the Center for Marine Environment Survey, Research and Consultation, National Center for Natural Sciences and Technology	Marine regional station for the Central Coast	1996	1996

	Station	Kind of stations	Year of Establishment	Year of Performance
6	The Monitoring Station at Nha Trang Institute of Oceanography, National Center for Natural Sciences and Technology	Marine regional station for the Southern Coast	1994	1994
7	The Monitoring Station at the Navy, Ministry of Defense	Marine regional station for offshore waters	1996	1996
8	The Monitoring Station at the Marine Research Center, Ministry of Fisheries	Marine regional station for offshore waters	1996	1996
9	The Monitoring Station at the Center for Environmental Technology and Treatment, MOD	Specialized station for toxic chemicals and radiation	1994	1995
10	The Monitoring Station at the Nuclear Scientific and Technological Institute, MOSTE	Specialized station for radiation	1997	1997
11	The Monitoring Station at the Nuclear Research Institute, MOSTE	Specialized station for radiation	1997	1997
12	The Monitoring Station at Lao Cai DOSTE	Specialized station on acid rain	1994	1995
13	The Monitoring Station at Agrochemical - Soil Institute, MARD	Specialized station on soil for the Northern regions	1996	1996
14	The Monitoring Station at Technology Transfer Center for Soil and Fertilizer in South Vietnam, MARD	Specialized station on soil for the Southern regions	1996	1996
15	The Monitoring Station at Research Center for Water and Air, Hydrometeorological Services	Station for baseline monitoring	1996	1996
16	The Monitoring Station at the National Institute of occupational and Environmental Health, Ministry of Health	Specialized station on working environment	1997	1997
17	The Environmental Laboratory at Technical Center I, Directorate for Standards and Quality, MOSTE	Environmental laboratory	1994	1995
18	National Environment Agency, MOSTE	The Network Headquarters	1994	1994

b) Scope and content of activities of the stations

* **Inland regional stations** - are the stations that monitor environmental effect caused by industrial and urban pollution resources (e.g. transport and domestic activities). Therefore the monitoring localities of these stations are focused on the regions with intensive industry and urbanization.

* **Marine regional stations:** Coastal marine regional stations monitor mainly pollution of the marine coastal environment. This is caused by the pollutants from the rivers and by the economic activities at sea water, especially by transportation and oil and gas exploitation. Therefore the localities to be monitored are large river mouths, harbors and ports.

The marine offshore regional stations monitors the pollution of country's offshore water, especially pollution by oil and other pollutants from transport and oil and gas exploitation.

* **Specialized stations:** Soil stations monitor the land polluted by agriculture, by effluents from industry,...

Acid-rain stations monitor the occurrence of acid rain in border areas with China (Lao Cai), in the areas of coal mining, other industries,...

The stations for toxic chemicals and radiation monitoring deal with the presence of the toxic substances emitted from some kinds of industry and the state of radiation level in the environment.

The station on working environment monitors the working environment, the occupational health and state of sanitation in rural areas.

* **The baseline station** - performs air and water baseline monitoring at the Regional baseline station Cuc Phuong and at hydropower dam reservoir Hoa Binh; in the future the monitoring will expand to other localities like Da Lat, Dong Thap Muoi, Truong Sa,...

* **The environmental laboratory** - is equipped with most sophisticated equipment; carries out training of the staff for using the equipment; assists the acid rain station in analyzing chemical composition of rain water.

c) The capabilities of the stations in the Network

* **Inland regional stations:** (Tab.1, No1,2,3)

All these stations have specialized divisions for measurement and analysis of water, air and other environmental components.

Based on their own facilities and those provided by NEA these stations are able to carry out monitoring activities at a certain level of satisfaction. Also their staff, besides performing the task of environmental monitoring, are able to carry out training for the need of the Network.

But for ensuring the full quality of monitoring activities they are still lack of many basic instruments. If they receive further support in funding, they could carry out the measurement and analysis of high reliability.

*** Marine regional stations:(Tab. 1, No4,5,6,7,8)**

Three coastal monitoring stations are of the same level, in terms of facilities and the capability of the staff, as inland monitoring stations. The Do Son monitoring station was established since 1995 and now is in good operation. The two other stations for the Central Region and the Southern Region were established later and now are participating in the 1996 National Monitoring Plan.

The offshore stations are operating at marine offshore areas. The station at the Navy has been established only recently so they are still poorly equipped. The station at the Marine Research Institute is better equipped in terms of laboratory instruments but is lack of monitoring devices such as sampling, at site measuring instruments,...

*** The specialized station on toxic chemicals and radiation: (Tab. 1, No9)**

Being a Center for Environmental Technology and Treatment, the Station is capable of measuring and analyzing toxic chemicals and radiation. It was supplemented by some equipment from MOSTE since 1994 and has participated in the national monitoring plans since 1995 with the more the larger area being monitored.

*** The specialized stations on radiation:(Tab. 1, No10,11)**

Both stations belong to MOSTE. They have some good instruments for laboratory analysis but are still lack of monitoring ones.

*** The Lao Cai acid rain station: (Tab.1, No12)**

This station was established at the very beginning of the formation of the Network. MOSTE has provided resources for buying equipment as well as for staff training. At present this station can perform the task of collection of rain water samples and analyzing basic parameters of rain water. Since 1995 it has participated in a pilot

plan for acid rain monitoring . Further development of this station depends on its performance in the time coming.

*** The specialized stations on soil: (Tab.1, No13,14)**

Being the two research units on agrochemistry and soil these stations already have their own trained staff and a range of laboratory facilities. In 1996 they started to participate in the National monitoring plan with the aim to be full members of the Network in 1997.

*** The baseline station: (Tab.1, No15)**

Being a Research Center for Water and Air at the Hydrometeorological Services it has trained staff and facilities to function as a baseline monitoring station. It also supervises a network of monitoring stations on air and water quality at the Hydrometeorological Services. But like other stations in the National Network it is very lack of modern and sophisticated monitoring equipment.

*** The station on working environment:(Tab. 1, No16).**

The Institute is the leading member in the monitoring network on occupational health at the Ministry of Health. It is equipped with the laboratory as well as monitoring instruments but some are already obsolete and need to be upgraded.

*** The environmental laboratory: (Tab.1, No17)**

Being a Technical Center of Standards, Measurement and Quality control for the Region I, Directorate for Standards and Quality, it has a good laboratory with some modern facilities but for the function of calibration of equipment for the whole network it needs further special devices.

*** In conclusion: The National Environmental Monitoring Network has been formulated gradually and only recently, therefore the capabilities of the stations are not of the same level. At present the Network is in the first and assessing period of operation.**

d) The monitoring localities:

So far the monitoring activities is being carried out at around 40 localities throughout Vietnam.

e) The time and frequency of measuring

The Marine offshore station at the Navy carries out monitoring twice per year.

The other offshore station carries out monitoring once a year making use of the trip on investigating offshore resources performed every year by the Marine Research Institute.

The Lao Cai Acid Rain Station monitor acid rain according to the rainfalls.

The Environmental Laboratory at the Technical Center I, Directorate for Standards and Quality analyzes the rain water samples taken from the Lao Cai Station and monitor water of the Red River in Lao Cai and Ha Giang 4 times/year.

Two Soil Monitoring Stations operate twice/year.

All other stations carry out monitoring 4 times/year .

f) The monitoring parameters

- **Air Quality**

Pollution parameters monitored are: suspended particulate, sulfur dioxide (SO_2), carbon monoxide (CO), nitrit oxides (NO_2); at some certain sites, carbon dioxides (CO_2) was included; at Toxic Chemicals and Radioactive Station, H_2S , acid vapor, xilidin and trietylamin were measured.

Apart from monitoring air pollution, meteorological parameters have also been measured, such as wind speed, wind direction, temperature and humidity.

- **Rain Water**

For rain water, the parameters monitored are: pH, NO_2^- , SO_4^{2-} , NO_3^- , Cl^- , NH_4^+ , Na^+ , Ca^{2+} , Mg^{2+} , K^+ , PO_4^{3-} .

- **Traffic Noise**

In each city, traffic noise was measured at least at 3- 4 roads, including 1 main road, 1 street, and 1-2 highways or inter-province roads.

Noise measurements have been incorporated calculation about number of vehicle movements.

- **Inland Surface Water**

Water parameters to be measured are: temperature, pH, suspended solid, turbidity, electrical conductivity, total salinity, dissolved oxygen, BOD5, COD, NH_4^+ , NO_3^- , NO_2^- , PO_4^{3-} , Cl^- , total iron, total coliform.

- **Coastal Zone and sea water:**

The parameters monitored are: Current, temperature, humidity, wind, salinity, pH, dissolved oxygen (DO), turbidity, suspended solids, COD, BOD5, NO_3^- , PO_4^{3-} , SiO_3^{2-} , total coliform, algae and toxinphytoplankton, oil content in water, oil content in sediment, heavy metals, pesticides. Besides, the state of coastal zone such as erosion and sedimentation, changes of ecosystem, mangrove forest, coral reefs, sea weed, lagoons... are also monitored.

- **Soil:**

For soil station, monitoring parameters are: $\text{pH}_{\text{H}_2\text{O}}$, pH_{KCl} , total organic matter, % N, % P_2O_5 , % K_2O , NH_4^+ , NO_3^- , P_2O_5 , CEC, % BS, Ca^{2+} , Mg^{2+} , K^+ , Fe^{3+} , Al^{3+} , 4 criteria for heavy metals (Cu, Cd, Pb, Hg), 8 criteria for pesticides, total microbacteria, harmful bacteria.

- **Monitoring radioactivity in air and water environment**

The parameters being monitored are:

- Radioactive concentrations of aerosol samples in air layer above land surface of 2 - 2.5 m.
- Concentration of Radon by measuring total beta in aerosol samples
- Radioactivity of RaA, RaB, RaC by measuring total alpha in aerosol samples
- Gamma radioactive dose each day using the radiation warning equipment with twinkling detector placed 2 m above land
- Radioactive concentration in sediment and rain water samples

In Soc Son area, Ha Noi, radioactive concentration was also measured in samples of biological indicator - pinus leaves.

- **Solid Waste**

Field surveys were carried out to identify total volume of solid waste generated per day, total volume collected and disposal sites of the city.

In some cities as Ha Noi, Ho Chi Minh City, Da Nang, the following components of solid waste has been analyzed by percentage of weight: organic matter, plastic, glass, metal, soil/sand, moisture content, ash and other substances.

4. Conclusions

At present a monitoring network with 17 stations is in operation and monitors quality of soil, water, air, coastal and marine zone, urban solid waste at a national scale.

The monitoring results have showed a remarkable importance because this is the first time Vietnam has monitoring data on environment with unity in monitoring time and measuring methods. These data can provide whole scene of the Vietnam environmental situation, and pollution levels in provinces can be assessed and compared. This is also the first time Vietnam has systematically environmental data bank which is a good basis for monitoring changes of national environmental quality in time and space.

However, it should be noted that the Vietnam National Monitoring Network is just in its early stage and is facing many difficulties in man capabilities, investments for equipment and activities, etc. From the past activities and experiences, there are some issues should be done in the coming time:

- To strengthen the existing stations; to set up some new stations in order to cover all main environmental components and important regions such as: residential, industrial areas, coastal regions with sensitive ecosystems, specific agricultural areas, surroundings of the main rivers and lakes; to support the development and activities of local monitoring stations so that they can soon participate in the National Network.
- To promote the capacity building of the stations in the National Network in terms of providing relevant equipment, training the staff and exchanging the experiences through meetings, workshops,...
- Regarding monitoring parameters and frequencies: to assess and consolidate the set of monitoring parameters; To increase monitoring frequencies to achieve the required ones for each parameter.
- On the basis of a Program for systems quality assurance / quality control to improve and develop the followings: Regulations on procedures and methodologies for monitoring, including sampling procedures and methods, equipment requirements, methods used for collection, storage, analysis and reporting data for the whole Network; to carry out regularly calibration of equipment; to standardize and control the activities of all laboratories in the Network; to organize the cross testing for the stations.
- To build a system for automatic storage and exchange of information among the stations.
- To promote the capacity building for the Network Headquarters at the National Environment Agency to fulfill its managerial function in: management of the monitoring program of the network; supervising the Network in terms of

monitoring methods and equipment; management of the system for storage and exchange of information.

- To promote close cooperation with related sectors and with international organizations in order to exchange data and information on environmental quality.

Hanoi, 26 Dec 1997

Some ideas for a project to support the National Monitoring Network

1. To built monitoring capacity for some or all monitoring centers in the National Network:
 - for purchasing equipment: 400.000 USD x 20 centers = 8.000.000 USD
 - Training in Network management, field and laboratory work (expenses for foreign experts, study tours, short-term, long-term training courses, meetings, workshops,...) = 2.000.000 USD
2. To built and upgrade 4 top laboratories for the Network:
 - 3 at regional monitoring centers
 - 1 at MOSTE

2000.000 USD x 4 = 8.000.000 USD
3. To built a laboratory for calibration of monitoring equipment = 1.000.000 USD
4. To set up and implement a quality assurance / quality control (QA/QC) program for the Network:
 - for upgrading monitoring centers: = 4.000.000 USD
 - for running the program = 2.000.000 USD
5. To strengthen the Network Headquarters at National Environment Agency and to build up an automatic system for exchange of data:
 - for purchasing computers and periferial devices = 200.000 USD
 - for training NEA staff and network specialists = 300.000 USD

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VIET TRI INDUSTRIAL POLLUTION REDUCTION PROJECT, VIETNAM

Industrial Pollution Reduction Strategy - final draft May 1998

PREFACE

This Strategy is the Strategy for Industrial Pollution Reduction of the People's Committee of Phu Tho Province prepared under UNDP Project VIE/95/01. It was agreed with Phu Tho Province government departments, with the National Environment Agency (NEA) of MOSTE and the International Collaboration Department of MPI, and with UNIDO following a Strategy Review Seminar in Viet Tri on 5 May 1998.

It essentially comprises a timetable for all industries in the Province to comply with the current legally required waste standards. It also includes recommendations for supporting and developing environmental monitoring and control activities. It does not include technical proposals for waste control by the industries which must remain the responsibility of the industry managers.

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1 INTRODUCTION

National Standards for wastewater quality, waste gas emissions and ambient air quality in terms of constituent concentrations have been established and industrial wastes are required to be within these permitted limits of the set of National Standards selected by the pollution control authorities, MOSTE and the People's Committee of Phu Tho.

The Strategy must address:

- Pollution reduction measures for existing industries established before the waste regulations were introduced,
 - major industries for which pollution control is being established,
 - smaller industries which are at present un-regulated,
- Pollution control measures for new industries,
 - those currently being established,
 - provision for future industrial development,
- Alternative of disposal of industrial wastewater in Viet Tri to the proposed city sewerage for treatment with domestic wastewater.

The Strategy must establish how fast and how rigorously industrial pollution control is enforced. However too rapid and too rigorous enforcement can only be achieved by closure of some of the older polluting and inefficient industries with consequent loss of employment, and this may not be acceptable.

2 INDUSTRY CLASSIFICATION

For the purposes of this Strategy, industries are classified as

Major Industries are the existing industries which have been individually investigated and for which there are individual proposals

Large Industries include the existing major industries and other, perhaps smaller, industries which require to be regulated and for which the regulation procedures are appropriate

Small Industries are those considered too small to require comprehensive regulation according to the established procedures despite the present legal requirement to regulate all industries.

New Industries include all new industries planned, under construction and not yet in operation

The distinction between Large and Small Industries requires better definition and alternative less administratively and technically demanding regulation procedures, and this will be addressed by NEA for national use. In the meantime knowledge of the industries must indicate where effort in pollution abatement is required.

3 THE EXISTING ENVIRONMENT

Phu Tho Province lies along the Song Hong bounded by the Song Lo and Song Da on the west and north sides. It has an area of 3465 km² and a population of 1 262 000 in 1996. Its capital, Viet Tri, at the confluence of the rivers has a population of 122 000. In 1996, industries accounted for 32.6% of provincial GDP and were growing at 14.6% pa, but basic agriculture predominates, the main products being rice, livestock, vegetables, tea and coffee.

Industrial Development

There is a large group of industries established along the north bank of the Song Hong in Viet Tri including chemicals, textiles, paper, construction materials and food and drink manufacturing. The two largest industries, Bai Bang Paper and Lam Thao Superphosphate are located some 15 Km north-west and west of Viet Tri and there is also a battery factory close to Lam Thao. Some 45 Km north-west of Viet Tri there is a cement manufacturer at Thanh Ba together with an alcohol and tea factory. Some 20 Km further north-west there is another paper factory. Industry in the province employs some 46 000 persons.

Pollution in the province is caused by the industries, domestic wastes, traffic and agriculture but their adverse effects are not generally widespread.

Water Pollution

The large natural river flows provide ample dilution to wastewaters but industrial wastewaters especially cause significant local pollution of groundwater, ponds, drainage systems and in the Song Hong before they are dispersed. There is no treatment of domestic sewage although a scheme is planned for Viet Tri. At present domestic sewage is mostly discharged to paddy fields directly or through channels and ponds. *However medical evidence in Viet Tri suggests that diseases from faecal contamination is not a major concern. Information from major irrigation studies elsewhere in Vietnam have found that agricultural pollution from fertilisers and pesticides in the run-off is not causing significant damage and the Phu Tho Province is likely to be no different*

Air Pollution

Air pollution is more mobile than water and causes more widespread environmental damage but is nevertheless confined generally to areas down wind of specific industries and in the industrial zone in Viet Tri where the effects are cumulative. Air pollution from some industries is severe at times. Traffic exhaust and noise are also significant causes of pollution.

Solid Wastes

Industrial solid wastes are mostly re-cycled for other use and true wastes are therefore limited in quantity. Some small quantities are likely to be hazardous and there are no disposal facilities as yet for these. Domestic solid wastes cause limited problems in many areas. The poor municipal service in Viet Tri is planned to be extensively developed shortly.

Capacity for Further Development

Industrial pollution is at present causing local environmental damage which is often severe, but the environment of the province as a whole is not greatly threatened. If industrial pollution was controlled to the permitted standards, the environment could withstand very extensive industrial development without unduly damaging water and air quality.

The Report on the Environmental Status of Phu Tho Province: April 1998 gives detailed information on the existing environment.

Water and air quality will be reported upon in detail and with analytical data in the Project Final Report.

4 PRESENT STATE OF INDUSTRIAL POLLUTION AND DEVELOPMENT PLANS

4.1 Major Industries

Information has been collected from each of the major industries from discussions with them and from reports made available to the Project Team. These enquiries are continuing throughout the Project period and will be continued afterwards by CEM staff. A summary of the situation regarding their wastes is presented in Table 4A together with information on their number of employees and size.

Table 4A: Summary of Industrial Waste Pollution from Major Industries

Company/ factory	Location	Waste quality (a)			No employees	Plant area (ha)	Plans to control pollution (b)
		water	gas	solids			
Bai Bang Paper	Phu Nham	5	5	5	2 900	165	2
Dong Xuan Alcohol	Thanh Ba	4	1	1	150	2	3
Hong Ha Bia	Viet Tri	5	1	1	90	1	4
Lam Thao Superphos.	Thach Son	3/4	5	3/4	3 588	130	3
Lua Viet Paper	Am Thuong	5	3	1	260	14	3
MIWON Super Seasoning	Viet Tri	3	2	2	189	2	1
PANGRIM Textile - Weaving	Viet Tri	1	3	1	1 669	6	2/3
PANGRIM Textile - Dying	Viet Tri	4	3	3	1 888	12	3
Phu Ben Tea	Thanh Ba	1	2	1	167	2	2
Phu Tho Cement	Thanh Ba	3	5	1	1 200	10	4
Phu Tho Mineral Water	Tien Kien	1	1	1	80	41	1
Viet Tri Chemicals - Caustic soda etc	Viet Tri	4	4	3	518	8	5
Viet Tri Chemicals VIMEX - Detergents	Viet Tri	1	4	1	40	3	2
Viet Tri Food Processes	Viet Tri	4	1	3	800	3	5
Viet Tri Paper	Viet Tri	5	3/4	1	708	7	5

Table 4A Cont.: Summary of Industrial Waste Pollution from Major Industries

Company/ factory	Location	Waste quality (a)			No employees	Plant area (ha)	Plans to control pollution (b)
		water	gas	solids			
Viet Tri Sugar and Alcohol - Sugar	Viet Tri	5	5	3	300	5	2
Viet Tri Sugar and Alcohol - Beer	Viet Tri	5	1	1	75	2	2
Viet Tri Woodboard	Viet Tri	5	4	1	251	8	4/5
Viet Tri Concrete	Viet Tri	3	3/4	4	535	8	3/4
Viet Tri Construction Materials	Viet Tri	5	2	1	190	3	2/3
Vinh Phu Textiles	Viet Tri	4	2/3	4	2 762	21	4
Vinh Phu Battery	Thach Son	5	5	3	505	13	3/4

- (a) 1 not applicable or wastes insignificant
 2 fully compliant with Standards
 3 nearly compliant
 4 occasional significant pollution
 5 regular significant pollution

- (b) 1 none required
 2 reasonably developed
 3 investigations in progress or planned
 4 no investigations planned
 5 re-location anticipated

Sources: EIA reports, enquiries with CEM and industries, *adjusted by government offices*

4.2 Other Industries

There are other industries including many un-regulated Small Industries, some of which, especially the brick kilns, cause obvious visible pollution.

4.3 New Industries

Four new factories are currently being constructed,

- a shoe factory
- an aluminium frame fabrication factory
- a plastics fabrication factory
- a porcelain factory

The waste pollution from these factories has not been assessed, and *three* do not have approved Environmental Impact Assessments (EIAs). Their construction should therefore not have commenced according to the environmental control regulations.

An Industrial Park at Thuy Van on the western outskirts of Viet Tri is also planned with an initial area of 70 ha but specific industries have not yet been allocated to the plots.

5 INDUSTRIAL POLLUTION REDUCTION STRATEGY OPTIONS

5.1 Existing Large Industries

The Project Team are currently supporting CEM and other pollution control authorities in encouraging the major industries in the Province to comply with the required waste quality standards and to proceed with the regulation documentation.

Target dates for various pollution reduction activities have been discussed with the major polluting industries. Some are currently taking action or have developed plans and programmes for that purpose, some are undertaking investigations or have plans to do so, others have outline proposals but cannot proceed without approval from a higher authority, and many more are taking little or no action and need to be persuaded to do so.

The Strategy should set out a broad timetable for these industries to properly comply with the waste standards and this should then be developed to include specific goals for each major industry within this overall schedule.

5.2 New Large Industries

All new major industries must be expected to fully comply with the waste regulations and be established with adequate waste treatment facilities. Any other option would not comply with the legal obligations and procedures for both the industries and the pollution control authorities.

There is concern that some new industries are being constructed without approved EIAs. Such disregard of the regulations should be unacceptable and will threaten the effectiveness of any Strategy option.

The Province's current plans to accommodate new industries centre on the Thuy Van Industrial Park for which plans are well developed, but this may not suit all new industries for a variety of reasons and some further strategic planning for new industries would be desirable within an integrated and holistic development plan for the Province. A key component would be a longer term land use plan which would identify existing and future preferred industrial zones together with other land use. Although not strictly a means of pollution reduction, a land use plan can provide a framework for a better environment avoiding haphazard industrial development. Land use planning may be recommended for many purposes but for the purposes of industrial pollution control, such a recommendation should be confined to identification of future industrial zones within an overall development plan for the Province.

5.3 Small Industries

NEA recognise the need for simpler regulation procedures for smaller industries and plan to develop and introduce these for national use. The Project team have proposed a model for this purpose. It is assumed for the purposes of this Strategy that such procedures will be in place within one or two years and may therefore be adopted in the Strategy.

5.4 Strategy Options

Four Strategy options are presented with broad targets for industrial pollution control for existing and new industries, large and small. In the faster and more rigorous options identification of future industrial zones is recommended .

Option 1: Rapid Enforcement of Environmental Control Measures

Existing Large Industries	Full compliance within 2 years
Existing Small Industries	Compliance of <i>visibly polluting</i> industries within 2 years, or in accordance with future regulations
New Large Industries	More rigorous compliance with regulations Identification of industrial development zones for different types of industry.
New Small Industries	Compliance within 2 years or in accordance with future regulations

This Strategy broadly represents the fastest and most rigorous feasible enforcement programme. However it would most likely result in the closure of some of the older inefficient polluting industries before there would be the possibility of re-development or developing new industries and alternative employment.

It would require considerable effort by CEM with strong support by the People's Committee. Land use planning with industrial zones for specific types of industry would be appropriate within an overall development plan for the Province.

Option 2: Enhanced Enforcement of Environmental Control Measures

Existing Large Industries	Full compliance within 5 years
Existing Small Industries	Compliance of <i>visibly polluting</i> industries within 5 years, or in accordance with future regulations
New Large Industries	Full compliance with regulations Identification of industrial development zones
New Small Industries	Compliance within 5 years, or in accordance with future regulations

This compares with Option 1 but to a rather longer programme and applied with less rigour. It represents significantly greater effort by CEM and similarly includes planning future industrial zones although less specifically. The 5 year period is expected to allow the older polluting industries to re-develop and control their pollution by one means or another.

Option 3: Continuation of Existing Enforcement Measures

Existing Large Industries	Full compliance within 10 years
Existing Small Industries	No regulation
New Large Industries	Full compliance with regulations
New Small Industries	No regulation

This broadly represents the continuation of current practice and enforcement development. Although many of the older polluting industries will continue to resist installing pollution control facilities, it is likely that most of these would be closed within 10 years for commercial reasons.

Option 4: Relaxation of Environmental Enforcement

Existing Large Industries	Full compliance within 10 years except for industries proposed to be connected to new sewerage by 2010 and given full treatment by 2015
Existing Small Industries	No regulation
New Large Industries	Compliance with regulations
New small industries	No regulation

This option is similar to Option 3 except that it takes account of the proposed new sewerage in Viet Tri which is proposed to accommodate wastewaters from

Viet Tri Concrete, Viet Tri Construction Materials and Hong Ha Bia by 2005, and

Viet Tri Chemicals - VIMEX Detergents and Viet Tri Sugar and Alcohol by 2010.

Primary sewage treatment would be provided by 2010 but secondary treatment required to meet an Industrial Wastewater Standard A would not be provided until 2015. Furthermore this scheme has not yet been approved or funding identified.

5.5 Option Selection

Of the four options proposed, Option 2 is judged to be the most attractive. Pressure from central government for improved pollution control through the activities of MOSTE and NEA, the enthusiasm of the People's Committee recognised by the setting up of this Project, and growing public awareness all indicate desire to be more active in controlling pollution and improving the environment.

The main challenge concerns the existing polluting industries. *The criterion for selection is to achieve the fastest rate of industrial pollution reduction without forcing the industries to close with consequent loss of employment.*

If all the polluting industries were immediately closed, there would, according to the Department of Planning and Investment, be 15 705 job losses. Option 1 would give time for some pollution control measures to be provided but would still result in about 7 000 job losses.

Option 2 should be achievable with few job losses and most of these would be likely to occur anyway although perhaps a little later.

Option 3 represents no change to current practice.

The possibility of some of the Viet Tri industries making use of the proposed new sewerage and sewage treatment system included in Option 4 is not considered attractive since it is a long term plan although there would be some medium term benefits, and implementation is not assured. Furthermore the treatment requirements for these industrial wastes and domestic sewage are not fully compatible.

Generally industries are not in a position to plan more than 3 or 5 years ahead so proposed target dates for pollution control are essentially short or medium term. Longer term proposals would result in some of the existing industries giving no consideration to waste control whatsoever at the present time. Option 2 demands that the industries take immediate though not urgent action.

6 PROPOSED STRATEGY FOR INDUSTRIAL POLLUTION REDUCTION

6.1 Existing Large Industries

Proposals for pollution control by each of the industries investigated by the Project Team are included in Table 6A. Where industries have their own plans these generally fall well within the Strategy schedule and are included in the Table. Where no action on pollution control has yet been taken, industries should be obliged to investigate what measures are necessary to control their waste pollution to within the prescribed limits whether this be by waste minimisation, better process control, waste treatment or by some combination of these. Outline proposals for these industries are suggested in the Table and these should be advised to the industries requiring that action be taken. There is no reason why industries should not be obliged to at least investigate means of pollution control and identify and cost the most appropriate solution. Only then can a realistic implementation plan be established.

Targets are set for these activities by each of the existing polluting industries within a period of 3 years. Nevertheless some slippage must be expected and it is appropriate for the Strategy to include an overall longer term goal for achieving full compliance overall.

Strategic pollution reduction proposals and targets for all other Large Industries should be drawn up similarly.

Table 6A: Strategic Proposals for Industrial Pollution Reduction from Major Industries

Company/ factory	Location	Pollution Control Development Plans and Proposals (a)	
		Company Proposals	Strategic Targets
Bai Bang Paper	Phu Nham	WW treatment: 1999 WG treatment: 1998	As company - full compliance by 2000
Dong Xuan Alcohol	Thanh Ba	WW treatment : 1998	As company
Hong Ha Bia	Viet Tri	EIA rejected	Inv: 1998 Imp: 2000
Lam Thao Superphos.	Thach Son	WW treat. inv: 1998 WG control: 1999	As company & WW treat. imp: 2000
Lua Viet Paper	Am Thuong	WW treatment: 1999	As company - full compliance by 2000
MIWON Super Seasoning	Viet Tri	not applicable	Already complies
PANGRIM Textile - Weaving	Viet Tri	WG control: 1998	As company
PANGRIM Textile - Dying	Viet Tri	WW treatment development 1998	Performance review: 1998
Phu Ben Tea	Thanh Ba	Dust control	Dust control: 1998
Phu Tho Cement	Thanh Ba	Inv: 1998	As company Imp: 2001
Phu Tho Mineral Water	Tien Kien	not applicable	None
Viet Tri Chemicals - Caustic soda etc	Viet Tri	Manufacturing changes: no date	WW treat. inv: 1998 WW treat. imp: 2000 WG control: 2000 Improve operations control: 1999
Viet Tri Chemicals VIMEX - Detergents	Viet Tri	Process equipment changes: no date	WG control: 2000
Viet Tri Food Processes	Viet Tri	Re-location: 1999	None
Viet Tri Paper	Viet Tri	WW treatment: 1998 WG control: no date Plant development: 1999	WW treatment: 1999 WG control inv: 1998 WG control imp: 2000

Table 6A cont.: Strategic Proposals for Industrial Pollution Reduction from Major Industries

Company/ factory	Location	Pollution Control Development Plans and Proposals (a)	
		Company Proposals	Strategic Targets
Viet Tri Sugar and Alcohol - Sugar	Viet Tri	WW treatment: 1998	As company & WG control inv: 1998 WG control imp: 2000
Viet Tri Sugar and Alcohol - Beer	Viet Tri	WW treatment: 1998	As company
Viet Tri Woodboard	Viet Tri	Re-location or re-development	Depends on company proposals
Viet Tri Concrete	Viet Tri	None	WW treat inv: 1998 WW treat imp: 1999 Asbestos fibre inv: 1998, subsequent action to be recommended.
Viet Tri Construction Materials	Viet Tri	WW treatment: 1998	As company
Vinh Phu Textiles	Viet Tri	WW treatment operation: 1998	Check operation of WW treatment plant: 1998
Vinh Phu Battery	Thach Son	Investigation: 1998	Inv: As company WW treatment: 2000 Control of lead in atmosphere: 1999

- (a) WW = wastewater
WG = waste gas
Inv = investigation
Imp = Implementation

Sources: Discussions with industries and Project Team proposals

6.2 New Large Industries

It is essential that all new industries comply with the legally required waste regulation Standards and the regulation administrative procedures. Not only is this a legal requirement but if the Strategy is to be a success, it is essential that all new industries fully comply with the regulations and procedures from the outset. Without a rigorous approach to the regulation of new Large Industries, both this Strategy and central government policy and law is seen to fail. Furthermore it will be very much more difficult to persuade these industries to provide adequate pollution control measures at a later time than when they are first being established.

6.3 Small Industries

Action on the Small Industries should await advice on regulation procedures from NEA and MOSTE. Before this, action under this Strategy should be taken

- to identify all smaller existing industries which clearly cause *obvious visible* pollution or *where there are complaints*,
- to establish whether they can reasonably be expected to implement pollution abatement measures (for example this would not be a reasonable requirement for the small brick kiln, motorbike repair or metal fabrication establishments),
- to assist them by providing technical advice, recommending consultants where appropriate,
- to assist them in preparing an implementation programme,
- to assist them with the regulation administrative procedures.

There are not likely to be many such industries.

6.4 Industrial Development Planning

Rapid industrial development of Phu Tho Province is unlikely in view of the greater attractions of locations closer to Hanoi and the coast.

It is presumed in this Strategy that the Industrial Park at Thuy Van will proceed if not immediately then at some future time when there is greater demand.

Despite expectation of limited industrial development, it is proposed as part of this Strategy that one or more other industrial zones are identified in anticipation of other future industrial development. These should especially take account of

- convenience of transport routes, both existing and planned, including road, rail and river,

- availability of labour - proximity to residential areas,
- available power and water supplies - some industries are big users.

It is recommended that these be established within the context of an overall development plan for the Province.

7 STRATEGY IMPLEMENTATION

7.1 Waste Regulation Legislation

National waste standards and procedures are well established although not always well implemented. They include

- the preparation, submission and approval of Environmental Impact Assessments,
- application and granting of Pollution Monitoring Certificates,
- the application and granting of Environmental Licences.

These must be respected and are the means of enforcing the Strategy. Refinements to these procedures and additional regulations are the responsibility of MOSTE and NEA.

The legislation gives the environmental control authority the rights to require industries to comply with the waste regulations by production process changes or installation of waste treatment facilities, and if they do not take such action, require that they be re-located or closed. Clearly closures are undesirable and all reasonable steps should be taken to maintain the industry and introduce waste control measures.

7.2 Conditional Approvals for Existing Polluting Industries

EIAs for existing polluting industries are generally approved conditionally requiring that pollution control measures be provided. Pollution Monitoring Certificates issued by the People's Committee are may also be issued conditionally.

It is proposed in the Strategy that such conditions should be time limited.

For those polluting industries which have taken no serious action towards controlling their pollution, a requirement that they investigate means of pollution control within say 3 or 6 months depending on their complexity may be offered as an alternative to closure.

Implementing the proposals from the investigations may take longer. Funding will often be necessary and Ministries and the People's Committee who own most of the industries, will generally be constrained by annual budgets. 2 years should normally be sufficient but for necessarily expensive solutions, other priorities on the budget may occur and implementation may have to be deferred a year. Any further deferral should not be entertained.

7.3 Procedures for Existing Industries with No Plans for Pollution Abatement

Industrial pollution may result from wastes from normal production processes, pollution caused during maintenance operations or by spills or other accidents. Pollution is not always due to a lack of expensive waste treatment facilities. Existing polluting industries should be obliged to investigate the most effective means of controlling their pollution and this might mean

- carrying out a Waste Minimisation Audit to reduce waste quantities,
- investigation of alternative plant maintenance operations to avoid periodic pollution,
- carrying out process operation quality control studies to reduce risks of accidental pollution,
- determining required waste treatment facilities,

It is important that industries do not simply investigate waste treatment alone as this does not necessarily lead to an optimum solution.

The quality of these investigations is important and the environmental control authorities should specify that, for instance, that waste minimisation audits should be undertaken in accordance with the new Vietnamese Guideline for Waste Reduction Auditing prepared under this Project. The use of other standard documents specifying investigation methods will be investigated in this Project.

The environmental control authorities should recommend suitable consultants for such investigations where necessary.

Unless there are good reasons for confidentiality, the environmental control authorities should be given a copy of the results of the investigation reports for information only.

The implementation of proposals resulting from these investigations should be arranged by the industry within the Strategy timetable, and the environmental control authorities advised of the implementation schedule.

7.4 New Industries

It is essential that the established environmental and waste regulations are rigorously applied to new industries.

7.5 Small Industries

Until new simplified procedures are introduced for Small Industries, the environmental control authorities will have to use judgement concerning which of the smaller industries they should formally regulate.

7.6 Industrial Zones

Identifying future industrial zones is recommended to be considered within a wider planning context for the Province.

7.7 Strategy Review

It is proposed that progress on the implementation of the Strategy be reviewed by the People's Committee every 12 months.

8 ACTIVITIES TO SUPPORT THE IMPLEMENTATION OF THE STRATEGY

8.1 Environmental Management and Awareness

The UNDP Project VIE/95/019 under which this Strategy was prepared has developed the local environmental monitoring and assessment resources within CEM and has demonstrated Waste Reduction Auditing to industries within the Province.

- The Strategy recommends that the environmental improvement capability developed under Project VIE/95/019 be further developed to meet future perceived needs and to provide a model for other provinces. In particular it recommends that the need for further resourcing and staff training be annually reviewed by the People's Committee and that adequate funds be made available for resources.*
- The Strategy recommends that local awareness of the need for improved industrial pollution control be enhanced by publicising the waste control status of each industry to encourage voluntary action by industries in parallel with legislative measures.*

8.2 Recommendations for Improvements in Environmental Control Regulation

Phu Tho Province must abide by national legally established environmental control regulations and the selection of appropriate waste standards imposed by MOSTE and NEA.

- The Strategy recommends that in view of the large assimilative capacity of the Song Hong system and of beneficial uses of the river downstream, that Wastewater Standard B to TCVN 5945 - 1995 be the regulation standard for all Phu Tho Province industries discharging their wastewaters into it and that this be applied retrospectively. This matter is now under review by NEA.*
- The Strategy recommends that alternative environmental control and waste regulation procedures be introduced for Small Industries for which the present procedures are inappropriate. A model has been suggested to NEA by the Project Team.*
- The Strategy recommends that better clarification between the industries regulated by MOSTE and by the People's Committee.*
- The Strategy recommends that national standards are created to define hazardous wastes and legally established procedures introduced for their safe transport and disposal. These issues are currently being studied by NEA.*
- The Strategy recommends that technical and financial assistance from international and national resources be made available to industries to enable them to properly and cost-effectively control their wastes to comply with the required waste standards.*
- The Strategy recommends that expertise be provided from national and/or international resources to assist the Province of Phu Tho to develop a coordinated inter-sector physical plan for industrial and other development in the province.*
- The Strategy recommends that more government pressure is placed on the institutions managing the industries to take care of the environmental issues relating to them.*

It is proposed that these and other environmental regulation issues be discussed amongst staff from projects concerned with such matters with NEA.

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